

Reporting Limit Outliers

Lab Reporting Batch ID: PH047

Laboratory: LL

EDD Filename: PrepPH047_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-811-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 1.5 | 1.7 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.5 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.88 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| SL-813-SA5A-SB-0.0-0.5 | BENZO(A)ANTHRACENE | J | 1.1 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)PYRENE | J | 1.0 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 0.82 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 0.79 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 7.0 | 18 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| SL-814-SA5A-SB-0.0-0.5 | ANTHRACENE | J | 0.58 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)ANTHRACENE | J | 0.74 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 0.77 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 0.69 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 0.71 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.90 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.5 | 1.7 | PQL | ug/Kg | |
| SL-858-SA5A-SB-0.0-0.5 | ANTHRACENE | J | 5.9 | 18 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)ANTHRACENE | J | 17 | 18 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 17 | 18 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 14 | 18 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 16 | 18 | PQL | ug/Kg | |
| | INDENO(1,2,3-CD)PYRENE | J | 9.5 | 18 | PQL | ug/Kg | |
| SL-861-SA5A-SB-0.0-0.5 | BENZO(A)ANTHRACENE | J | 8.5 | 17 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)PYRENE | J | 7.6 | 17 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 8.9 | 17 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 16 | 17 | PQL | ug/Kg | |

LDC #: 30037E4

VALIDATION COMPLETENESS WORKSHEET

Date: 7/25/13

SDG #: PH047

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: *al*

2nd Reviewer: *[Signature]*

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--------------------------|
| I. | Technical holding times | — | Sampling dates: 6/4-5/13 |
| II. | ICP/MS Tune | — | |
| III. | Calibration | — | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | — | |
| VI. | Matrix Spike Analysis | N | CS |
| VII. | Duplicate Sample Analysis | N | CS |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | N | |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | — | |
| XV. | Field Blanks | SW | EB=1,2 FB=FB-041113 |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(PH029)

Validated Samples:

soil/water

| | | | | | | | | |
|----|-----------------------|---|----|-----------------------|----|--|----|--|
| 1 | EB1-060513 | W | 11 | SL-861-SA5-SB-4.0-5.0 | 21 | | 31 | |
| 2 | EB2-060513 | W | 12 | SL-861-SA5-SB-7.0-8.0 | 22 | | 32 | |
| 3 | SL-772-SA5-SB-0.0-0.5 | | 13 | | 23 | | 33 | |
| 4 | SL-811-SA5-SB-0.0-0.5 | | 14 | | 24 | | 34 | |
| 5 | SL-811-SA5-SB-5.5-6.5 | | 15 | | 25 | | 35 | |
| 6 | SL-813-SA5-SB-0.0-0.5 | | 16 | | 26 | | 36 | |
| 7 | SL-814-SA5-SB-0.0-0.5 | | 17 | | 27 | | 37 | |
| 8 | SL-814-SA5-SB-4.0-5.0 | | 18 | | 28 | | 38 | |
| 9 | SL-858-SA5-SB-0.0-0.5 | | 19 | | 29 | | 39 | |
| 10 | SL-861-SA5-SB-0.0-0.5 | | 20 | | 30 | | 40 | |

Notes: _____

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: 100x Reason: B

Sample Concentration units, unless otherwise noted: mg/Kg

Associated Samples: All Soil

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 3 | 4 | 5 | 6 | 9 | 10 | 11 | 12 | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|------|------|------|------|------|------|------|------|--|--|--|--|
| Mo | | | 3.7 | 1.85 | 0.81 | 0.17 | 0.18 | 0.25 | 0.21 | 0.26 | 0.29 | 0.35 | | | | |

Sample Concentration units, unless otherwise noted: mg/L

Associated Samples: All Water

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 1 | | | | | | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|--------|--|--|--|--|--|--|--|--|--|--|--|
| Mo | | | 3.0 | 0.015 | 0.0084 | | | | | | | | | | | |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/11/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All Soil

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|---------------------------|-----------------------|------|------|------|------|------|------|------|------|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 3 | 4 | 5 | 6 | 9 | 10 | 11 | 12 | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 0.81 | 0.17 | 0.18 | 0.25 | 0.21 | 0.26 | 0.29 | 0.35 | | |

Sampling date: 6/5/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 3-5, 7, 8

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|----------------------------|-----------------------|------|------|------|--|--|--|--|--|--|--|
| | EB1-060513 (SDG: PH047) | Action Limit | 3 | 4 | 5 | | | | | | | |
| Ba | 0.00045 | 0.225 | | | | | | | | | | |
| Cd | 0.00036 | 0.18 | | | | | | | | | | |
| Mo | 0.0084 | 4.2 | 0.81 | 0.17 | 0.18 | | | | | | | |

Sampling date: 6/5/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 6, 9-12

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|----------------------------|-----------------------|------|------|--|--|--|--|--|--|--|--|
| | EB2-060513 (SDG: PH047) | Action Limit | 11 | 12 | | | | | | | | |
| Cd | 0.00048 | 0.24 | 0.21 | 0.22 | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 06-Jun-2013 | TB-060613 | 7085555 | TB | 5030B | 8015M | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5 | 7085556 | N | 3050B | 6010C | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5 | 7085556 | N | 3050B | 6020A | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5 | 7085556 | N | 3546 | 8015M | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5 | 7085556 | N | 3546 | 8270D SIM | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5 | 7085556 | N | METHOD | 1613B | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5 | 7085556 | N | METHOD | 7471B | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5MS | 7085557 | MS | 3050B | 6010C | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5MS | 7085557 | MS | 3050B | 6020A | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5MS | 7085557 | MS | 3546 | 8015M | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5MS | 7085557 | MS | 3546 | 8270D SIM | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5MS | 7085557 | MS | METHOD | 1613B | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5MS | 7085557 | MS | METHOD | 7471B | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5MSD | 7085558 | MSD | 3050B | 6010C | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5MSD | 7085558 | MSD | 3050B | 6020A | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5MSD | 7085558 | MSD | 3546 | 8015M | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5MSD | 7085558 | MSD | 3546 | 8270D SIM | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5MSD | 7085558 | MSD | METHOD | 1613B | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5MSD | 7085558 | MSD | METHOD | 7471B | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5DUP | 7085559 | DUP | 3050B | 6010C | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5DUP | 7085559 | DUP | 3050B | 6020A | III |
| 06-Jun-2013 | SL-871-SA5A-SB-0.0-0.5DUP | 7085559 | DUP | METHOD | 7471B | III |
| 06-Jun-2013 | SL-1271-SA5A-SB-0.0-0.5 | 7085560 | FD | 3050B | 6010C | III |
| 06-Jun-2013 | SL-1271-SA5A-SB-0.0-0.5 | 7085560 | FD | 3050B | 6020A | III |
| 06-Jun-2013 | SL-1271-SA5A-SB-0.0-0.5 | 7085560 | FD | 3546 | 8015M | III |
| 06-Jun-2013 | SL-1271-SA5A-SB-0.0-0.5 | 7085560 | FD | 3546 | 8270D SIM | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|-------------------------|---------------|-------------|-------------|-------------------|--------------|
| 06-Jun-2013 | SL-1271-SA5A-SB-0.0-0.5 | 7085560 | FD | METHOD | 1613B | III |
| 06-Jun-2013 | SL-1271-SA5A-SB-0.0-0.5 | 7085560 | FD | METHOD | 7471B | III |
| 06-Jun-2013 | SL-872-SA5A-SB-0.0-0.5 | 7085561 | N | 3050B | 6010C | III |
| 06-Jun-2013 | SL-872-SA5A-SB-0.0-0.5 | 7085561 | N | 3050B | 6020A | III |
| 06-Jun-2013 | SL-872-SA5A-SB-0.0-0.5 | 7085561 | N | 3546 | 8015M | III |
| 06-Jun-2013 | SL-872-SA5A-SB-0.0-0.5 | 7085561 | N | 3546 | 8270D SIM | III |
| 06-Jun-2013 | SL-872-SA5A-SB-0.0-0.5 | 7085561 | N | METHOD | 1613B | III |
| 06-Jun-2013 | SL-872-SA5A-SB-0.0-0.5 | 7085561 | N | METHOD | 7471B | III |
| 06-Jun-2013 | SL-872-SA5A-SB-2.5-3.5 | 7085562 | N | 3050B | 6010C | III |
| 06-Jun-2013 | SL-872-SA5A-SB-2.5-3.5 | 7085562 | N | 3050B | 6020A | III |
| 06-Jun-2013 | SL-872-SA5A-SB-2.5-3.5 | 7085562 | N | 3546 | 8015M | III |
| 06-Jun-2013 | SL-872-SA5A-SB-2.5-3.5 | 7085562 | N | 3546 | 8270D SIM | III |
| 06-Jun-2013 | SL-872-SA5A-SB-2.5-3.5 | 7085562 | N | 5035A | 8015M | III |
| 06-Jun-2013 | SL-872-SA5A-SB-2.5-3.5 | 7085562 | N | METHOD | 1613B | III |
| 06-Jun-2013 | SL-872-SA5A-SB-2.5-3.5 | 7085562 | N | METHOD | 7471B | III |
| 06-Jun-2013 | SL-873-SA5A-SB-0.0-0.5 | 7085563 | N | 3050B | 6010C | III |
| 06-Jun-2013 | SL-873-SA5A-SB-0.0-0.5 | 7085563 | N | 3050B | 6020A | III |
| 06-Jun-2013 | SL-873-SA5A-SB-0.0-0.5 | 7085563 | N | 3546 | 8015M | III |
| 06-Jun-2013 | SL-873-SA5A-SB-0.0-0.5 | 7085563 | N | 3546 | 8270D SIM | III |
| 06-Jun-2013 | SL-873-SA5A-SB-0.0-0.5 | 7085563 | N | METHOD | 1613B | III |
| 06-Jun-2013 | SL-873-SA5A-SB-0.0-0.5 | 7085563 | N | METHOD | 7471B | III |
| 06-Jun-2013 | SL-862-SA5A-SB-0.0-0.5 | 7085564 | N | 3050B | 6010C | III |
| 06-Jun-2013 | SL-862-SA5A-SB-0.0-0.5 | 7085564 | N | 3050B | 6020A | III |
| 06-Jun-2013 | SL-862-SA5A-SB-0.0-0.5 | 7085564 | N | 3546 | 8015M | III |
| 06-Jun-2013 | SL-862-SA5A-SB-0.0-0.5 | 7085564 | N | 3546 | 8270D SIM | III |
| 06-Jun-2013 | SL-862-SA5A-SB-0.0-0.5 | 7085564 | N | METHOD | 1613B | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 06-Jun-2013 | SL-862-SA5A-SB-0.0-0.5 | 7085564 | N | METHOD | 7471B | III |
| 06-Jun-2013 | SL-862-SA5A-SB-4.5-5.5 | 7085565 | N | 3050B | 6010C | III |
| 06-Jun-2013 | SL-862-SA5A-SB-4.5-5.5 | 7085565 | N | 3050B | 6020A | III |
| 06-Jun-2013 | SL-862-SA5A-SB-4.5-5.5 | 7085565 | N | 3546 | 8015M | III |
| 06-Jun-2013 | SL-862-SA5A-SB-4.5-5.5 | 7085565 | N | 3546 | 8270D SIM | III |
| 06-Jun-2013 | SL-862-SA5A-SB-4.5-5.5 | 7085565 | N | 5035A | 8015M | III |
| 06-Jun-2013 | SL-862-SA5A-SB-4.5-5.5 | 7085565 | N | METHOD | 1613B | III |
| 06-Jun-2013 | SL-862-SA5A-SB-4.5-5.5 | 7085565 | N | METHOD | 7471B | III |

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-1271-SA5A-SB-0.0-0.5 Collected: 6/6/2013 10:45:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.01 | U | 0.502 | MDL | 4.01 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.647 | J | 0.0672 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 3.27 | J | 0.833 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| COPPER | 11.8 | | 0.181 | MDL | 2.01 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.472 | J | 0.171 | MDL | 2.01 | PQL | mg/Kg | U | B, F, F |
| SODIUM | 71.2 | J | 16.8 | MDL | 100 | PQL | mg/Kg | J | Z |
| TIN | 2.74 | J | 0.221 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 2.93 | J | 0.833 | MDL | 5.02 | PQL | mg/Kg | J | Z |

Sample ID: SL-862-SA5A-SB-0.0-0.5 Collected: 6/6/2013 3:05:00 PM Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.06 | U | 0.507 | MDL | 4.06 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.647 | J | 0.0680 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 3.23 | J | 0.842 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.0365 | J | 0.0335 | MDL | 1.01 | PQL | mg/Kg | U | F |
| COPPER | 13.5 | | 0.183 | MDL | 2.03 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.424 | J | 0.172 | MDL | 2.03 | PQL | mg/Kg | U | B, F |
| SODIUM | 70.4 | J | 16.9 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 3.07 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 2.70 | J | 0.842 | MDL | 5.07 | PQL | mg/Kg | J | Z |

Sample ID: SL-862-SA5A-SB-4.5-5.5 Collected: 6/6/2013 3:40:00 PM Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.11 | U | 0.514 | MDL | 4.11 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.613 | J | 0.0689 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| BORON | 1.90 | J | 0.853 | MDL | 10.3 | PQL | mg/Kg | J | Z |
| COPPER | 5.61 | | 0.185 | MDL | 2.06 | PQL | mg/Kg | J | A |
| SODIUM | 95.0 | J | 17.2 | MDL | 103 | PQL | mg/Kg | J | Z |
| TIN | 2.87 | J | 0.226 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 2.26 | J | 0.853 | MDL | 5.14 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

| | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| <i>Sample ID: SL-871-SA5A-SB-0.0-0.5 Collected: 6/6/2013 10:30:00 Analysis Type: RES/TOT Dilution: 1</i> | | | | | | | | | |
| ANTIMONY | 4.00 | U | 0.499 | MDL | 4.00 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.644 | J | 0.0669 | MDL | 0.999 | PQL | mg/Kg | J | Z |
| BORON | 4.78 | J | 0.829 | MDL | 9.99 | PQL | mg/Kg | J | Z |
| COPPER | 11.9 | | 0.180 | MDL | 2.00 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.707 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | B, F, F |
| SODIUM | 71.7 | J | 16.7 | MDL | 99.9 | PQL | mg/Kg | J | Z |
| TIN | 2.83 | J | 0.220 | MDL | 9.99 | PQL | mg/Kg | U | B |
| Zirconium | 2.94 | J | 0.829 | MDL | 4.99 | PQL | mg/Kg | J | Z |

| | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| <i>Sample ID: SL-872-SA5A-SB-0.0-0.5 Collected: 6/6/2013 12:55:00 Analysis Type: RES/TOT Dilution: 1</i> | | | | | | | | | |
| ANTIMONY | 4.00 | U | 0.500 | MDL | 4.00 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.675 | J | 0.0671 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 4.82 | J | 0.831 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| COPPER | 12.4 | | 0.180 | MDL | 2.00 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.525 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | B, F, F |
| SODIUM | 70.7 | J | 16.7 | MDL | 100 | PQL | mg/Kg | J | Z |
| TIN | 2.88 | J | 0.220 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 2.80 | J | 0.831 | MDL | 5.00 | PQL | mg/Kg | J | Z |

| | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| <i>Sample ID: SL-872-SA5A-SB-2.5-3.5 Collected: 6/6/2013 1:20:00 PM Analysis Type: RES/TOT Dilution: 1</i> | | | | | | | | | |
| ANTIMONY | 4.12 | U | 0.515 | MDL | 4.12 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.860 | J | 0.0690 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| BORON | 4.78 | J | 0.855 | MDL | 10.3 | PQL | mg/Kg | J | Z |
| COPPER | 9.94 | | 0.185 | MDL | 2.06 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.528 | J | 0.175 | MDL | 2.06 | PQL | mg/Kg | U | B, F, F |
| TIN | 3.05 | J | 0.227 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 3.98 | J | 0.855 | MDL | 5.15 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-873-SA5A-SB-0.0-0.5 Collected: 6/6/2013 2:15:00 PM Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.39 | U | 0.548 | MDL | 4.39 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.821 | J | 0.0735 | MDL | 1.10 | PQL | mg/Kg | J | Z |
| COPPER | 7.92 | | 0.197 | MDL | 2.19 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.579 | J | 0.186 | MDL | 2.19 | PQL | mg/Kg | U | B, F, F |
| TIN | 3.30 | J | 0.241 | MDL | 11.0 | PQL | mg/Kg | U | B |
| Zirconium | 4.62 | J | 0.910 | MDL | 5.48 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-1271-SA5A-SB-0.0-0.5 Collected: 6/6/2013 10:45:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.140 | J | 0.100 | MDL | 0.401 | PQL | mg/Kg | J | Z |

Sample ID: SL-1271-SA5A-SB-0.0-0.5 Collected: 6/6/2013 10:45:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0470 | J | 0.0201 | MDL | 0.201 | PQL | mg/Kg | J | Z |
| STRONTIUM | 19.7 | | 0.0341 | MDL | 0.401 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.290 | | 0.0301 | MDL | 0.201 | PQL | mg/Kg | J | Q |

Sample ID: SL-862-SA5A-SB-0.0-0.5 Collected: 6/6/2013 3:05:00 PM Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.210 | J | 0.101 | MDL | 0.406 | PQL | mg/Kg | J | Z |

Sample ID: SL-862-SA5A-SB-0.0-0.5 Collected: 6/6/2013 3:05:00 PM Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.113 | J | 0.0203 | MDL | 0.203 | PQL | mg/Kg | J | Z |
| STRONTIUM | 25.3 | | 0.0345 | MDL | 0.406 | PQL | mg/Kg | J | Q, E, A |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

| Sample ID: SL-862-SA5A-SB-0.0-0.5 | | Collected: 6/6/2013 3:05:00 PM | | | | Analysis Type: RES/TOT | | Dilution: 2 | |
|--|------------|---------------------------------------|--------|---------|-------|-------------------------------|-------|--------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| THALLIUM | 0.385 | | 0.0304 | MDL | 0.203 | PQL | mg/Kg | J | Q |

| Sample ID: SL-862-SA5A-SB-4.5-5.5 | | Collected: 6/6/2013 3:40:00 PM | | | | Analysis Type: RES/TOT | | Dilution: 2 | |
|--|------------|---------------------------------------|--------|---------|-------|-------------------------------|-------|--------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| STRONTIUM | 20.3 | | 0.0350 | MDL | 0.411 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.282 | | 0.0308 | MDL | 0.206 | PQL | mg/Kg | J | Q |

| Sample ID: SL-871-SA5A-SB-0.0-0.5 | | Collected: 6/6/2013 10:30:00 | | | | Analysis Type: REA/TOT | | Dilution: 2 | |
|--|------------|-------------------------------------|--------|---------|-------|-------------------------------|-------|--------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.152 | J | 0.0999 | MDL | 0.400 | PQL | mg/Kg | J | Z |

| Sample ID: SL-871-SA5A-SB-0.0-0.5 | | Collected: 6/6/2013 10:30:00 | | | | Analysis Type: RES/TOT | | Dilution: 2 | |
|--|------------|-------------------------------------|--------|---------|-------|-------------------------------|-------|--------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0441 | J | 0.0200 | MDL | 0.200 | PQL | mg/Kg | J | Z |
| STRONTIUM | 23.5 | | 0.0340 | MDL | 0.400 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.308 | | 0.0300 | MDL | 0.200 | PQL | mg/Kg | J | Q |

| Sample ID: SL-872-SA5A-SB-0.0-0.5 | | Collected: 6/6/2013 12:55:00 | | | | Analysis Type: REA/TOT | | Dilution: 2 | |
|--|------------|-------------------------------------|-------|---------|-------|-------------------------------|-------|--------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.213 | J | 0.100 | MDL | 0.400 | PQL | mg/Kg | J | Z |

| Sample ID: SL-872-SA5A-SB-0.0-0.5 | | Collected: 6/6/2013 12:55:00 | | | | Analysis Type: RES/TOT | | Dilution: 2 | |
|--|------------|-------------------------------------|--------|---------|-------|-------------------------------|-------|--------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0781 | J | 0.0200 | MDL | 0.200 | PQL | mg/Kg | J | Z |
| STRONTIUM | 35.9 | | 0.0340 | MDL | 0.400 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.395 | | 0.0300 | MDL | 0.200 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS
Method: 6020A **Matrix:** SO

Sample ID: SL-872-SA5A-SB-2.5-3.5 Collected: 6/6/2013 1:20:00 PM Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.207 | J | 0.103 | MDL | 0.412 | PQL | mg/Kg | J | Z |

Sample ID: SL-872-SA5A-SB-2.5-3.5 Collected: 6/6/2013 1:20:00 PM Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0593 | J | 0.0206 | MDL | 0.206 | PQL | mg/Kg | J | Z |
| STRONTIUM | 27.6 | | 0.0350 | MDL | 0.412 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.371 | | 0.0309 | MDL | 0.206 | PQL | mg/Kg | J | Q |

Sample ID: SL-873-SA5A-SB-0.0-0.5 Collected: 6/6/2013 2:15:00 PM Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0523 | J | 0.0219 | MDL | 0.219 | PQL | mg/Kg | J | Z |
| STRONTIUM | 21.9 | | 0.0373 | MDL | 0.439 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.248 | | 0.0329 | MDL | 0.219 | PQL | mg/Kg | J | Q |

Method Category: METALS
Method: 7471B **Matrix:** SO

Sample ID: SL-873-SA5A-SB-0.0-0.5 Collected: 6/6/2013 2:15:00 PM Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0150 | J | 0.0107 | MDL | 0.0178 | PQL | mg/Kg | J | Z |

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-1271-SA5A-SB-0.0-0.5 Collected: 6/6/2013 10:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 7.78 | B | 0.0345 | MDL | 5.00 | PQL | ng/Kg | J | FD |
| 1,2,3,4,6,7,8-HPCDF | 2.22 | JB | 0.0181 | MDL | 5.00 | PQL | ng/Kg | J | Z, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-1271-SA5A-SB-0.0-0.5 Collected: 6/6/2013 10:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.186 | JB | 0.0276 | MDL | 5.00 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 0.150 | JQ | 0.0329 | MDL | 5.00 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8-HXCDF | 0.114 | JBQ | 0.0240 | MDL | 5.00 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HxCDD | 0.420 | JB | 0.0353 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.241 | JB | 0.0221 | MDL | 5.00 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HxCDD | 0.523 | JB | 0.0332 | MDL | 5.00 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HXCDF | 0.312 | JB | 0.0253 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.138 | JBQ | 0.0385 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.171 | JB | 0.0217 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.150 | JB | 0.0224 | MDL | 5.00 | PQL | ng/Kg | J | Z, FD |
| 2,3,4,7,8-PECDF | 0.128 | JB | 0.0195 | MDL | 5.00 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDF | 0.0807 | J | 0.0299 | MDL | 1.00 | PQL | ng/Kg | J | Z, FD |
| OCDD | 109 | B | 0.0282 | MDL | 10.0 | PQL | ng/Kg | J | FD |
| OCDF | 7.71 | JB | 0.0298 | MDL | 10.0 | PQL | ng/Kg | J | Z, FD |

Sample ID: SL-862-SA5A-SB-0.0-0.5 Collected: 6/6/2013 3:05:00 PM Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.820 | JB | 0.0253 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 2.24 | JB | 0.0474 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 1.03 | JB | 0.0353 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.868 | JB | 0.0356 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 1.35 | JB | 0.0832 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 1.25 | JB | 0.0453 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.934 | JB | 0.0343 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.937 | JBQ | 0.0426 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.261 | JBQ | 0.0499 | MDL | 0.991 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.948 | JB | 0.0869 | MDL | 0.991 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-862-SA5A-SB-4.5-5.5 Collected: 6/6/2013 3:40:00 PM Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 1.58 | JB | 0.0317 | MDL | 5.07 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.228 | JB | 0.0130 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0901 | JBQ | 0.0152 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.181 | JQ | 0.0277 | MDL | 5.07 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.231 | JB | 0.0174 | MDL | 5.07 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 0.168 | JBQ | 0.0297 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.222 | JBQ | 0.0159 | MDL | 5.07 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 0.212 | JBQ | 0.0288 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.132 | JBQ | 0.0175 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.416 | JBQ | 0.0505 | MDL | 5.07 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.492 | JB | 0.0293 | MDL | 5.07 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.159 | JB | 0.0150 | MDL | 5.07 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.328 | JB | 0.0262 | MDL | 5.07 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0519 | JQ | 0.0422 | MDL | 1.01 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.121 | JQ | 0.0352 | MDL | 1.01 | PQL | ng/Kg | J | Z |
| OCDF | 0.373 | JBQ | 0.0258 | MDL | 10.1 | PQL | ng/Kg | U | B |

Sample ID: SL-871-SA5A-SB-0.0-0.5 Collected: 6/6/2013 10:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 1.67 | JB | 0.0266 | MDL | 5.09 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,6,7,8-HPCDF | 0.466 | JB | 0.0115 | MDL | 5.09 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8,9-HPCDF | 0.0863 | JB | 0.0167 | MDL | 5.09 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 0.0394 | JQ | 0.0233 | MDL | 5.09 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8-HXCDF | 0.0619 | JB | 0.0124 | MDL | 5.09 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HxCDD | 0.259 | JBQ | 0.0244 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0582 | JB | 0.0124 | MDL | 5.09 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8,9-HxCDD | 0.310 | JBQ | 0.0250 | MDL | 5.09 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HXCDF | 0.317 | JB | 0.0146 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.122 | JB | 0.0293 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.109 | JBQ | 0.0139 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0689 | JBQ | 0.0113 | MDL | 5.09 | PQL | ng/Kg | UJ | B, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

| | | | |
|-----------------------------------|------------------------------|--------------------|-------------|
| Sample ID: SL-871-SA5A-SB-0.0-0.5 | Collected: 6/6/2013 10:30:00 | Analysis Type: RES | Dilution: 1 |
|-----------------------------------|------------------------------|--------------------|-------------|

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 2,3,4,7,8-PECDF | 0.0537 | JBQ | 0.0133 | MDL | 5.09 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDF | 1.02 | U | 0.0191 | MDL | 1.02 | PQL | ng/Kg | UJ | FD |
| OCDD | 19.8 | B | 0.0218 | MDL | 10.2 | PQL | ng/Kg | J | Q, FD |
| OCDF | 1.54 | JB | 0.0221 | MDL | 10.2 | PQL | ng/Kg | J | Z, FD |

| | | | |
|-----------------------------------|------------------------------|--------------------|-------------|
| Sample ID: SL-872-SA5A-SB-0.0-0.5 | Collected: 6/6/2013 12:55:00 | Analysis Type: RES | Dilution: 1 |
|-----------------------------------|------------------------------|--------------------|-------------|

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.108 | JBQ | 0.0154 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0572 | JB | 0.00629 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0635 | JB | 0.0108 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0270 | JQ | 0.0146 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDF | 0.0505 | JBQ | 0.0125 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.116 | JBQ | 0.0157 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDF | 0.0496 | JBQ | 0.0118 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.202 | JB | 0.0163 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDF | 0.295 | JB | 0.0155 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0626 | JBQ | 0.0225 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.145 | JBQ | 0.0189 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HxCDF | 0.0403 | JBQ | 0.0112 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.125 | JBQ | 0.0177 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0305 | JQ | 0.0207 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| OCDD | 1.31 | JB | 0.0225 | MDL | 10.2 | PQL | ng/Kg | U | B |
| OCDF | 0.119 | JBQ | 0.0233 | MDL | 10.2 | PQL | ng/Kg | U | B |

| | | | |
|-----------------------------------|--------------------------------|--------------------|-------------|
| Sample ID: SL-872-SA5A-SB-2.5-3.5 | Collected: 6/6/2013 1:20:00 PM | Analysis Type: RES | Dilution: 1 |
|-----------------------------------|--------------------------------|--------------------|-------------|

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.0826 | JBQ | 0.0128 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0757 | JB | 0.00573 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0228 | JBQ | 0.00838 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0838 | JQ | 0.0166 | MDL | 5.16 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-872-SA5A-SB-2.5-3.5 Collected: 6/6/2013 1:20:00 PM Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8-HXCDF | 0.107 | JBQ | 0.0122 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.0848 | JBQ | 0.0175 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.122 | JBQ | 0.0121 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.135 | JBQ | 0.0169 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.128 | JBQ | 0.0135 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.105 | JBQ | 0.0217 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.227 | JBQ | 0.0163 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0757 | JB | 0.0107 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.149 | JB | 0.0150 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0345 | J | 0.0200 | MDL | 1.03 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.0446 | JQ | 0.0148 | MDL | 1.03 | PQL | ng/Kg | J | Z |
| OCDD | 0.584 | JB | 0.0224 | MDL | 10.3 | PQL | ng/Kg | U | B |
| OCDF | 0.130 | JB | 0.0217 | MDL | 10.3 | PQL | ng/Kg | U | B |

Sample ID: SL-873-SA5A-SB-0.0-0.5 Collected: 6/6/2013 2:15:00 PM Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.401 | JB | 0.0265 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.139 | JB | 0.00941 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0309 | JBQ | 0.0156 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0360 | JBQ | 0.0282 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0348 | JBQ | 0.0130 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.296 | JB | 0.0295 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.142 | JBQ | 0.0117 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.508 | JB | 0.0282 | MDL | 5.43 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.109 | JB | 0.0159 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0949 | JBQ | 0.0427 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0367 | JBQ | 0.0126 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0430 | JBQ | 0.0227 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0719 | JBQ | 0.0342 | MDL | 1.09 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0308 | JBQ | 0.0275 | MDL | 1.09 | PQL | ng/Kg | U | B |
| OCDD | 5.94 | JB | 0.0310 | MDL | 10.9 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-873-SA5A-SB-0.0-0.5 Collected: 6/6/2013 2:15:00 PM Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| OCDF | 0.552 | JBQ | 0.0329 | MDL | 10.9 | PQL | ng/Kg | U | B |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 8015M | Matrix: SO |

Sample ID: SL-871-SA5A-SB-0.0-0.5 Collected: 6/6/2013 10:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 7.2 | | 2.1 | MDL | 5.1 | PQL | mg/Kg | J | Q, Q, Q |
| EFH (C30-C40) | 15 | | 4.1 | MDL | 10 | PQL | mg/Kg | J | Q, Q, Q |

Sample ID: SL-872-SA5A-SB-0.0-0.5 Collected: 6/6/2013 12:55:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 2.2 | J | 2.1 | MDL | 5.2 | PQL | mg/Kg | J | Z |

Sample ID: SL-873-SA5A-SB-0.0-0.5 Collected: 6/6/2013 2:15:00 PM Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 2.3 | J | 2.2 | MDL | 5.5 | PQL | mg/Kg | J | Z |
| EFH (C30-C40) | 10 | J | 4.4 | MDL | 11 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|-----------|-------------------|
| Method Category: | SVOA | |
| Method: | 8270D SIM | Matrix: SO |

Sample ID: SL-1271-SA5A-SB-0.0-0.5 Collected: 6/6/2013 10:45:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 0.71 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| CHRYSENE | 0.80 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| Di-n-octylphthalate | 100 | | 6.0 | MDL | 18 | PQL | ug/Kg | J | FD |
| FLUORANTHENE | 0.81 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-862-SA5A-SB-0.0-0.5 Collected: 6/6/2013 3:05:00 PM Analysis Type: RES-BASE/NEUTRAL Dilution: 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 12 | J | 6.7 | MDL | 17 | PQL | ug/Kg | J | Z |
| CHRYSENE | 13 | J | 3.3 | MDL | 17 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 12 | J | 6.7 | MDL | 17 | PQL | ug/Kg | J | Z |
| PYRENE | 11 | J | 6.7 | MDL | 17 | PQL | ug/Kg | J | Z |

Sample ID: SL-871-SA5A-SB-0.0-0.5 Collected: 6/6/2013 10:30:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| CHRYSENE | 1.7 | U | 0.34 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| Diethylphthalate | 18 | U | 6.1 | MDL | 18 | PQL | ug/Kg | UJ | Q |
| Di-n-octylphthalate | 46 | | 6.1 | MDL | 18 | PQL | ug/Kg | J | Q, Q, Q, FD |
| FLUORANTHENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |

Sample ID: SL-872-SA5A-SB-2.5-3.5 Collected: 6/6/2013 1:20:00 PM Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| PHENANTHRENE | 0.84 | J | 0.70 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-873-SA5A-SB-0.0-0.5 Collected: 6/6/2013 2:15:00 PM Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| Di-n-octylphthalate | 7.5 | J | 6.6 | MDL | 20 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---------------------------------|
| *# | Professional Judgment |
| A | Professional Judgment |
| B | Calibration Blank Contamination |
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Equipment Blank Contamination |
| F | Field Blank Contamination |
| FD | Field Duplicate Precision |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Enclosure I

Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

PH050

Method Blank Outlier Report

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples | | |
|------------------------|-----------------------|---------------------|----------------------|-------------------------|--------------|------------------------|
| BLK1650B371148 | 6/18/2013 11:48:00 AM | 1,2,3,4,6,7,8-HPCDD | 0.0445 ng/Kg | SL-1271-SA5A-SB-0.0-0.5 | | |
| | | 1,2,3,4,6,7,8-HPCDF | 0.0586 ng/Kg | SL-862-SA5A-SB-4.5-5.5 | | |
| | | 1,2,3,4,7,8,9-HPCDF | 0.0448 ng/Kg | SL-871-SA5A-SB-0.0-0.5 | | |
| | | 1,2,3,4,7,8-HXCDF | 0.0411 ng/Kg | SL-872-SA5A-SB-0.0-0.5 | | |
| | | 1,2,3,6,7,8-HXCDD | 0.0389 ng/Kg | SL-872-SA5A-SB-2.5-3.5 | | |
| | | 1,2,3,6,7,8-HXCDF | 0.0374 ng/Kg | | | |
| | | 1,2,3,7,8,9-HXCDD | 0.0490 ng/Kg | | | |
| | | 1,2,3,7,8,9-HXCDF | 0.0753 ng/Kg | | | |
| | | 1,2,3,7,8-PECDD | 0.0542 ng/Kg | | | |
| | | 1,2,3,7,8-PECDF | 0.0711 ng/Kg | | | |
| | | 2,3,4,6,7,8-HXCDF | 0.0261 ng/Kg | | | |
| | | 2,3,4,7,8-PECDF | 0.0370 ng/Kg | | | |
| | | OCDD | 0.385 ng/Kg | | | |
| | | OCDF | 0.124 ng/Kg | | | |
| | | BLK1680B370247 | 6/20/2013 2:47:00 AM | 1,2,3,4,6,7,8-HPCDD | 0.0960 ng/Kg | SL-862-SA5A-SB-0.0-0.5 |
| | | | | 1,2,3,4,6,7,8-HPCDF | 0.0640 ng/Kg | SL-873-SA5A-SB-0.0-0.5 |
| 1,2,3,4,7,8,9-HPCDF | 0.0329 ng/Kg | | | | | |
| 1,2,3,4,7,8-HxCDD | 0.0884 ng/Kg | | | | | |
| 1,2,3,4,7,8-HXCDF | 0.131 ng/Kg | | | | | |
| 1,2,3,6,7,8-HXCDD | 0.0822 ng/Kg | | | | | |
| 1,2,3,6,7,8-HXCDF | 0.122 ng/Kg | | | | | |
| 1,2,3,7,8,9-HXCDD | 0.0979 ng/Kg | | | | | |
| 1,2,3,7,8,9-HXCDF | 0.136 ng/Kg | | | | | |
| 1,2,3,7,8-PECDD | 0.148 ng/Kg | | | | | |
| 1,2,3,7,8-PECDF | 0.209 ng/Kg | | | | | |
| 2,3,4,6,7,8-HXCDF | 0.0987 ng/Kg | | | | | |
| 2,3,4,7,8-PECDF | 0.232 ng/Kg | | | | | |
| 2,3,7,8-TCDD | 0.0457 ng/Kg | | | | | |
| 2,3,7,8-TCDF | 0.0331 ng/Kg | | | | | |
| OCDD | 0.435 ng/Kg | | | | | |
| OCDF | 0.129 ng/Kg | | | | | |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|---------------------|-----------------|-----------------------|
| SL-1271-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.186 ng/Kg | 0.186U ng/Kg |
| SL-1271-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.114 ng/Kg | 0.114U ng/Kg |
| SL-1271-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.312 ng/Kg | 0.312U ng/Kg |
| SL-1271-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.138 ng/Kg | 0.138U ng/Kg |
| SL-1271-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.171 ng/Kg | 0.171U ng/Kg |
| SL-1271-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.128 ng/Kg | 0.128U ng/Kg |
| SL-862-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.937 ng/Kg | 0.937U ng/Kg |
| SL-862-SA5A-SB-4.5-5.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.228 ng/Kg | 0.228U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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ADR version 1.7.0.207

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Method Blank Outlier Report

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-862-SA5A-SB-4.5-5.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0901 ng/Kg | 0.0901U ng/Kg |
| SL-862-SA5A-SB-4.5-5.5(RES) | 1,2,3,6,7,8-HXCDD | 0.168 ng/Kg | 0.168U ng/Kg |
| SL-862-SA5A-SB-4.5-5.5(RES) | 1,2,3,7,8,9-HXCDD | 0.212 ng/Kg | 0.212U ng/Kg |
| SL-862-SA5A-SB-4.5-5.5(RES) | 1,2,3,7,8,9-HXCDF | 0.132 ng/Kg | 0.132U ng/Kg |
| SL-862-SA5A-SB-4.5-5.5(RES) | OCDF | 0.373 ng/Kg | 0.373U ng/Kg |
| SL-871-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0863 ng/Kg | 0.0863U ng/Kg |
| SL-871-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0619 ng/Kg | 0.0619U ng/Kg |
| SL-871-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0582 ng/Kg | 0.0582U ng/Kg |
| SL-871-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.317 ng/Kg | 0.317U ng/Kg |
| SL-871-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.122 ng/Kg | 0.122U ng/Kg |
| SL-871-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.109 ng/Kg | 0.109U ng/Kg |
| SL-871-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0689 ng/Kg | 0.0689U ng/Kg |
| SL-871-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0537 ng/Kg | 0.0537U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.108 ng/Kg | 0.108U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0572 ng/Kg | 0.0572U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0635 ng/Kg | 0.0635U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0505 ng/Kg | 0.0505U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDD | 0.116 ng/Kg | 0.116U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0496 ng/Kg | 0.0496U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDD | 0.202 ng/Kg | 0.202U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.295 ng/Kg | 0.295U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.0626 ng/Kg | 0.0626U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.145 ng/Kg | 0.145U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0403 ng/Kg | 0.0403U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.125 ng/Kg | 0.125U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | OCDD | 1.31 ng/Kg | 1.31U ng/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES) | OCDF | 0.119 ng/Kg | 0.119U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.0826 ng/Kg | 0.0826U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0757 ng/Kg | 0.0757U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0228 ng/Kg | 0.0228U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | 1,2,3,4,7,8-HXCDF | 0.107 ng/Kg | 0.107U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | 1,2,3,6,7,8-HXCDD | 0.0848 ng/Kg | 0.0848U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | 1,2,3,6,7,8-HXCDF | 0.122 ng/Kg | 0.122U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | 1,2,3,7,8,9-HXCDD | 0.135 ng/Kg | 0.135U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-872-SA5A-SB-2.5-3.5(RES) | 1,2,3,7,8,9-HXCDF | 0.128 ng/Kg | 0.128U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | 1,2,3,7,8-PECDD | 0.105 ng/Kg | 0.105U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | 1,2,3,7,8-PECDF | 0.227 ng/Kg | 0.227U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0757 ng/Kg | 0.0757U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | 2,3,4,7,8-PECDF | 0.149 ng/Kg | 0.149U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | OCDD | 0.584 ng/Kg | 0.584U ng/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES) | OCDF | 0.130 ng/Kg | 0.130U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.401 ng/Kg | 0.401U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.139 ng/Kg | 0.139U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0309 ng/Kg | 0.0309U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0360 ng/Kg | 0.0360U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0348 ng/Kg | 0.0348U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDD | 0.296 ng/Kg | 0.296U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.142 ng/Kg | 0.142U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.109 ng/Kg | 0.109U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.0949 ng/Kg | 0.0949U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0367 ng/Kg | 0.0367U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0430 ng/Kg | 0.0430U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0719 ng/Kg | 0.0719U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.0308 ng/Kg | 0.0308U ng/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES) | OCDF | 0.552 ng/Kg | 0.552U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|--|--|---|
| P16437AB220226 | 6/17/2013 2:26:00 AM | ALUMINUM CALCIUM PHOSPHORUS TIN ZINC | 8.46 mg/Kg 9.77 mg/Kg 1.17 mg/Kg 1.48 mg/Kg 1.92 mg/Kg | SL-1271-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-4.5-5.5 SL-871-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-2.5-3.5 SL-873-SA5A-SB-0.0-0.5 |

Method Blank Outlier Report

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|---------|-----------------|-----------------------|
| SL-1271-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.74 mg/Kg | 2.74U mg/Kg |
| SL-862-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 3.07 mg/Kg | 3.07U mg/Kg |
| SL-862-SA5A-SB-4.5-5.5(RES/TOT) | TIN | 2.87 mg/Kg | 2.87U mg/Kg |
| SL-871-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.83 mg/Kg | 2.83U mg/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.88 mg/Kg | 2.88U mg/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES/TOT) | TIN | 3.05 mg/Kg | 3.05U mg/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 3.30 mg/Kg | 3.30U mg/Kg |

Method: 6020A
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|-----------|--------------|---|
| P16437AB221115A | 6/17/2013 11:15:00 AM | STRONTIUM | 0.0566 mg/Kg | SL-1271-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-4.5-5.5 SL-871-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-2.5-3.5 SL-873-SA5A-SB-0.0-0.5 |

Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Equipment Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|---------------------------|---------------------|---------------------------------|---|---|
| EB1-060513(REA4/TOT) | 6/5/2013 3:00:00 PM | BARIUM CADMIUM MOLYBDENUM | 0.00045 mg/L 0.00036 mg/L 0.0084 mg/L | SL-1271-SA5A-SB-0.0-0.5 SL-871-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-2.5-3.5 SL-873-SA5A-SB-0.0-0.5 |
| EB2-060513(REA4/TOT) | 6/5/2013 3:30:00 PM | CADMIUM | 0.00048 mg/L | SL-862-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-4.5-5.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|------------|-----------------|-----------------------|
| SL-1271-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.472 mg/Kg | 0.472U mg/Kg |
| SL-862-SA5A-SB-0.0-0.5(RES/TOT) | CADMIUM | 0.0365 mg/Kg | 0.0365U mg/Kg |
| SL-871-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.707 mg/Kg | 0.707U mg/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.525 mg/Kg | 0.525U mg/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES/TOT) | MOLYBDENUM | 0.528 mg/Kg | 0.528U mg/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.579 mg/Kg | 0.579U mg/Kg |

Field Blank Outlier Report

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|----------------------|----------------------------|---|
| FB-041113(REA2/TOT) | 4/11/2013 3:00:00 PM | COPPER MOLYBDENUM | 0.0036 mg/L 0.0036 mg/L | SL-1271-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-4.5-5.5 SL-871-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-2.5-3.5 SL-873-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|------------|-----------------|-----------------------|
| SL-1271-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.472 mg/Kg | 0.472U mg/Kg |
| SL-862-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.424 mg/Kg | 0.424U mg/Kg |
| SL-871-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.707 mg/Kg | 0.707U mg/Kg |
| SL-872-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.525 mg/Kg | 0.525U mg/Kg |
| SL-872-SA5A-SB-2.5-3.5(RES/TOT) | MOLYBDENUM | 0.528 mg/Kg | 0.528U mg/Kg |
| SL-873-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.579 mg/Kg | 0.579U mg/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8015M
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------|----------|-----------|--------------|-----------------|-----------------------|---------------------------------------|
| SL-871-SA5A-SB-0.0-0.5MS SL-871-SA5A-SB-0.0-0.5MSD (SL-871-SA5A-SB-0.0-0.5) | EFH (C15-C20) | 130 | 171 | 49.00-123.00 | 28 (20.00) | EFH (C15-C20) | J (all detects) |
| SL-871-SA5A-SB-0.0-0.5MS SL-871-SA5A-SB-0.0-0.5MSD (SL-871-SA5A-SB-0.0-0.5) | EFH (C30-C40) | -32 | 276 | 49.00-123.00 | 75 (20.00) | EFH (C30-C40) | J(all detects) R(all non-detects) |
| SL-871-SA5A-SB-0.0-0.5MS SL-871-SA5A-SB-0.0-0.5MSD (SL-871-SA5A-SB-0.0-0.5) | EFH (C21-C30) | 23 | 182 | 49.00-123.00 | 59 (20.00) | EFH (C21-C30) | J(all detects) UJ(all non-detects) |

Method: 1613B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|----------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-871-SA5A-SB-0.0-0.5MS SL-871-SA5A-SB-0.0-0.5MSD (SL-871-SA5A-SB-0.0-0.5) | OCDD | 207 | 221 | 40.00-135.00 | - | OCDD | J(all detects) |

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------------|----------|-----------|--------------|-----------------|-----------------------|---------------------------------------|
| SL-871-SA5A-SB-0.0-0.5MS SL-871-SA5A-SB-0.0-0.5MSD (SL-871-SA5A-SB-0.0-0.5) | Di-n-octylphthalate | 229 | -8 | 52.00-162.00 | 98 (30.00) | Di-n-octylphthalate | J(all detects) R(all non-detects) |
| SL-871-SA5A-SB-0.0-0.5MS (SL-871-SA5A-SB-0.0-0.5) | Diethylphthalate | 62 | - | 76.00-127.00 | - | Diethylphthalate | J(all detects) UJ(all non-detects) |

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|-----------|----------|-----------|--------------|-----------------|-----------------------|--------------|
| SL-871-SA5A-SB-0.0-0.5MS (TOT) | ALUMINUM | 1575 | 1333 | 75.00-125.00 | - | ALUMINUM | No Qual, >4x |
| SL-871-SA5A-SB-0.0-0.5MSD (TOT) | CALCIUM | 133 | - | 75.00-125.00 | - | CALCIUM | |
| (SL-1271-SA5A-SB-0.0-0.5) | MAGNESIUM | 216 | 144 | 75.00-125.00 | - | MAGNESIUM | |
| SL-862-SA5A-SB-0.0-0.5 | POTASSIUM | 135 | 126 | 75.00-125.00 | - | POTASSIUM | |
| SL-862-SA5A-SB-4.5-5.5 | TITANIUM | 321 | 280 | 75.00-125.00 | - | TITANIUM | |
| SL-871-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-872-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-872-SA5A-SB-2.5-3.5 | | | | | | | |
| SL-873-SA5A-SB-0.0-0.5) | | | | | | | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH050
 EDD Filename: PrepPH050_v1

Laboratory: LL
 eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|------------------------|---------|----------|------------------------------|--------------|------------------------|---|
| SL-871-SA5A-SB-0.0-0.5MS (TOT) SL-871-SA5A-SB-0.0-0.5MSD (TOT) (SL-1271-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-4.5-5.5 SL-871-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-2.5-3.5 SL-873-SA5A-SB-0.0-0.5) | IRON | 767 | -175 | 75.00-125.00 | - | IRON | No Qual, >4x |
| SL-871-SA5A-SB-0.0-0.5MS (TOT) SL-871-SA5A-SB-0.0-0.5MSD (TOT) (SL-1271-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-4.5-5.5 SL-871-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-2.5-3.5 SL-873-SA5A-SB-0.0-0.5) | ANTIMONY PHOSPHORUS | 61 - | 61 72 | 75.00-125.00 75.00-125.00 | - - | ANTIMONY PHOSPHORUS | J(all detects) UJ(all non-detects) P, No Qual, >4x |

Method: 6020A
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|-----------------------|----------|------------|------------------------------|--------------|-----------------------|----------------|
| SL-871-SA5A-SB-0.0-0.5MS (TOT) SL-871-SA5A-SB-0.0-0.5MSD (TOT) (SL-1271-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-4.5-5.5 SL-871-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-2.5-3.5 SL-873-SA5A-SB-0.0-0.5) | STRONTIUM THALLIUM | - 138 | 153 137 | 75.00-125.00 75.00-125.00 | - - | STRONTIUM THALLIUM | J(all detects) |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|------------|------------|-----------|------------------------------|
| SL-871-SA5A-SB-0.0-0.5DUP (TOT) (SL-1271-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-4.5-5.5 SL-871-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-2.5-3.5 SL-873-SA5A-SB-0.0-0.5) | MOLYBDENUM | 32 | 20.00 | No Qual, OK by Difference |

Method: 6020A
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|---|----------------------|----------------------------------|--|
| SL-871-SA5A-SB-0.0-0.5DUP (TOT) (SL-1271-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-0.0-0.5 SL-862-SA5A-SB-4.5-5.5 SL-871-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-0.0-0.5 SL-872-SA5A-SB-2.5-3.5 SL-873-SA5A-SB-0.0-0.5) | SELENIUM SILVER STRONTIUM THALLIUM | 43 75 28 28 | 20.00 20.00 20.00 20.00 | J(all detects) UJ(all non-detects) Se, Ag, Tl, No Qual, OK by Difference |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 160.3M
Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-871-SA5A-SB-0.0-0.5 | SL-1271-SA5A-SB-0.0-0.5 | | | |
| MOISTURE | 2.8 | 1.3 | 73 | | No Qualifiers Applied |

Method: 1613B
Matrix: SO

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-871-SA5A-SB-0.0-0.5 | SL-1271-SA5A-SB-0.0-0.5 | | | |
| 1,2,3,6,7,8-HXCDD | 0.259 | 0.420 | 47 | 50.00 | No Qualifiers Applied |
| 1,2,3,7,8,9-HXCDF | 0.317 | 0.312 | 2 | 50.00 | |
| 1,2,3,7,8-PECDD | 0.122 | 0.138 | 12 | 50.00 | |
| 1,2,3,7,8-PECDF | 0.109 | 0.171 | 44 | 50.00 | |
| TEQ WHO 2005 - EDLx0.0 | 0.194 | 0.353 | 58 | 50.00 | |
| 1,2,3,4,6,7,8-HPCDD | 1.67 | 7.78 | 129 | 50.00 | J(all detects) UJ(all non-detects) |
| 1,2,3,4,6,7,8-HPCDF | 0.466 | 2.22 | 131 | 50.00 | |
| 1,2,3,4,7,8,9-HPCDF | 0.0863 | 0.186 | 73 | 50.00 | |
| 1,2,3,4,7,8-HxCDD | 0.0394 | 0.150 | 117 | 50.00 | |
| 1,2,3,4,7,8-HXCDF | 0.0619 | 0.114 | 59 | 50.00 | |
| 1,2,3,6,7,8-HXCDF | 0.0582 | 0.241 | 122 | 50.00 | |
| 1,2,3,7,8,9-HXCDD | 0.310 | 0.523 | 51 | 50.00 | |
| 2,3,4,6,7,8-HXCDF | 0.0689 | 0.150 | 74 | 50.00 | |
| 2,3,4,7,8-PECDF | 0.0537 | 0.128 | 82 | 50.00 | |
| 2,3,7,8-TCDF | 1.02 U | 0.0807 | 200 | 50.00 | |
| OCDD | 19.8 | 109 | 139 | 50.00 | |
| OCDF | 1.54 | 7.71 | 133 | 50.00 | |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-871-SA5A-SB-0.0-0.5 (TOT) | SL-1271-SA5A-SB-0.0-0.5 (TOT) | | | |
| ALUMINUM | 15000 | 14700 | 2 | 50.00 | No Qualifiers Applied |
| ARSENIC | 5.07 | 5.15 | 2 | 50.00 | |
| BARIUM | 108 | 104 | 4 | 50.00 | |
| BERYLLIUM | 0.644 | 0.647 | 0 | 50.00 | |
| BORON | 4.78 | 3.27 | 38 | 50.00 | |
| CALCIUM | 2490 | 2080 | 18 | 50.00 | |
| CHROMIUM | 22.7 | 21.9 | 4 | 50.00 | |
| COBALT | 5.64 | 5.56 | 1 | 50.00 | |
| COPPER | 11.9 | 11.8 | 1 | 50.00 | |
| IRON | 19500 | 19300 | 1 | 50.00 | |
| LEAD | 8.56 | 5.19 | 49 | 50.00 | |
| LITHIUM | 23.8 | 23.9 | 0 | 50.00 | |
| MAGNESIUM | 4520 | 4410 | 2 | 50.00 | |
| MANGANESE | 330 | 315 | 5 | 50.00 | |
| MOLYBDENUM | 0.707 | 0.472 | 40 | 50.00 | |
| NICKEL | 15.2 | 14.6 | 4 | 50.00 | |
| PHOSPHORUS | 441 | 366 | 19 | 50.00 | |
| POTASSIUM | 4040 | 3590 | 12 | 50.00 | |
| SODIUM | 71.7 | 71.2 | 1 | 50.00 | |
| TIN | 2.83 | 2.74 | 3 | 50.00 | |
| TITANIUM | 1210 | 1140 | 6 | 50.00 | |
| VANADIUM | 38.3 | 37.6 | 2 | 50.00 | |
| ZINC | 64.4 | 59.2 | 8 | 50.00 | |
| Zirconium | 2.94 | 2.93 | 0 | 50.00 | |

Method: 6020A

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-871-SA5A-SB-0.0-0.5 (TOT) | SL-1271-SA5A-SB-0.0-0.5 (TOT) | | | |
| SELENIUM | 0.152 | 0.140 | 8 | 50.00 | No Qualifiers Applied |
| SILVER | 0.0441 | 0.0470 | 6 | 50.00 | |
| STRONTIUM | 23.5 | 19.7 | 18 | 50.00 | |
| THALLIUM | 0.308 | 0.290 | 6 | 50.00 | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Field Duplicate RPD Report

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8015M
Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-871-SA5A-SB-0.0-0.5 | SL-1271-SA5A-SB-0.0-0.5 | | | |
| EFH (C21-C30) | 7.2 | 6.2 | 15 | 50.00 | No Qualifiers Applied |
| EFH (C30-C40) | 15 | 15 | 0 | 50.00 | |

Method: 8270D SIM
Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-871-SA5A-SB-0.0-0.5 | SL-1271-SA5A-SB-0.0-0.5 | | | |
| BENZO(B)FLUORANTHENE | 1.7 U | 0.71 | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| CHRYSENE | 1.7 U | 0.80 | 200 | 50.00 | |
| Di-n-octylphthalate | 46 | 100 | 74 | 50.00 | |
| FLUORANTHENE | 1.7 U | 0.81 | 200 | 50.00 | |

Method: 9045M
Matrix: SO

| Analyte | Concentration (pH unit) | | Sample RPD | eQAPP RPD | Flag |
|---------|-------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-871-SA5A-SB-0.0-0.5 | SL-1271-SA5A-SB-0.0-0.5 | | | |
| PH | 6.45 | 6.62 | 3 | 50.00 | No Qualifiers Applied |

Reporting Limit Outliers

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1271-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 2.22 | 5.00 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.186 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.150 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.114 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.420 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.241 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.523 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.312 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.138 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.171 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.150 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.128 | 5.00 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.0807 | 1.00 | PQL | ng/Kg | |
| | OCDF | JB | 7.71 | 10.0 | PQL | ng/Kg | |
| SL-862-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 0.820 | 4.96 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | JB | 2.24 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 1.03 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.868 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 1.35 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 1.25 | 4.96 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.934 | 4.96 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.937 | 4.96 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.261 | 0.991 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.948 | 0.991 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-862-SA5A-SB-4.5-5.5 | 1,2,3,4,6,7,8-HPCDD | JB | 1.58 | 5.07 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.228 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0901 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.181 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JB | 0.231 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.168 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.222 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.212 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.132 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.416 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.492 | 5.07 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 0.159 | 5.07 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.328 | 5.07 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0519 | 1.01 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.121 | 1.01 | PQL | ng/Kg | |
| OCDF | JBQ | 0.373 | 10.1 | PQL | ng/Kg | | |
| SL-871-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 1.67 | 5.09 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.466 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0863 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0394 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JB | 0.0619 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.259 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.0582 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.310 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.317 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.122 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.109 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0689 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0537 | 5.09 | PQL | ng/Kg | |
| | OCDF | JB | 1.54 | 10.2 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-872-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.108 | 5.09 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.0572 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0635 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0270 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0505 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.116 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.0496 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.202 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.295 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0626 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.145 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0403 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.125 | 5.09 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0305 | 1.02 | PQL | ng/Kg | |
| | OCDD | JB | 1.31 | 10.2 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.119 | 10.2 | PQL | ng/Kg | |
| SL-872-SA5A-SB-2.5-3.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.0826 | 5.16 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.0757 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0228 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0838 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.107 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.0848 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.122 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.135 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.128 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.105 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.227 | 5.16 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 0.0757 | 5.16 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.149 | 5.16 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | J | 0.0345 | 1.03 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0446 | 1.03 | PQL | ng/Kg | |
| | OCDD | JB | 0.584 | 10.3 | PQL | ng/Kg | |
| OCDF | JB | 0.130 | 10.3 | PQL | ng/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-873-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 0.401 | 5.43 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.139 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0309 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0360 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0348 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.296 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.142 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.508 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.109 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0949 | 5.43 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0367 | 5.43 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0430 | 5.43 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0719 | 1.09 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0308 | 1.09 | PQL | ng/Kg | |
| | OCDD | JB | 5.94 | 10.9 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.552 | 10.9 | PQL | ng/Kg | |

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1271-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.647 | 1.00 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.27 | 10.0 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.472 | 2.01 | PQL | mg/Kg | |
| | SODIUM | J | 71.2 | 100 | PQL | mg/Kg | |
| | TIN | J | 2.74 | 10.0 | PQL | mg/Kg | |
| | Zirconium | J | 2.93 | 5.02 | PQL | mg/Kg | |
| SL-862-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.647 | 1.01 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.23 | 10.1 | PQL | mg/Kg | |
| | CADMIUM | J | 0.0365 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.424 | 2.03 | PQL | mg/Kg | |
| | SODIUM | J | 70.4 | 101 | PQL | mg/Kg | |
| | TIN | J | 3.07 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 2.70 | 5.07 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-862-SA5A-SB-4.5-5.5 | BERYLLIUM | J | 0.613 | 1.03 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 1.90 | 10.3 | PQL | mg/Kg | |
| | SODIUM | J | 95.0 | 103 | PQL | mg/Kg | |
| | TIN | J | 2.87 | 10.3 | PQL | mg/Kg | |
| | Zirconium | J | 2.26 | 5.14 | PQL | mg/Kg | |
| SL-871-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.644 | 0.999 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.78 | 9.99 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.707 | 2.00 | PQL | mg/Kg | |
| | SODIUM | J | 71.7 | 99.9 | PQL | mg/Kg | |
| | TIN | J | 2.83 | 9.99 | PQL | mg/Kg | |
| | Zirconium | J | 2.94 | 4.99 | PQL | mg/Kg | |
| SL-872-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.675 | 1.00 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.82 | 10.0 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.525 | 2.00 | PQL | mg/Kg | |
| | SODIUM | J | 70.7 | 100 | PQL | mg/Kg | |
| | TIN | J | 2.88 | 10.0 | PQL | mg/Kg | |
| | Zirconium | J | 2.80 | 5.00 | PQL | mg/Kg | |
| SL-872-SA5A-SB-2.5-3.5 | BERYLLIUM | J | 0.860 | 1.03 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.78 | 10.3 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.528 | 2.06 | PQL | mg/Kg | |
| | TIN | J | 3.05 | 10.3 | PQL | mg/Kg | |
| | Zirconium | J | 3.98 | 5.15 | PQL | mg/Kg | |
| SL-873-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.821 | 1.10 | PQL | mg/Kg | J (all detects) |
| | MOLYBDENUM | J | 0.579 | 2.19 | PQL | mg/Kg | |
| | TIN | J | 3.30 | 11.0 | PQL | mg/Kg | |
| | Zirconium | J | 4.62 | 5.48 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1271-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.140 | 0.401 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0470 | 0.201 | PQL | mg/Kg | |
| SL-862-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.210 | 0.406 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.113 | 0.203 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH050

Laboratory: LL

EDD Filename: PrepPH050_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-871-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.152 | 0.400 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0441 | 0.200 | PQL | mg/Kg | |
| SL-872-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.213 | 0.400 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0781 | 0.200 | PQL | mg/Kg | |
| SL-872-SA5A-SB-2.5-3.5 | SELENIUM | J | 0.207 | 0.412 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0593 | 0.206 | PQL | mg/Kg | |
| SL-873-SA5A-SB-0.0-0.5 | SILVER | J | 0.0523 | 0.219 | PQL | mg/Kg | J (all detects) |

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-873-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0150 | 0.0178 | PQL | mg/Kg | J (all detects) |

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-872-SA5A-SB-0.0-0.5 | EFH (C15-C20) | J | 2.2 | 5.2 | PQL | mg/Kg | J (all detects) |
| SL-873-SA5A-SB-0.0-0.5 | EFH (C15-C20) | J | 2.3 | 5.5 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 10 | 11 | PQL | mg/Kg | |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1271-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 0.71 | 1.7 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 0.80 | 1.7 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 0.81 | 1.7 | PQL | ug/Kg | |
| SL-862-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 12 | 17 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 13 | 17 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 12 | 17 | PQL | ug/Kg | |
| | PYRENE | J | 11 | 17 | PQL | ug/Kg | |
| SL-872-SA5A-SB-2.5-3.5 | PHENANTHRENE | J | 0.84 | 1.8 | PQL | ug/Kg | J (all detects) |
| SL-873-SA5A-SB-0.0-0.5 | Di-n-octylphthalate | J | 7.5 | 20 | PQL | ug/Kg | J (all detects) |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

LDC #: 30037F4

VALIDATION COMPLETENESS WORKSHEET

Date: 7/25/13

SDG #: PH050

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|------------------------------------|
| I. | Technical holding times | - | Sampling dates: 6/6/13 |
| II. | ICP/MS Tune | - | |
| III. | Calibration | - | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | | |
| VI. | Matrix Spike Analysis | SW | MS/D |
| VII. | Duplicate Sample Analysis | SW | DUP |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | SW | |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | - | (1,2) |
| XV. | Field Blanks | SW | EB=EB1-060513 (PH047) FB=FB-011113 |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

EB2-060513

(PH029)

Validated Samples:

soil

| | | | | | | | |
|----|---------------------------|----|--|----|--|----|--|
| 1 | SL-871-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-1271-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | SL-872-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 | |
| 4 | SL-872-SA5A-SB-2.5-3.5 | 14 | | 24 | | 34 | |
| 5 | SL-873-SA5A-SB-0.0-0.5 | 15 | | 25 | | 35 | |
| 6 | SL-862-SA5A-SB-0.0-0.5 | 16 | | 26 | | 36 | |
| 7 | SL-862-SA5A-SB-4.5-5.5 | 17 | | 27 | | 37 | |
| 8 | SL-871-SA5A-SB-0.0-0.5MS | 18 | | 28 | | 38 | |
| 9 | SL-871-SA5A-SB-0.0-0.5MSD | 19 | | 29 | | 39 | |
| 10 | SL-871-SA5A-SB-0.0-0.5DUP | 20 | | 30 | | 40 | |

Notes: _____

LDC #: 30037F4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: 100x Reason: B

Sample Concentration units, unless otherwise noted: mg/Kg

Associated Samples: All

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|------|------|------|------|------|------|--|--|--|--|--|--|
| Mo | | | 1.8 | 0.9 | 0.71 | 0.47 | 0.53 | 0.53 | 0.58 | 0.42 | | | | | | |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/11/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All Soil

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|------------------------------|-----------------------|------|------|------|------|------|------|--|--|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 1 | 2 | 3 | 4 | 5 | 6 | | | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 0.71 | 0.47 | 0.53 | 0.53 | 0.58 | 0.42 | | | | |

Sampling date: 6/5/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 1-5

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|-------------------------------|-----------------------|------|------|------|------|------|--|--|--|--|--|
| | EB1-060513 (SDG: PH047) | Action Limit | 1 | 2 | 3 | 4 | 5 | | | | | |
| Ba | 0.00045 | 0.225 | | | | | | | | | | |
| Cd | 0.00036 | 0.18 | | | | | | | | | | |
| Mo | 0.0084 | 4.2 | 0.71 | 0.47 | 0.53 | 0.53 | 0.58 | | | | | |

Sampling date: 6/5/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 6, 7

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|-------------------------------|-----------------------|-------|--|--|--|--|--|--|--|--|--|
| | EB2-060513 (SDG: PH047) | Action Limit | 6 | | | | | | | | | |
| Cd | 0.00048 | 0.24 | 0.037 | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Background Lab Sample ID: 7085556BKG Matrix Spike Lab Sample ID: 7085557MS Matrix Spike Duplicate Lab Sample ID: 7085558MSD
Batch Id(s): P16437A, P16438B

Handwritten: 6/1/07

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | RPD | Control Limit | | |
|------------|------|------------|---|------------|---|------------|---|----------------|-----------------|-------|------|---|------|---|-----|---------------|-----|----------------|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | | %R | RPD | M |
| Aluminum | | 14574.4984 | | 17633.6204 | | 17163.6058 | | 194.1748 | 194.1748 | MG/KG | 1575 | | 1333 | | 3 | | | 20 P |
| Antimony | | 0.4854 | U | 29.4505 | | 29.5981 | | 48.5437 | 48.5437 | MG/KG | 61 | N | 61 | N | 0 | | | 75 - 125 20 P |
| Arsenic | | 4.9301 | | 19.2845 | | 19.1301 | | 14.5631 | 14.5631 | MG/KG | 99 | | 98 | | 1 | | | 75 - 125 20 P |
| Barium | | 105.0825 | | 302.9990 | | 298.9748 | | 194.1748 | 194.1748 | MG/KG | 102 | | 100 | | 1 | | | 75 - 125 20 P |
| Beryllium | | 0.6262 | B | 5.4893 | | 5.4699 | | 4.8544 | 4.8544 | MG/KG | 100 | | 100 | | 0 | | | 75 - 125 20 P |
| Boron | | 4.6417 | B | 190.3000 | | 190.0398 | | 194.1748 | 194.1748 | MG/KG | 96 | | 95 | | 0 | | | 75 - 125 20 P |
| Cadmium | | 0.0320 | U | 4.6718 | | 4.6262 | | 4.8544 | 4.8544 | MG/KG | 96 | | 95 | | 1 | | | 75 - 125 20 P |
| Calcium | | 2415.8961 | | 2931.7388 | | 2880.2864 | | 388.3495 | 388.3495 | MG/KG | 133 | | 120 | | 2 | | | 20 P |
| Chromium | | 22.0398 | | 43.9184 | | 42.8340 | | 19.4175 | 19.4175 | MG/KG | 113 | | 107 | | 2 | | | 75 - 125 20 P |
| Cobalt | | 5.4796 | | 51.7583 | | 51.3330 | | 48.5437 | 48.5437 | MG/KG | 95 | | 94 | | 1 | | | 75 - 125 20 P |
| Copper | | 11.5583 | | 35.7718 | | 35.7612 | | 24.2718 | 24.2718 | MG/KG | 100 | | 100 | | 0 | | | 75 - 125 20 P |
| Iron | | 18959.5825 | | 19704.6854 | | 18789.2573 | | 97.0874 | 97.0874 | MG/KG | 767 | | 5175 | | 5 | | | 20 P |
| Lead | | 8.3175 | | 22.4485 | | 22.1505 | | 14.5631 | 14.5631 | MG/KG | 97 | | 95 | | 1 | | | 75 - 125 20 P |
| Lithium | | 23.1515 | | 124.9544 | | 123.6087 | | 97.0874 | 97.0874 | MG/KG | 105 | | 103 | | 1 | | | 75 - 125 20 P |
| Magnesium | | 499.5466 | | 4812.1252 | | 4673.0476 | | 194.1748 | 194.1748 | MG/KG | 216 | | 144 | | 3 | | | 20 P |
| Manganese | | 321.0214 | | 377.0796 | | 359.5893 | | 48.5437 | 48.5437 | MG/KG | 115 | | 79 | | 5 | | | 20 P |
| Mercury | | 0.0099 | U | 0.1661 | | 0.1605 | | 0.1652 | 0.1631 | MG/KG | 101 | | 98 | | 3 | | | 65 - 135 20 CV |
| Molybdenum | | 0.6874 | B | 185.4621 | | 185.0544 | | 194.1748 | 194.1748 | MG/KG | 95 | | 95 | | 0 | | | 75 - 125 20 P |
| Nickel | | 14.7330 | | 61.9835 | | 61.7000 | | 48.5437 | 48.5437 | MG/KG | 97 | | 97 | | 0 | | | 75 - 125 20 P |
| Phosphorus | | 428.7262 | | 522.5194 | | 498.8903 | | 97.0874 | 97.0874 | MG/KG | 97 | | 72 | | 5 | | | 20 P |
| Potassium | | 3930.7311 | | 5238.6699 | | 5151.6417 | | 97.08738 | 97.08738 | MG/KG | 135 | | 126 | | 2 | | | 20 P |
| Selenium | 78 | 0.1480 | B | 2.3010 | | 2.4155 | | 1.9417 | 1.9417 | MG/KG | 111 | | 117 | | 5 | | | 75 - 125 20 MS |
| Silver | 107 | 0.0429 | B | 10.9146 | | 11.8466 | | 9.7087 | 9.7087 | MG/KG | 112 | | 122 | | 8 | | | 75 - 125 20 MS |
| Sodium | | 69.7282 | B | 1015.3039 | | 1009.1563 | | 970.8738 | 970.8738 | MG/KG | 97 | | 97 | | 1 | | | 75 - 125 20 P |
| Strontium | 88 | 22.8155 | | 32.1748 | | 34.6796 | | 7.7670 | 7.7670 | MG/KG | 121 | | 153 | N | 7 | | | 75 - 125 20 MS |
| Thallium | 203 | 0.2994 | | 0.8340 | | 0.8307 | | 0.3883 | 0.3883 | MG/KG | 138 | N | 137 | N | 0 | | | 75 - 125 20 MS |
| Tin | | 2.7485 | B | 353.4854 | | 352.4126 | | 388.3495 | 388.3495 | MG/KG | 90 | | 90 | | 0 | | | 75 - 125 20 P |
| Titanium | | 1173.5136 | | 1485.0340 | | 1445.5835 | | 97.0874 | 97.0874 | MG/KG | 321 | | 280 | | 3 | | | 20 P |
| Vanadium | | 37.2087 | | 88.7563 | | 86.6068 | | 48.5437 | 48.5437 | MG/KG | 106 | | 102 | | 2 | | | 75 - 125 20 P |
| Zinc | | 62.6039 | | 111.3233 | | 109.5126 | | 48.5437 | 48.5437 | MG/KG | 100 | | 97 | | 2 | | | 75 - 125 20 P |
| Zirconium | | 2.8602 | B | 91.9252 | | 90.8806 | | 97.0874 | 97.0874 | MG/KG | 92 | | 91 | | 1 | | | 75 - 125 20 P |

Note: Results shown are reported on an as-received basis.

| | | | |
|--------------------------------------|-------------------------------------|---|--|
| METHODS: | | CONCENTRATION QUALIFIERS: | |
| P = ICP Atomic Emission Spectrometer | CV = Cold Vapor | U = Below MDL, B = Below LOQ | |
| MS = ICP Mass Spectrometry | AF = Cold Vapor Atomic Fluorescence | FLAGS: | |
| | | N = Matrix Spike OOS, * = Duplicate OOS | |

Background Lab Sample ID: 7085556BKG
 Batch ID(s): P16437A, P16438B
 Concentration Units: MG/KG

Duplicate Lab Sample ID: 7085559DUP

| Analyte | Mass | Control Limit | Samples (S) | C | Duplicate (D) | C | RPD | Q | M |
|------------|------|---------------|-------------|---|---------------|---|-----|---|----|
| Aluminum | | | 14574.4981 | | 14345.9990 | | 2 | | P |
| Antimony | | | 0.4854 | U | 0.4854 | U | | | P |
| Arsenic | | 3.9 | 4.9301 | | 5.2718 | | 7 | | P |
| Barium | | | 105.0825 | | 105.7427 | | 1 | | P |
| Beryllium | | | 0.6262 | B | 0.6243 | B | 0 | | P |
| Boron | | | 4.6417 | B | 3.8097 | B | 20 | | P |
| Cadmium | | | 0.0320 | U | 0.0320 | U | | | P |
| Calcium | | | 2415.8961 | | 2303.7990 | | 5 | | P |
| Chromium | | | 22.0398 | | 22.3320 | | 1 | | P |
| Cobalt | | | 5.4796 | | 5.8602 | | 7 | | P |
| Copper | | | 11.5583 | | 11.6049 | | 0 | | P |
| Iron | | | 18959.5825 | | 19265.7883 | | 2 | | P |
| Lead | | 2.9 | 8.3175 | | 8.5680 | | 3 | | P |
| Lithium | | | 23.1515 | | 23.1777 | | 0 | | P |
| Magnesium | | | 4393.5466 | | 4397.7243 | | 0 | | P |
| Manganese | | | 321.0214 | | 333.5932 | | 4 | | P |
| Mercury | | | 0.0099 | U | 0.0096 | U | | | CV |
| Molybdenum | | | 0.6874 | B | 0.5000 | B | 32 | | P |
| Nickel | | | 14.7330 | | 14.8301 | | 1 | | P |
| Phosphorus | | | 428.7262 | | 415.0835 | | 3 | | P |
| Potassium | | | 3930.7311 | | 3914.4709 | | 0 | | P |
| Selenium | 78 | | 0.1480 | B | 0.2299 | B | 43 | | MS |
| Silver | 107 | | 0.0429 | B | 0.0940 | B | 75 | | MS |
| Sodium | | | 69.7282 | B | 68.2913 | B | 2 | | P |
| Strontium | 88 | | 22.8155 | | 30.2330 | | 28 | * | MS |
| Thallium | 203 | 0.2 | 0.2994 | | 0.3975 | | 28 | | MS |
| Tin | | | 2.7485 | B | 2.7485 | B | 0 | | P |
| Titanium | | | 1173.5136 | | 1141.2301 | | 3 | | P |
| Vanadium | | | 37.2087 | | 37.5670 | | 1 | | P |
| Zinc | | | 62.6039 | | 62.3456 | | 0 | | P |
| Zirconium | | | 2.8602 | B | 3.4524 | B | 19 | | P |

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |S - D| > LOQ for values < 5x LOQ).
 The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

ok by d. reference

Note: Results shown are reported on an as-received basis.

| | |
|---|--|
| METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence | CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: Duplicate Out of Spec |
|---|--|

Background Lab Sample ID: 7085556BKG Serial Dilution Lab Sample ID: 7085556L
 Batch ID(s): P16437A
 Concentration Units: UG/L

| Analyte | Mass | Initial Sample Result (I) | C | Serial Dilution Result (S) | C | % Diff. | Q | M |
|------------|------|---------------------------|---|----------------------------|---|---------|---|----|
| Aluminum | | 150117.3300 | | 160474.5000 | | 7 | | P |
| Antimony | | 5.0000 | U | 25.0000 | U | | | P |
| Arsenic | | 50.7800 | | 48.3000 | B | 5 | | P |
| Barium | | 1082.3500 | | 1137.1000 | | 5 | | P |
| Beryllium | | 6.4500 | B | 7.5000 | B | 16 | | P |
| Boron | | 47.8100 | B | 45.5000 | B | 5 | | P |
| Cadmium | | 0.3300 | U | 1.6500 | U | | | P |
| Calcium | | 24883.7300 | | 25952.7500 | | 4 | | P |
| Chromium | | 227.0100 | | 244.8000 | | 8 | | P |
| Cobalt | | 56.4400 | | 60.0000 | | 6 | | P |
| Copper | | 119.0500 | | 144.1500 | | 21 | | P |
| Iron | | 195283.7000 | | 212073.4000 | | 9 | | P |
| Lead | | 85.6700 | | 82.0500 | B | 4 | | P |
| Lithium | | 238.4600 | | 251.6500 | | 6 | | P |
| Magnesium | | 45253.5300 | | 47563.7000 | | 5 | | P |
| Manganese | | 3306.5200 | | 3497.2500 | | 6 | | P |
| Molybdenum | | 7.0800 | B | 21.4500 | B | 203 | | P |
| Nickel | | 151.7500 | | 164.9500 | | 9 | | P |
| Phosphorus | | 4415.8800 | | 4504.2000 | | 2 | | P |
| Potassium | | 40486.5300 | | 41645.1500 | | 3 | | P |
| Selenium | 78 | 0.7622 | B | 2.5000 | U | 100 | | MS |
| Silver | 107 | 0.2209 | B | 0.5000 | U | 100 | | MS |
| Sodium | | 718.2000 | B | 835.0000 | U | 100 | | P |
| Strontium | 88 | 117.5000 | | 136.7000 | | 16 | | MS |
| Thallium | 203 | 1.5420 | | 2.0880 | B | 35 | | MS |
| Tin | | 28.3100 | B | 31.0000 | B | 10 | | P |
| Titanium | | 12087.1900 | | 12812.6000 | | 6 | | P |
| Vanadium | | 383.2500 | | 403.4500 | | 5 | | P |
| Zinc | | 644.8200 | | 665.1000 | | 3 | | P |
| Zirconium | | 29.4600 | B | 51.8000 | B | 76 | | P |

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

5/05/14 Reason: A

| | |
|---|---|
| METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry | CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution |
|---|---|

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|----------------|-------------|-------------|-------------------|--------------|
| 07-Jun-2013 | SL-845-SA5A-SB-0.0-0.5 | 7086820 | N | METHOD | 1613B | III |
| 07-Jun-2013 | SL-846-SA5A-SB-0.0-0.5 | 7086821 | N | 3050B | 6010C | III |
| 07-Jun-2013 | SL-846-SA5A-SB-0.0-0.5 | 7086821 | N | 3050B | 6020A | III |
| 07-Jun-2013 | SL-846-SA5A-SB-0.0-0.5 | 7086821 | N | 3546 | 8015M | III |
| 07-Jun-2013 | SL-846-SA5A-SB-0.0-0.5 | 7086821 | N | 3546 | 8270D SIM | III |
| 07-Jun-2013 | SL-846-SA5A-SB-0.0-0.5 | 7086821 | N | METHOD | 1613B | III |
| 07-Jun-2013 | SL-846-SA5A-SB-0.0-0.5 | 7086821 | N | METHOD | 7471B | III |
| 07-Jun-2013 | SL-847-SA5A-SB-0.0-0.5 | 7086822 | N | 3050B | 6010C | III |
| 07-Jun-2013 | SL-847-SA5A-SB-0.0-0.5 | 7086822 | N | 3050B | 6020A | III |
| 07-Jun-2013 | SL-847-SA5A-SB-0.0-0.5 | 7086822 | N | 3546 | 8015M | III |
| 07-Jun-2013 | SL-847-SA5A-SB-0.0-0.5 | 7086822 | N | 3546 | 8270D SIM | III |
| 07-Jun-2013 | SL-847-SA5A-SB-0.0-0.5 | 7086822 | N | METHOD | 1613B | III |
| 07-Jun-2013 | SL-847-SA5A-SB-0.0-0.5 | 7086822 | N | METHOD | 7471B | III |
| 07-Jun-2013 | SL-848-SA5A-SB-0.0-0.5 | 7086823 | N | 3050B | 6010C | III |
| 07-Jun-2013 | SL-848-SA5A-SB-0.0-0.5 | 7086823 | N | 3050B | 6020A | III |
| 07-Jun-2013 | SL-848-SA5A-SB-0.0-0.5 | 7086823 | N | 3546 | 8015M | III |
| 07-Jun-2013 | SL-848-SA5A-SB-0.0-0.5 | 7086823 | N | 3546 | 8270D SIM | III |
| 07-Jun-2013 | SL-848-SA5A-SB-0.0-0.5 | 7086823 | N | METHOD | 1613B | III |
| 07-Jun-2013 | SL-848-SA5A-SB-0.0-0.5 | 7086823 | N | METHOD | 7471B | III |
| 07-Jun-2013 | SL-827-SA5A-SB-0.0-0.5 | 7086819 | N | 3050B | 6010C | III |
| 07-Jun-2013 | SL-827-SA5A-SB-0.0-0.5 | 7086819 | N | 3050B | 6020A | III |
| 07-Jun-2013 | SL-827-SA5A-SB-0.0-0.5 | 7086819 | N | 3546 | 8015M | III |
| 07-Jun-2013 | SL-827-SA5A-SB-0.0-0.5 | 7086819 | N | 3546 | 8270D SIM | III |
| 07-Jun-2013 | SL-827-SA5A-SB-0.0-0.5 | 7086819 | N | METHOD | 1613B | III |
| 07-Jun-2013 | SL-827-SA5A-SB-0.0-0.5 | 7086819 | N | METHOD | 7471B | III |
| 07-Jun-2013 | SL-827-SA5A-SB-0.0-0.5MSD | P086819M260414 | MSD | 3546 | 8270D SIM | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|--------------------------|----------------|-------------|-------------|-------------------|--------------|
| 07-Jun-2013 | SL-827-SA5A-SB-0.0-0.5MS | P086819R260343 | MS | 3546 | 8270D SIM | III |

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-827-SA5A-SB-0.0-0.5 Collected: 6/7/2013 11:45:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 0.602 | J | 0.501 | MDL | 4.01 | PQL | mg/Kg | J | Z |
| ARSENIC | 3.85 | J | 0.331 | MDL | 4.01 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.590 | J | 0.0671 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 7.68 | J | 0.832 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.544 | J | 0.0331 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.508 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | B, F, F |
| SODIUM | 74.7 | J | 16.7 | MDL | 100 | PQL | mg/Kg | J | Z |
| TIN | 2.76 | J | 0.220 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 3.49 | J | 0.832 | MDL | 5.01 | PQL | mg/Kg | J | Z |

Sample ID: SL-846-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:15:00 AM Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 0.697 | J | 0.519 | MDL | 4.15 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.761 | J | 0.0696 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| BORON | 7.96 | J | 0.862 | MDL | 10.4 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.548 | J | 0.0343 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.560 | J | 0.177 | MDL | 2.08 | PQL | mg/Kg | U | B, F, F |
| SODIUM | 85.5 | J | 17.3 | MDL | 104 | PQL | mg/Kg | J | Z |
| TIN | 2.96 | J | 0.228 | MDL | 10.4 | PQL | mg/Kg | U | B |
| Zirconium | 3.71 | J | 0.862 | MDL | 5.19 | PQL | mg/Kg | J | Z |

Sample ID: SL-847-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:45:00 AM Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 0.814 | J | 0.488 | MDL | 3.91 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.678 | J | 0.0654 | MDL | 0.977 | PQL | mg/Kg | J | Z |
| BORON | 8.16 | J | 0.811 | MDL | 9.77 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.609 | J | 0.0322 | MDL | 0.977 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.559 | J | 0.166 | MDL | 1.95 | PQL | mg/Kg | U | B, F, F |
| SODIUM | 76.3 | J | 16.3 | MDL | 97.7 | PQL | mg/Kg | J | Z |
| TIN | 2.85 | J | 0.215 | MDL | 9.77 | PQL | mg/Kg | U | B |
| Zirconium | 3.90 | J | 0.811 | MDL | 4.88 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-848-SA5A-SB-0.0-0.5 Collected: 6/7/2013 10:15:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 0.681 | J | 0.493 | MDL | 3.95 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.674 | J | 0.0661 | MDL | 0.987 | PQL | mg/Kg | J | Z |
| BORON | 8.23 | J | 0.819 | MDL | 9.87 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.628 | J | 0.0326 | MDL | 0.987 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.545 | J | 0.168 | MDL | 1.97 | PQL | mg/Kg | U | B, F, F |
| SODIUM | 84.6 | J | 16.5 | MDL | 98.7 | PQL | mg/Kg | J | Z |
| TIN | 2.82 | J | 0.217 | MDL | 9.87 | PQL | mg/Kg | U | B |
| Zirconium | 3.57 | J | 0.819 | MDL | 4.93 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-827-SA5A-SB-0.0-0.5 Collected: 6/7/2013 11:45:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0590 | J | 0.0200 | MDL | 0.200 | PQL | mg/Kg | J | Z |

Sample ID: SL-846-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:15:00 AM Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.164 | J | 0.104 | MDL | 0.415 | PQL | mg/Kg | J | Z |

Sample ID: SL-846-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:15:00 AM Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0467 | J | 0.0208 | MDL | 0.208 | PQL | mg/Kg | J | Z |

Sample ID: SL-847-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:45:00 AM Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.128 | J | 0.0977 | MDL | 0.391 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS
Method: 6020A Matrix: SO

Sample ID: SL-847-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:45:00 AM Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0371 | J | 0.0195 | MDL | 0.195 | PQL | mg/Kg | J | Z |

Sample ID: SL-848-SA5A-SB-0.0-0.5 Collected: 6/7/2013 10:15:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.128 | J | 0.0987 | MDL | 0.395 | PQL | mg/Kg | J | Z |

Sample ID: SL-848-SA5A-SB-0.0-0.5 Collected: 6/7/2013 10:15:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0515 | J | 0.0197 | MDL | 0.197 | PQL | mg/Kg | J | Z |

Method Category: METALS
Method: 7471B Matrix: SO

Sample ID: SL-827-SA5A-SB-0.0-0.5 Collected: 6/7/2013 11:45:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0144 | J | 0.0099 | MDL | 0.0165 | PQL | mg/Kg | J | Z |

Sample ID: SL-846-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:15:00 AM Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0112 | J | 0.0101 | MDL | 0.0168 | PQL | mg/Kg | J | Z |

Sample ID: SL-847-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:45:00 AM Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0109 | J | 0.0098 | MDL | 0.0163 | PQL | mg/Kg | J | Z |

Sample ID: SL-848-SA5A-SB-0.0-0.5 Collected: 6/7/2013 10:15:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0153 | J | 0.0099 | MDL | 0.0166 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|-------|----------------|----|
| Method Category: | SVOA | | |
| Method: | 1613B | Matrix: | SO |

Sample ID: SL-827-SA5A-SB-0.0-0.5 Collected: 6/7/2013 11:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 1.89 | JB | 0.0172 | MDL | 4.88 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.155 | JB | 0.0275 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.230 | JB | 0.0329 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.160 | JBQ | 0.0219 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.535 | JB | 0.0338 | MDL | 4.88 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.183 | JB | 0.0180 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.535 | JB | 0.0342 | MDL | 4.88 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.203 | JB | 0.0253 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.106 | JBQ | 0.0353 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.298 | JB | 0.0231 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.191 | JBQ | 0.0196 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.221 | JB | 0.0214 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.181 | JBQ | 0.0427 | MDL | 0.975 | PQL | ng/Kg | J | Z |
| OCDF | 6.08 | JB | 0.0273 | MDL | 9.75 | PQL | ng/Kg | J | Z |

Sample ID: SL-845-SA5A-SB-0.0-0.5 Collected: 6/7/2013 8:40:00 AM Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.969 | JB | 0.0241 | MDL | 4.98 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.560 | J | 0.0341 | MDL | 4.98 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.415 | JB | 0.0242 | MDL | 4.98 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 1.23 | JB | 0.0361 | MDL | 4.98 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.847 | JB | 0.0216 | MDL | 4.98 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 1.38 | JB | 0.0360 | MDL | 4.98 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.287 | JB | 0.0251 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.406 | JB | 0.0371 | MDL | 4.98 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.415 | JBQ | 0.0225 | MDL | 4.98 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.467 | JB | 0.0211 | MDL | 4.98 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.420 | JBQ | 0.0201 | MDL | 4.98 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0607 | JQ | 0.0245 | MDL | 0.996 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.143 | J | 0.0333 | MDL | 0.996 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-846-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:15:00 AM Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 4.94 | JB | 0.0227 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.502 | JB | 0.0256 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.403 | J | 0.0480 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.394 | JB | 0.0276 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 0.926 | JB | 0.0517 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.268 | JB | 0.0254 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 1.10 | JB | 0.0490 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.345 | JB | 0.0291 | MDL | 5.02 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.298 | JB | 0.0399 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.447 | JB | 0.0305 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.305 | JB | 0.0252 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.372 | JB | 0.0275 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0505 | J | 0.0345 | MDL | 1.00 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.181 | J | 0.0485 | MDL | 1.00 | PQL | ng/Kg | J | Z |

Sample ID: SL-847-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:45:00 AM Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.206 | JBQ | 0.0186 | MDL | 4.85 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0806 | JB | 0.0139 | MDL | 4.85 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0465 | JB | 0.00976 | MDL | 4.85 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0180 | JQ | 0.0158 | MDL | 4.85 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.0583 | JBQ | 0.0147 | MDL | 4.85 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.0926 | JB | 0.0171 | MDL | 4.85 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0642 | JB | 0.0147 | MDL | 4.85 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.181 | JB | 0.0152 | MDL | 4.85 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.146 | JB | 0.00986 | MDL | 4.85 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0575 | JBQ | 0.0251 | MDL | 4.85 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0698 | JBQ | 0.0149 | MDL | 4.85 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0242 | JB | 0.00875 | MDL | 4.85 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0462 | JBQ | 0.0139 | MDL | 4.85 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0294 | JQ | 0.0214 | MDL | 0.971 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.0286 | JQ | 0.0162 | MDL | 0.971 | PQL | ng/Kg | J | Z |
| OCDD | 1.87 | JB | 0.0193 | MDL | 9.71 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|------------------------------|-------------------|--|
| Method Category: SVOA | | |
| Method: 1613B | Matrix: SO | |

Sample ID: SL-847-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:45:00 AM Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| OCDF | 0.184 | JB | 0.0190 | MDL | 9.71 | PQL | ng/Kg | U | B |

Sample ID: SL-848-SA5A-SB-0.0-0.5 Collected: 6/7/2013 10:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 2.48 | JB | 0.0229 | MDL | 4.84 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.248 | JB | 0.0168 | MDL | 4.84 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.256 | J | 0.0313 | MDL | 4.84 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.404 | JB | 0.0246 | MDL | 4.84 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 0.709 | JB | 0.0327 | MDL | 4.84 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.227 | JB | 0.0251 | MDL | 4.84 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 0.787 | JB | 0.0304 | MDL | 4.84 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.315 | JBQ | 0.0175 | MDL | 4.84 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.214 | JBQ | 0.0304 | MDL | 4.84 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.339 | JB | 0.0228 | MDL | 4.84 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.207 | JB | 0.0158 | MDL | 4.84 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.133 | JBQ | 0.0206 | MDL | 4.84 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.185 | J | 0.0331 | MDL | 0.968 | PQL | ng/Kg | J | Z |
| OCDF | 8.72 | JB | 0.0197 | MDL | 9.68 | PQL | ng/Kg | J | Z |

| | | |
|------------------------------|-------------------|--|
| Method Category: SVOA | | |
| Method: 8270D SIM | Matrix: SO | |

Sample ID: SL-827-SA5A-SB-0.0-0.5 Collected: 6/7/2013 11:45:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.5 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(E)PYRENE | 17 | U | 3.4 | MDL | 17 | PQL | ug/Kg | UJ | Q |
| BIS(2-ETHYLHEXYL)PHTHALATE | 7.1 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | Z |
| Diethylphthalate | 18 | U | 6.1 | MDL | 18 | PQL | ug/Kg | UJ | Q |
| Di-n-octylphthalate | 28 | | 6.1 | MDL | 18 | PQL | ug/Kg | J | Q |
| FLUORANTHENE | 1.5 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| FLUORENE | 0.75 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 0.69 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | U | F |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|------------------------------|-------------------|--|
| Method Category: SVOA | | |
| Method: 8270D SIM | Matrix: SO | |

Sample ID: SL-827-SA5A-SB-0.0-0.5 Collected: 6/7/2013 11:45:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| PHENANTHRENE | 1.2 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 1.3 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-846-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:15:00 AM Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 0.75 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| DIBENZO(A,H)ANTHRACENE | 0.71 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-847-SA5A-SB-0.0-0.5 Collected: 6/7/2013 9:45:00 AM Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 0.84 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| CHRYSENE | 1.4 | J | 0.33 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 13 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 1.3 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 0.83 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 1.2 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-848-SA5A-SB-0.0-0.5 Collected: 6/7/2013 10:15:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 0.87 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 0.88 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

8/2/2013 7:51:15 AM

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Data Qualifier Summary

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---------------------------------|
| B | Calibration Blank Contamination |
| B | Method Blank Contamination |
| F | Equipment Blank Contamination |
| F | Field Blank Contamination |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

8/2/2013 7:51:15 AM

ADR version 1.7.0.207

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Enclosure I

Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

PH051

Method Blank Outlier Report

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|---|--|--|
| BLK1650B371148 | 6/18/2013 11:48:00 AM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF OCDD OCDF | 0.0445 ng/Kg 0.0586 ng/Kg 0.0448 ng/Kg 0.0411 ng/Kg 0.0389 ng/Kg 0.0374 ng/Kg 0.0490 ng/Kg 0.0753 ng/Kg 0.0542 ng/Kg 0.0711 ng/Kg 0.0261 ng/Kg 0.0370 ng/Kg 0.385 ng/Kg 0.124 ng/Kg | SL-845-SA5A-SB-0.0-0.5 SL-846-SA5A-SB-0.0-0.5 SL-847-SA5A-SB-0.0-0.5 SL-848-SA5A-SB-0.0-0.5 |
| BLK1680B370247 | 6/20/2013 2:47:00 AM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF 2,3,7,8-TCDD 2,3,7,8-TCDF OCDD OCDF | 0.0960 ng/Kg 0.0640 ng/Kg 0.0329 ng/Kg 0.0884 ng/Kg 0.131 ng/Kg 0.0822 ng/Kg 0.122 ng/Kg 0.0979 ng/Kg 0.136 ng/Kg 0.148 ng/Kg 0.209 ng/Kg 0.0987 ng/Kg 0.232 ng/Kg 0.0457 ng/Kg 0.0331 ng/Kg 0.435 ng/Kg 0.129 ng/Kg | SL-827-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-827-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.155 ng/Kg | 0.155U ng/Kg |
| SL-827-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.230 ng/Kg | 0.230U ng/Kg |
| SL-827-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.160 ng/Kg | 0.160U ng/Kg |
| SL-827-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.183 ng/Kg | 0.183U ng/Kg |
| SL-827-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.203 ng/Kg | 0.203U ng/Kg |
| SL-827-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.106 ng/Kg | 0.106U ng/Kg |
| SL-827-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.298 ng/Kg | 0.298U ng/Kg |
| SL-827-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.191 ng/Kg | 0.191U ng/Kg |
| SL-827-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.221 ng/Kg | 0.221U ng/Kg |
| SL-845-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.287 ng/Kg | 0.287U ng/Kg |
| SL-846-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.345 ng/Kg | 0.345U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.206 ng/Kg | 0.206U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0806 ng/Kg | 0.0806U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0465 ng/Kg | 0.0465U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0583 ng/Kg | 0.0583U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDD | 0.0926 ng/Kg | 0.0926U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0642 ng/Kg | 0.0642U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDD | 0.181 ng/Kg | 0.181U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

8/2/2013 7:43:42 AM

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Method Blank Outlier Report

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|-------------------|-----------------|-----------------------|
| SL-847-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.146 ng/Kg | 0.146U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.0575 ng/Kg | 0.0575U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.0698 ng/Kg | 0.0698U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0242 ng/Kg | 0.0242U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0462 ng/Kg | 0.0462U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | OCDD | 1.87 ng/Kg | 1.87U ng/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES) | OCDF | 0.184 ng/Kg | 0.184U ng/Kg |
| SL-848-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.315 ng/Kg | 0.315U ng/Kg |
| SL-848-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.214 ng/Kg | 0.214U ng/Kg |
| SL-848-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.339 ng/Kg | 0.339U ng/Kg |
| SL-848-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.133 ng/Kg | 0.133U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|------------------------------|--|--|
| P16037AB221648 | 6/11/2013 4:48:00 PM | CALCIUM PHOSPHORUS TIN | 11.1 mg/Kg 1.14 mg/Kg 1.50 mg/Kg | SL-827-SA5A-SB-0.0-0.5 SL-846-SA5A-SB-0.0-0.5 SL-847-SA5A-SB-0.0-0.5 SL-848-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|---------|-----------------|-----------------------|
| SL-827-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.76 mg/Kg | 2.76U mg/Kg |
| SL-846-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.96 mg/Kg | 2.96U mg/Kg |
| SL-847-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.85 mg/Kg | 2.85U mg/Kg |
| SL-848-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.82 mg/Kg | 2.82U mg/Kg |

Method: 6020A
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|-----------|--------------|--|
| P16037AB221759A | 6/11/2013 5:59:00 PM | STRONTIUM | 0.0780 mg/Kg | SL-827-SA5A-SB-0.0-0.5 SL-846-SA5A-SB-0.0-0.5 SL-847-SA5A-SB-0.0-0.5 SL-848-SA5A-SB-0.0-0.5 |

Field Blank Outlier Report

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|--|---|--|
| FB-041113(RES) | 4/11/2013 3:00:00 PM | 2-METHYLNAPHTHALENE BIS(2-ETHYLHEXYL)PHTHALATE Diethylphthalate Hexachloro-1,3-Butadiene NAPHTHALENE XYLENES, TOTAL | 0.024 ug/L 0.082 ug/L 0.18 ug/L 0.17 ug/L 0.17 ug/L 0.019 ug/L | SL-827-SA5A-SB-0.0-0.5 SL-845-SA5A-SB-0.0-0.5 SL-846-SA5A-SB-0.0-0.5 SL-847-SA5A-SB-0.0-0.5 SL-848-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|-------------|-----------------|-----------------------|
| SL-827-SA5A-SB-0.0-0.5(RES) | NAPHTHALENE | 0.69 ug/Kg | 1.7U ug/Kg |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|------------------------------------|----------|-----------|------------------------------|-----------------|------------------------------------|---------------------------------------|
| SL-827-SA5A-SB-0.0-0.5MS SL-827-SA5A-SB-0.0-0.5MSD (SL-827-SA5A-SB-0.0-0.5) | Di-n-octylphthalate | 209 | 306 | 52.00-162.00 | - | Di-n-octylphthalate | J (all detects) |
| SL-827-SA5A-SB-0.0-0.5MS SL-827-SA5A-SB-0.0-0.5MSD (SL-827-SA5A-SB-0.0-0.5) | BENZO(E)PYRENE Diethylphthalate | - 67 | 69 71 | 70.00-130.00 76.00-127.00 | - - | BENZO(E)PYRENE Diethylphthalate | J(all detects) UJ(all non-detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-827-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.89 | 4.88 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.155 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.230 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.160 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 0.535 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.183 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.535 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.203 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.106 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.298 | 4.88 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.191 | 4.88 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.221 | 4.88 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.181 | 0.975 | PQL | ng/Kg | |
| | OCDF | JB | 6.08 | 9.75 | PQL | ng/Kg | |
| SL-845-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 0.969 | 4.98 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | J | 0.560 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.415 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 1.23 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.847 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 1.38 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.287 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.406 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.415 | 4.98 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.467 | 4.98 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.420 | 4.98 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0607 | 0.996 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.143 | 0.996 | PQL | ng/Kg | |
| SL-846-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 4.94 | 5.02 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.502 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | J | 0.403 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.394 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 0.926 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.268 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 1.10 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.345 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.298 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.447 | 5.02 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.305 | 5.02 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.372 | 5.02 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | J | 0.0505 | 1.00 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.181 | 1.00 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-847-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.206 | 4.85 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.0806 | 4.85 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0465 | 4.85 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0180 | 4.85 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0583 | 4.85 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.0926 | 4.85 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.0642 | 4.85 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.181 | 4.85 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.146 | 4.85 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0575 | 4.85 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0698 | 4.85 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 0.0242 | 4.85 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0462 | 4.85 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0294 | 0.971 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0286 | 0.971 | PQL | ng/Kg | |
| | OCDD | JB | 1.87 | 9.71 | PQL | ng/Kg | |
| | OCDF | JB | 0.184 | 9.71 | PQL | ng/Kg | |
| SL-848-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 2.48 | 4.84 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.248 | 4.84 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | J | 0.256 | 4.84 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JB | 0.404 | 4.84 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.709 | 4.84 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.227 | 4.84 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.787 | 4.84 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.315 | 4.84 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.214 | 4.84 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.339 | 4.84 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 0.207 | 4.84 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.133 | 4.84 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.185 | 0.968 | PQL | ng/Kg | |
| | OCDF | JB | 8.72 | 9.68 | PQL | ng/Kg | |

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-827-SA5A-SB-0.0-0.5 | ANTIMONY | J | 0.602 | 4.01 | PQL | mg/Kg | J (all detects) |
| | ARSENIC | J | 3.85 | 4.01 | PQL | mg/Kg | |
| | BERYLLIUM | J | 0.590 | 1.00 | PQL | mg/Kg | |
| | BORON | J | 7.68 | 10.0 | PQL | mg/Kg | |
| | CADMIUM | J | 0.544 | 1.00 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.508 | 2.00 | PQL | mg/Kg | |
| | SODIUM | J | 74.7 | 100 | PQL | mg/Kg | |
| | TIN | J | 2.76 | 10.0 | PQL | mg/Kg | |
| | Zirconium | J | 3.49 | 5.01 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-846-SA5A-SB-0.0-0.5 | ANTIMONY | J | 0.697 | 4.15 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.761 | 1.04 | PQL | mg/Kg | |
| | BORON | J | 7.96 | 10.4 | PQL | mg/Kg | |
| | CADMIUM | J | 0.548 | 1.04 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.560 | 2.08 | PQL | mg/Kg | |
| | SODIUM | J | 85.5 | 104 | PQL | mg/Kg | |
| | TIN | J | 2.96 | 10.4 | PQL | mg/Kg | |
| Zirconium | J | 3.71 | 5.19 | PQL | mg/Kg | | |
| SL-847-SA5A-SB-0.0-0.5 | ANTIMONY | J | 0.814 | 3.91 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.678 | 0.977 | PQL | mg/Kg | |
| | BORON | J | 8.16 | 9.77 | PQL | mg/Kg | |
| | CADMIUM | J | 0.609 | 0.977 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.559 | 1.95 | PQL | mg/Kg | |
| | SODIUM | J | 76.3 | 97.7 | PQL | mg/Kg | |
| | TIN | J | 2.85 | 9.77 | PQL | mg/Kg | |
| Zirconium | J | 3.90 | 4.88 | PQL | mg/Kg | | |
| SL-848-SA5A-SB-0.0-0.5 | ANTIMONY | J | 0.681 | 3.95 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.674 | 0.987 | PQL | mg/Kg | |
| | BORON | J | 8.23 | 9.87 | PQL | mg/Kg | |
| | CADMIUM | J | 0.628 | 0.987 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.545 | 1.97 | PQL | mg/Kg | |
| | SODIUM | J | 84.6 | 98.7 | PQL | mg/Kg | |
| | TIN | J | 2.82 | 9.87 | PQL | mg/Kg | |
| Zirconium | J | 3.57 | 4.93 | PQL | mg/Kg | | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-827-SA5A-SB-0.0-0.5 | SILVER | J | 0.0590 | 0.200 | PQL | mg/Kg | J (all detects) |
| SL-846-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.164 | 0.415 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0467 | 0.208 | PQL | mg/Kg | |
| SL-847-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.128 | 0.391 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0371 | 0.195 | PQL | mg/Kg | |
| SL-848-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.128 | 0.395 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0515 | 0.197 | PQL | mg/Kg | |

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-827-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0144 | 0.0165 | PQL | mg/Kg | J (all detects) |
| SL-846-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0112 | 0.0168 | PQL | mg/Kg | J (all detects) |
| SL-847-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0109 | 0.0163 | PQL | mg/Kg | J (all detects) |
| SL-848-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0153 | 0.0166 | PQL | mg/Kg | J (all detects) |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

8/2/2013 7:41:04 AM

ADR version 1.7.0.207

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Reporting Limit Outliers

Lab Reporting Batch ID: PH051

Laboratory: LL

EDD Filename: PrepPH051_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-827-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 1.5 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 7.1 | 18 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.5 | 1.7 | PQL | ug/Kg | |
| | FLUORENE | J | 0.75 | 1.7 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 0.69 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| SL-846-SA5A-SB-0.0-0.5 | CHRYSENE | J | 0.75 | 1.7 | PQL | ug/Kg | J (all detects) |
| | DIBENZO(A,H)ANTHRACENE | J | 0.71 | 1.7 | PQL | ug/Kg | |
| SL-847-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 0.84 | 1.7 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| | Di-n-octylphthalate | J | 13 | 18 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.83 | 1.7 | PQL | ug/Kg | |
| PYRENE | J | 1.2 | 1.7 | PQL | ug/Kg | | |
| SL-848-SA5A-SB-0.0-0.5 | BENZO(A)PYRENE | J | 0.87 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(G,H,I)PERYLENE | J | 0.88 | 1.7 | PQL | ug/Kg | |

LDC #: 30037G4

VALIDATION COMPLETENESS WORKSHEET

Date: 7/25/13

SDG #: PH051

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|-------------------------------|
| I. | Technical holding times | — | Sampling dates: 6/7/13 |
| II. | ICP/MS Tune | — | |
| III. | Calibration | — | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | — | |
| VI. | Matrix Spike Analysis | N | CS |
| VII. | Duplicate Sample Analysis | N | CS |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | N | |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | — | |
| XV. | Field Blanks | SW | EB = EB-060513 FB = FB-041113 |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

(PH047)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(P1029)

Validated Samples: Soil

| | | | | | | | |
|----|------------------------|----|--|----|--|----|--|
| 1 | SL-827-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-846-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | SL-847-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 | |
| 4 | SL-848-SA5A-SB-0.0-0.5 | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

LDC #: 30037G4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: 100x Reason: B

Sample Concentration units, unless otherwise noted: mg/Kg

Associated Samples: All

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 1 | 2 | 3 | 4 | | | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|------|------|------|------|--|--|--|--|--|--|--|--|
| Mo | | | 3.6 | 1.8 | 0.51 | 0.56 | 0.56 | 0.54 | | | | | | | | |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F
Sampling date: 4/11/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | |
|---------|---------------------------|-----------------------|------|------|------|------|--|--|--|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 1 | 2 | 3 | 4 | | | | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 0.51 | 0.56 | 0.56 | 0.54 | | | | | |

Sampling date: 6/5/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | |
|---------|----------------------------|-----------------------|------|------|------|------|--|--|--|--|--|
| | EB1-060513 (SDG: PH047) | Action Limit | 1 | 2 | 3 | 4 | | | | | |
| Ba | 0.00045 | 0.225 | | | | | | | | | |
| Cd | 0.00036 | 0.18 | | | | | | | | | |
| Mo | 0.0084 | 4.2 | 0.51 | 0.56 | 0.56 | 0.54 | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 10-Jun-2013 | SL-773-SA5A-SB-0.0-0.5 | 7088251 | N | 3050B | 6010C | III |
| 10-Jun-2013 | SL-773-SA5A-SB-0.0-0.5 | 7088251 | N | 3050B | 6020A | III |
| 10-Jun-2013 | SL-773-SA5A-SB-0.0-0.5 | 7088251 | N | 3546 | 8015M | III |
| 10-Jun-2013 | SL-773-SA5A-SB-0.0-0.5 | 7088251 | N | 3546 | 8081B | III |
| 10-Jun-2013 | SL-773-SA5A-SB-0.0-0.5 | 7088251 | N | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-773-SA5A-SB-0.0-0.5 | 7088251 | N | METHOD | 1613B | III |
| 10-Jun-2013 | SL-773-SA5A-SB-0.0-0.5 | 7088251 | N | METHOD | 7471B | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5 | 7088252 | N | 3050B | 6010C | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5 | 7088252 | N | 3050B | 6020A | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5 | 7088252 | N | 3546 | 8015M | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5 | 7088252 | N | 3546 | 8081B | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5 | 7088252 | N | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5 | 7088252 | N | METHOD | 1613B | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5 | 7088252 | N | METHOD | 7471B | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MS | 7088253 | MS | 3050B | 6010C | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MS | 7088253 | MS | 3050B | 6020A | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MS | 7088253 | MS | 3546 | 8015M | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MS | 7088253 | MS | 3546 | 8081B | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MS | 7088253 | MS | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MS | 7088253 | MS | METHOD | 1613B | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MS | 7088253 | MS | METHOD | 7471B | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MSD | 7088254 | MSD | 3050B | 6010C | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MSD | 7088254 | MSD | 3050B | 6020A | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MSD | 7088254 | MSD | 3546 | 8015M | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MSD | 7088254 | MSD | 3546 | 8081B | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MSD | 7088254 | MSD | 3546 | 8270D SIM | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MSD | 7088254 | MSD | METHOD | 1613B | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5MSD | 7088254 | MSD | METHOD | 7471B | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5DUP | 7088255 | DUP | 3050B | 6010C | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5DUP | 7088255 | DUP | 3050B | 6020A | III |
| 10-Jun-2013 | SL-774-SA5A-SB-0.0-0.5DUP | 7088255 | DUP | METHOD | 7471B | III |
| 10-Jun-2013 | SL-1174-SA5A-SB-0.0-0.5 | 7088256 | FD | 3050B | 6010C | III |
| 10-Jun-2013 | SL-1174-SA5A-SB-0.0-0.5 | 7088256 | FD | 3050B | 6020A | III |
| 10-Jun-2013 | SL-1174-SA5A-SB-0.0-0.5 | 7088256 | FD | 3546 | 8015M | III |
| 10-Jun-2013 | SL-1174-SA5A-SB-0.0-0.5 | 7088256 | FD | 3546 | 8081B | III |
| 10-Jun-2013 | SL-1174-SA5A-SB-0.0-0.5 | 7088256 | FD | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-1174-SA5A-SB-0.0-0.5 | 7088256 | FD | METHOD | 1613B | III |
| 10-Jun-2013 | SL-1174-SA5A-SB-0.0-0.5 | 7088256 | FD | METHOD | 7471B | III |
| 10-Jun-2013 | SL-776-SA5A-SB-0.0-0.5 | 7088257 | N | 3050B | 6010C | III |
| 10-Jun-2013 | SL-776-SA5A-SB-0.0-0.5 | 7088257 | N | 3050B | 6020A | III |
| 10-Jun-2013 | SL-776-SA5A-SB-0.0-0.5 | 7088257 | N | 3546 | 8015M | III |
| 10-Jun-2013 | SL-776-SA5A-SB-0.0-0.5 | 7088257 | N | 3546 | 8081B | III |
| 10-Jun-2013 | SL-776-SA5A-SB-0.0-0.5 | 7088257 | N | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-776-SA5A-SB-0.0-0.5 | 7088257 | N | METHOD | 1613B | III |
| 10-Jun-2013 | SL-776-SA5A-SB-0.0-0.5 | 7088257 | N | METHOD | 7471B | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0 | 7088258 | N | 3050B | 6010C | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0 | 7088258 | N | 3050B | 6020A | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0 | 7088258 | N | 3546 | 8015M | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0 | 7088258 | N | 3546 | 8081B | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0 | 7088258 | N | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0 | 7088258 | N | METHOD | 1613B | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0 | 7088258 | N | METHOD | 7471B | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MS | 7088259 | MS | 3050B | 6010C | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MS | 7088259 | MS | 3050B | 6020A | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MS | 7088259 | MS | 3546 | 8015M | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MS | 7088259 | MS | 3546 | 8081B | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MS | 7088259 | MS | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MS | 7088259 | MS | METHOD | 1613B | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MS | 7088259 | MS | METHOD | 7471B | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MSD | 7088260 | MSD | 3050B | 6010C | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MSD | 7088260 | MSD | 3050B | 6020A | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MSD | 7088260 | MSD | 3546 | 8015M | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MSD | 7088260 | MSD | 3546 | 8081B | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MSD | 7088260 | MSD | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MSD | 7088260 | MSD | METHOD | 1613B | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0MSD | 7088260 | MSD | METHOD | 7471B | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0DUP | 7088261 | DUP | 3050B | 6010C | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0DUP | 7088261 | DUP | 3050B | 6020A | III |
| 10-Jun-2013 | SL-776-SA5A-SB-6.0-7.0DUP | 7088261 | DUP | METHOD | 7471B | III |
| 10-Jun-2013 | SL-1176-SA5A-SB-6.0-7.0 | 7088262 | FD | 3050B | 6010C | III |
| 10-Jun-2013 | SL-1176-SA5A-SB-6.0-7.0 | 7088262 | FD | 3050B | 6020A | III |
| 10-Jun-2013 | SL-1176-SA5A-SB-6.0-7.0 | 7088262 | FD | 3546 | 8015M | III |
| 10-Jun-2013 | SL-1176-SA5A-SB-6.0-7.0 | 7088262 | FD | 3546 | 8081B | III |
| 10-Jun-2013 | SL-1176-SA5A-SB-6.0-7.0 | 7088262 | FD | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-1176-SA5A-SB-6.0-7.0 | 7088262 | FD | METHOD | 1613B | III |
| 10-Jun-2013 | SL-1176-SA5A-SB-6.0-7.0 | 7088262 | FD | METHOD | 7471B | III |

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PrepPH052

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-1174-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:10:00 Analysis Type: REA/TOT Dilution: 5

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| COPPER | 10.3 | U | 0.924 | MDL | 10.3 | PQL | mg/Kg | UJ | Q, E |

Sample ID: SL-1174-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:10:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.11 | U | 0.513 | MDL | 4.11 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.81 | J | 0.339 | MDL | 4.11 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.641 | J | 0.0688 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| BORON | 4.55 | J | 0.852 | MDL | 10.3 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.561 | J | 0.0339 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.860 | J | 0.175 | MDL | 2.05 | PQL | mg/Kg | UJ | B, FD, F |
| POTASSIUM | 3340 | | 13.9 | MDL | 103 | PQL | mg/Kg | J | Q |
| SODIUM | 85.0 | J | 17.1 | MDL | 103 | PQL | mg/Kg | J | Z |
| TIN | 2.87 | J | 0.226 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 1.28 | J | 0.852 | MDL | 5.13 | PQL | mg/Kg | J | Z, FD |

Sample ID: SL-1176-SA5A-SB-6.0-7.0 Collected: 6/10/2013 11:40:00 Analysis Type: REA2/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 0.846 | J | 0.525 | MDL | 4.20 | PQL | mg/Kg | J | Z, Q |
| BERYLLIUM | 0.671 | J | 0.0703 | MDL | 1.05 | PQL | mg/Kg | J | Z |
| BORON | 2.23 | J | 0.871 | MDL | 10.5 | PQL | mg/Kg | J | Z |
| CALCIUM | 1630 | | 4.22 | MDL | 21.0 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.331 | J | 0.178 | MDL | 2.10 | PQL | mg/Kg | U | F |
| POTASSIUM | 1830 | | 14.2 | MDL | 105 | PQL | mg/Kg | J | Q |
| TIN | 3.14 | J | 0.231 | MDL | 10.5 | PQL | mg/Kg | U | B |
| Zirconium | 3.14 | J | 0.871 | MDL | 5.25 | PQL | mg/Kg | J | Z |

Sample ID: SL-773-SA5A-SB-0.0-0.5 Collected: 6/10/2013 8:35:00 Analysis Type: REA/TOT Dilution: 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|------|---------|------|---------|-------|------------------|-------------|
| COPPER | 19.9 | U | 1.80 | MDL | 19.9 | PQL | mg/Kg | UJ | Q, E |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PrepPH052

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-773-SA5A-SB-0.0-0.5 Collected: 6/10/2013 8:35:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 3.99 | U | 0.499 | MDL | 3.99 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.84 | J | 0.329 | MDL | 3.99 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.675 | J | 0.0668 | MDL | 0.997 | PQL | mg/Kg | J | Z |
| BORON | 4.57 | J | 0.828 | MDL | 9.97 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.529 | J | 0.0329 | MDL | 0.997 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 1.05 | J | 0.170 | MDL | 1.99 | PQL | mg/Kg | U | B, F |
| POTASSIUM | 2180 | | 13.5 | MDL | 99.7 | PQL | mg/Kg | J | Q |
| TIN | 2.85 | J | 0.219 | MDL | 9.97 | PQL | mg/Kg | U | B |
| Zirconium | 2.35 | J | 0.828 | MDL | 4.99 | PQL | mg/Kg | J | Z |

Sample ID: SL-774-SA5A-SB-0.0-0.5 Collected: 6/10/2013 9:55:00 Analysis Type: REA/TOT Dilution: 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|------|---------|------|---------|-------|------------------|-------------|
| COPPER | 20.0 | U | 1.80 | MDL | 20.0 | PQL | mg/Kg | UJ | Q, E |

Sample ID: SL-774-SA5A-SB-0.0-0.5 Collected: 6/10/2013 9:55:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.00 | U | 0.500 | MDL | 4.00 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.812 | J | 0.0670 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 4.91 | J | 0.830 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.511 | J | 0.0330 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 1.62 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | UJ | B, FD, F |
| POTASSIUM | 2170 | | 13.5 | MDL | 100 | PQL | mg/Kg | J | Q |
| SODIUM | 99.1 | J | 16.7 | MDL | 100 | PQL | mg/Kg | J | Z |
| TIN | 3.09 | J | 0.220 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 2.25 | J | 0.830 | MDL | 5.00 | PQL | mg/Kg | J | Z, FD |

Sample ID: SL-776-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:45:00 Analysis Type: REA/TOT Dilution: 5

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| COPPER | 10.1 | U | 0.906 | MDL | 10.1 | PQL | mg/Kg | UJ | Q, E |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PrepPH052

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-776-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:45:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.03 | U | 0.504 | MDL | 4.03 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.580 | J | 0.0675 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 4.26 | J | 0.836 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| CADIUM | 0.508 | J | 0.0332 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.619 | J | 0.171 | MDL | 2.01 | PQL | mg/Kg | U | B, F |
| POTASSIUM | 2710 | | 13.6 | MDL | 101 | PQL | mg/Kg | J | Q |
| TIN | 2.61 | J | 0.222 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 1.48 | J | 0.836 | MDL | 5.04 | PQL | mg/Kg | J | Z |

Sample ID: SL-776-SA5A-SB-6.0-7.0 Collected: 6/10/2013 11:30:00 Analysis Type: REA2/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 0.735 | J | 0.521 | MDL | 4.17 | PQL | mg/Kg | J | Z, Q |
| BERYLLIUM | 0.716 | J | 0.0698 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| BORON | 2.53 | J | 0.865 | MDL | 10.4 | PQL | mg/Kg | J | Z |
| CALCIUM | 1620 | | 4.19 | MDL | 20.8 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.339 | J | 0.177 | MDL | 2.08 | PQL | mg/Kg | U | F |
| POTASSIUM | 1520 | | 14.1 | MDL | 104 | PQL | mg/Kg | J | Q |
| TIN | 3.12 | J | 0.229 | MDL | 10.4 | PQL | mg/Kg | U | B |
| Zirconium | 3.14 | J | 0.865 | MDL | 5.21 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-1174-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:10:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.197 | J | 0.103 | MDL | 0.411 | PQL | mg/Kg | J | Z, Q, E |

Sample ID: SL-1174-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:10:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0459 | J | 0.0205 | MDL | 0.205 | PQL | mg/Kg | J | Z, Q, E |
| STRONTIUM | 24.3 | | 0.0349 | MDL | 0.411 | PQL | mg/Kg | J | Q, E |
| THALLIUM | 0.277 | | 0.0308 | MDL | 0.205 | PQL | mg/Kg | J | Q, E |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PrepPH052

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

| Sample ID: SL-1176-SA5A-SB-6.0-7.0 | | Collected: 6/10/2013 11:40:00 | | Analysis Type: REA2/TOT | | | Dilution: 2 | | |
|---|------------|--------------------------------------|--------|--------------------------------|-------|---------|--------------------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.210 | U | 0.0210 | MDL | 0.210 | PQL | mg/Kg | UJ | FD |

| Sample ID: SL-773-SA5A-SB-0.0-0.5 | | Collected: 6/10/2013 8:35:00 | | Analysis Type: REA/TOT | | | Dilution: 2 | | |
|--|------------|-------------------------------------|--------|-------------------------------|-------|---------|--------------------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.186 | J | 0.0997 | MDL | 0.399 | PQL | mg/Kg | J | Z, Q, E |

| Sample ID: SL-773-SA5A-SB-0.0-0.5 | | Collected: 6/10/2013 8:35:00 | | Analysis Type: RES/TOT | | | Dilution: 2 | | |
|--|------------|-------------------------------------|--------|-------------------------------|-------|---------|--------------------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0674 | J | 0.0199 | MDL | 0.199 | PQL | mg/Kg | J | Z, Q, E |
| STRONTIUM | 20.5 | | 0.0339 | MDL | 0.399 | PQL | mg/Kg | J | Q, E |
| THALLIUM | 0.321 | | 0.0299 | MDL | 0.199 | PQL | mg/Kg | J | Q, E |

| Sample ID: SL-774-SA5A-SB-0.0-0.5 | | Collected: 6/10/2013 9:55:00 | | Analysis Type: REA/TOT | | | Dilution: 2 | | |
|--|------------|-------------------------------------|-------|-------------------------------|-------|---------|--------------------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.156 | J | 0.100 | MDL | 0.400 | PQL | mg/Kg | J | Z, Q, E |

| Sample ID: SL-774-SA5A-SB-0.0-0.5 | | Collected: 6/10/2013 9:55:00 | | Analysis Type: RES/TOT | | | Dilution: 2 | | |
|--|------------|-------------------------------------|--------|-------------------------------|-------|---------|--------------------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0444 | J | 0.0200 | MDL | 0.200 | PQL | mg/Kg | J | Z, Q, E |
| STRONTIUM | 22.6 | | 0.0340 | MDL | 0.400 | PQL | mg/Kg | J | Q, E |
| THALLIUM | 0.261 | | 0.0300 | MDL | 0.200 | PQL | mg/Kg | J | Q, E |

| Sample ID: SL-776-SA5A-SB-0.0-0.5 | | Collected: 6/10/2013 10:45:00 | | Analysis Type: REA/TOT | | | Dilution: 2 | | |
|--|------------|--------------------------------------|-------|-------------------------------|-------|---------|--------------------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.195 | J | 0.101 | MDL | 0.403 | PQL | mg/Kg | J | Z, Q, E |

| Sample ID: SL-776-SA5A-SB-0.0-0.5 | | Collected: 6/10/2013 10:45:00 | | Analysis Type: RES/TOT | | | Dilution: 2 | | |
|--|------------|--------------------------------------|--------|-------------------------------|-------|---------|--------------------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0256 | J | 0.0201 | MDL | 0.201 | PQL | mg/Kg | J | Z, Q, E |
| STRONTIUM | 24.3 | | 0.0342 | MDL | 0.403 | PQL | mg/Kg | J | Q, E |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PrepPH052

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-776-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:45:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| THALLIUM | 0.302 | | 0.0302 | MDL | 0.201 | PQL | mg/Kg | J | Q, E |

Sample ID: SL-776-SA5A-SB-6.0-7.0 Collected: 6/10/2013 11:30:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0319 | J | 0.0208 | MDL | 0.208 | PQL | mg/Kg | J | Z, FD |

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 7471B | Matrix: SO |

Sample ID: SL-1174-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:10:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0114 | J | 0.0103 | MDL | 0.0172 | PQL | mg/Kg | J | Z |

Sample ID: SL-774-SA5A-SB-0.0-0.5 Collected: 6/10/2013 9:55:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0125 | J | 0.0099 | MDL | 0.0164 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-1174-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:10:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.690 | JB | 0.0258 | MDL | 5.15 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,6,7,8-HPCDF | 0.156 | JB | 0.00921 | MDL | 5.15 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8,9-HPCDF | 0.0515 | JBQ | 0.0127 | MDL | 5.15 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 0.0762 | JBQ | 0.0231 | MDL | 5.15 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDF | 0.0823 | JB | 0.0127 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.197 | JB | 0.0243 | MDL | 5.15 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HxCDF | 0.116 | JBQ | 0.0116 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.319 | JBQ | 0.0226 | MDL | 5.15 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8,9-HxCDF | 0.202 | JBQ | 0.0139 | MDL | 5.15 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PrepPH052

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-1174-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:10:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,7,8-PECDD | 0.225 | JBQ | 0.0310 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.214 | JBQ | 0.0175 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0798 | JB | 0.0125 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.109 | JBQ | 0.0172 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0501 | JBQ | 0.0242 | MDL | 1.03 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDF | 0.0391 | JBQ | 0.0214 | MDL | 1.03 | PQL | ng/Kg | U | B |
| OCDD | 7.33 | JB | 0.0268 | MDL | 10.3 | PQL | ng/Kg | J | Z, FD |
| OCDF | 0.314 | JB | 0.0261 | MDL | 10.3 | PQL | ng/Kg | UJ | B, FD |

Sample ID: SL-1176-SA5A-SB-6.0-7.0 Collected: 6/10/2013 11:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.137 | JB | 0.0294 | MDL | 5.35 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0478 | JBQ | 0.0107 | MDL | 5.35 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0450 | JBQ | 0.0144 | MDL | 5.35 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 0.0598 | J | 0.0199 | MDL | 5.35 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8-HXCDF | 0.0443 | JB | 0.0108 | MDL | 5.35 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.0413 | JBQ | 0.0211 | MDL | 5.35 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0273 | JBQ | 0.00995 | MDL | 5.35 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.0640 | JBQ | 0.0210 | MDL | 5.35 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0568 | JB | 0.0117 | MDL | 5.35 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0460 | JBQ | 0.0309 | MDL | 5.35 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0593 | JBQ | 0.0178 | MDL | 5.35 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,6,7,8-HXCDF | 0.0446 | JBQ | 0.00984 | MDL | 5.35 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0561 | JB | 0.0164 | MDL | 5.35 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDF | 0.0313 | JQ | 0.0192 | MDL | 1.07 | PQL | ng/Kg | J | Z, FD |
| OCDD | 0.649 | JB | 0.0356 | MDL | 10.7 | PQL | ng/Kg | U | B |
| OCDF | 0.107 | JB | 0.0325 | MDL | 10.7 | PQL | ng/Kg | U | B |

Sample ID: SL-773-SA5A-SB-0.0-0.5 Collected: 6/10/2013 8:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.660 | JB | 0.0277 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.897 | JB | 0.0418 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.629 | JB | 0.0243 | MDL | 5.03 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PrepPH052

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-773-SA5A-SB-0.0-0.5 Collected: 6/10/2013 8:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,6,7,8-HXCDD | 2.37 | JB | 0.0443 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.413 | JB | 0.0230 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 1.85 | JB | 0.0395 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.613 | JB | 0.0437 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.335 | JB | 0.0270 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.454 | JB | 0.0245 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.311 | JB | 0.0255 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0534 | JBQ | 0.0301 | MDL | 1.01 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.208 | JB | 0.0456 | MDL | 1.01 | PQL | ng/Kg | J | Z |

Sample ID: SL-774-SA5A-SB-0.0-0.5 Collected: 6/10/2013 9:55:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 5.55 | B | 0.0305 | MDL | 5.09 | PQL | ng/Kg | J | FD |
| 1,2,3,4,6,7,8-HPCDF | 0.762 | JB | 0.0104 | MDL | 5.09 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8,9-HPCDF | 0.0922 | JBQ | 0.0157 | MDL | 5.09 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 0.131 | JBQ | 0.0256 | MDL | 5.09 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HXCDF | 0.117 | JBQ | 0.0151 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.453 | JB | 0.0268 | MDL | 5.09 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,6,7,8-HXCDF | 0.109 | JBQ | 0.0133 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.548 | JB | 0.0252 | MDL | 5.09 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HXCDF | 0.284 | JB | 0.0166 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.142 | JBQ | 0.0293 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.171 | JB | 0.0177 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0807 | JBQ | 0.0141 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0936 | JBQ | 0.0166 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 1.02 | U | 0.0253 | MDL | 1.02 | PQL | ng/Kg | UJ | FD |
| 2,3,7,8-TCDF | 0.0306 | JBQ | 0.0230 | MDL | 1.02 | PQL | ng/Kg | U | B |
| OCDD | 64.9 | B | 0.0268 | MDL | 10.2 | PQL | ng/Kg | J | Q, Q, FD |
| OCDF | 2.08 | JB | 0.0277 | MDL | 10.2 | PQL | ng/Kg | J | Z, FD |

Sample ID: SL-776-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 1.44 | JB | 0.0115 | MDL | 4.97 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PrepPH052

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|-------|----------------|----|
| Method Category: | SVOA | | |
| Method: | 1613B | Matrix: | SO |

Sample ID: SL-776-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.128 | JBQ | 0.0169 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.268 | JB | 0.0277 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.226 | JB | 0.0182 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.847 | JB | 0.0302 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.231 | JB | 0.0174 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 1.12 | JB | 0.0293 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.249 | JB | 0.0208 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.376 | JB | 0.0296 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.370 | JB | 0.0199 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.204 | JBQ | 0.0171 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.273 | JB | 0.0188 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.103 | JBQ | 0.0222 | MDL | 0.994 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0858 | JB | 0.0275 | MDL | 0.994 | PQL | ng/Kg | U | B |
| OCDF | 3.16 | JB | 0.0243 | MDL | 9.94 | PQL | ng/Kg | J | Z |

Sample ID: SL-776-SA5A-SB-6.0-7.0 Collected: 6/10/2013 11:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.0947 | JB | 0.0216 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0482 | JB | 0.00590 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0203 | JB | 0.00901 | MDL | 5.34 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 5.34 | U | 0.0174 | MDL | 5.34 | PQL | ng/Kg | UJ | FD |
| 1,2,3,4,7,8-HXCDF | 0.0481 | JBQ | 0.00955 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.0456 | JBQ | 0.0185 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0260 | JBQ | 0.00815 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.0464 | JBQ | 0.0179 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0405 | JBQ | 0.0111 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0362 | JBQ | 0.0310 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0239 | JBQ | 0.0185 | MDL | 5.34 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,6,7,8-HXCDF | 0.0315 | JBQ | 0.00901 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 5.34 | U | 0.0176 | MDL | 5.34 | PQL | ng/Kg | UJ | FD |
| 2,3,7,8-TCDF | 1.07 | U | 0.0240 | MDL | 1.07 | PQL | ng/Kg | UJ | FD |
| OCDD | 0.441 | JB | 0.0261 | MDL | 10.7 | PQL | ng/Kg | U | B |
| OCDF | 0.131 | JB | 0.0290 | MDL | 10.7 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PrepPH052

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 8015M | Matrix: SO |

Sample ID: SL-1174-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:10:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 4.4 | J | 2.1 | MDL | 5.2 | PQL | mg/Kg | J | Z |
| EFH (C30-C40) | 12 | | 4.2 | MDL | 10 | PQL | mg/Kg | J | FD |

Sample ID: SL-774-SA5A-SB-0.0-0.5 Collected: 6/10/2013 9:55:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 3.0 | J | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Z, Q, Q |
| EFH (C30-C40) | 6.8 | J | 4.1 | MDL | 10 | PQL | mg/Kg | J | Z, Q, Q, FD |

Sample ID: SL-776-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 3.0 | J | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 8081B | Matrix: SO |

Sample ID: SL-773-SA5A-SB-0.0-0.5 Collected: 6/10/2013 8:35:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 4,4'-DDT | 1.2 | J | 0.36 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| ENDRIN ALDEHYDE | 0.49 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-776-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:45:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 4,4'-DDE | 0.52 | J | 0.33 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| 4,4'-DDT | 0.82 | J | 0.35 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PrepPH052

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|------------------------------|-------------------|--|
| Method Category: SVOA | | |
| Method: 8270D SIM | Matrix: SO | |

Sample ID: SL-1174-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:10:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 0.61 | J | 0.35 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| Di-n-octylphthalate | 54 | | 6.2 | MDL | 19 | PQL | ug/Kg | J | FD |

Sample ID: SL-1176-SA5A-SB-6.0-7.0 Collected: 6/10/2013 11:40:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 1.8 | U | 0.72 | MDL | 1.8 | PQL | ug/Kg | UJ | FD |
| CHRYSENE | 0.50 | J | 0.36 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-773-SA5A-SB-0.0-0.5 Collected: 6/10/2013 8:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 0.69 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| 2-METHYLNAPHTHALENE | 0.97 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| ANTHRACENE | 0.92 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(E)PYRENE | 5.2 | J | 3.4 | MDL | 17 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 6.3 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |
| DIBENZO(A,H)ANTHRACENE | 0.88 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 1.2 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-774-SA5A-SB-0.0-0.5 Collected: 6/10/2013 9:55:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | L |
| CHRYSENE | 1.7 | U | 0.34 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| Di-n-octylphthalate | 190 | | 6.1 | MDL | 18 | PQL | ug/Kg | J | FD |

Sample ID: SL-776-SA5A-SB-0.0-0.5 Collected: 6/10/2013 10:45:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.1 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| CHRYSENE | 1.5 | J | 0.33 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 1.4 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 1.1 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 1.1 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PrepPH052

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-776-SA5A-SB-6.0-7.0

Collected: 6/10/2013 11:30:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 0.79 | J | 0.71 | MDL | 1.8 | PQL | ug/Kg | J | Z, FD |
| Butylbenzylphthalate | 19 | U | 6.4 | MDL | 19 | PQL | ug/Kg | UJ | Q |
| CHRYSENE | 0.66 | J | 0.36 | MDL | 1.8 | PQL | ug/Kg | J | Z, Q |
| Diethylphthalate | 19 | U | 6.4 | MDL | 19 | PQL | ug/Kg | UJ | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PrepPH052

eQAPP Name: CDM_SSFL_130705_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|--|
| B | Calibration Blank Contamination |
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Field Blank Contamination |
| FD | Field Duplicate Precision |
| L | Laboratory Control Spike Lower Estimation |
| L | Laboratory Control Spike Upper Estimation |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| S | Surrogate/Tracer Recovery Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Enclosure I

Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

PH052

Method Blank Outlier Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|---|--|---|
| BLK1680B370247 | 6/20/2013 2:47:00 AM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF 2,3,7,8-TCDD 2,3,7,8-TCDF OCDD OCDF | 0.0960 ng/Kg 0.0640 ng/Kg 0.0329 ng/Kg 0.0884 ng/Kg 0.131 ng/Kg 0.0822 ng/Kg 0.122 ng/Kg 0.0979 ng/Kg 0.136 ng/Kg 0.148 ng/Kg 0.209 ng/Kg 0.0987 ng/Kg 0.232 ng/Kg 0.0457 ng/Kg 0.0331 ng/Kg 0.435 ng/Kg 0.129 ng/Kg | SL-1174-SA5A-SB-0.0-0.5 SL-773-SA5A-SB-0.0-0.5 SL-774-SA5A-SB-0.0-0.5 SL-776-SA5A-SB-0.0-0.5 |
| BLK1680B370529 | 6/21/2013 5:29:00 AM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF OCDD OCDF | 0.0749 ng/Kg 0.0373 ng/Kg 0.0515 ng/Kg 0.0403 ng/Kg 0.0405 ng/Kg 0.0283 ng/Kg 0.0408 ng/Kg 0.0318 ng/Kg 0.0730 ng/Kg 0.0666 ng/Kg 0.0413 ng/Kg 0.0469 ng/Kg 0.399 ng/Kg 0.0900 ng/Kg | SL-1176-SA5A-SB-6.0-7.0 SL-776-SA5A-SB-6.0-7.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|---------------------|-----------------|-----------------------|
| SL-1174-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.156 ng/Kg | 0.156U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0515 ng/Kg | 0.0515U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0762 ng/Kg | 0.0762U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0823 ng/Kg | 0.0823U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDD | 0.197 ng/Kg | 0.197U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.116 ng/Kg | 0.116U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDD | 0.319 ng/Kg | 0.319U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.202 ng/Kg | 0.202U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.225 ng/Kg | 0.225U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.214 ng/Kg | 0.214U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0798 ng/Kg | 0.0798U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.109 ng/Kg | 0.109U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0501 ng/Kg | 0.0501U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.0391 ng/Kg | 0.0391U ng/Kg |
| SL-1174-SA5A-SB-0.0-0.5(RES) | OCDF | 0.314 ng/Kg | 0.314U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.137 ng/Kg | 0.137U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0478 ng/Kg | 0.0478U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0450 ng/Kg | 0.0450U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|---------------------|-----------------|-----------------------|
| SL-1176-SA5A-SB-6.0-7.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0443 ng/Kg | 0.0443U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | 1,2,3,6,7,8-HXCDD | 0.0413 ng/Kg | 0.0413U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0273 ng/Kg | 0.0273U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | 1,2,3,7,8,9-HXCDD | 0.0640 ng/Kg | 0.0640U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0568 ng/Kg | 0.0568U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | 1,2,3,7,8-PECDD | 0.0460 ng/Kg | 0.0460U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | 1,2,3,7,8-PECDF | 0.0593 ng/Kg | 0.0593U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0446 ng/Kg | 0.0446U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | 2,3,4,7,8-PECDF | 0.0561 ng/Kg | 0.0561U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | OCDD | 0.649 ng/Kg | 0.649U ng/Kg |
| SL-1176-SA5A-SB-6.0-7.0(RES) | OCDF | 0.107 ng/Kg | 0.107U ng/Kg |
| SL-773-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.629 ng/Kg | 0.629U ng/Kg |
| SL-773-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.413 ng/Kg | 0.413U ng/Kg |
| SL-773-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.613 ng/Kg | 0.613U ng/Kg |
| SL-773-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.335 ng/Kg | 0.335U ng/Kg |
| SL-773-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.454 ng/Kg | 0.454U ng/Kg |
| SL-773-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.311 ng/Kg | 0.311U ng/Kg |
| SL-773-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0534 ng/Kg | 0.0534U ng/Kg |
| SL-774-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0922 ng/Kg | 0.0922U ng/Kg |
| SL-774-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.131 ng/Kg | 0.131U ng/Kg |
| SL-774-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.117 ng/Kg | 0.117U ng/Kg |
| SL-774-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.109 ng/Kg | 0.109U ng/Kg |
| SL-774-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.284 ng/Kg | 0.284U ng/Kg |
| SL-774-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.142 ng/Kg | 0.142U ng/Kg |
| SL-774-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.171 ng/Kg | 0.171U ng/Kg |
| SL-774-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0807 ng/Kg | 0.0807U ng/Kg |
| SL-774-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0936 ng/Kg | 0.0936U ng/Kg |
| SL-774-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.0306 ng/Kg | 0.0306U ng/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.128 ng/Kg | 0.128U ng/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.268 ng/Kg | 0.268U ng/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.226 ng/Kg | 0.226U ng/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.231 ng/Kg | 0.231U ng/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.249 ng/Kg | 0.249U ng/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.376 ng/Kg | 0.376U ng/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.370 ng/Kg | 0.370U ng/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.204 ng/Kg | 0.204U ng/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.273 ng/Kg | 0.273U ng/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.103 ng/Kg | 0.103U ng/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.0858 ng/Kg | 0.0858U ng/Kg |
| SL-776-SA5A-SB-6.0-7.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.0947 ng/Kg | 0.0947U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-776-SA5A-SB-6.0-7.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0482 ng/Kg | 0.0482U ng/Kg |
| SL-776-SA5A-SB-6.0-7.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0203 ng/Kg | 0.0203U ng/Kg |
| SL-776-SA5A-SB-6.0-7.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0481 ng/Kg | 0.0481U ng/Kg |
| SL-776-SA5A-SB-6.0-7.0(RES) | 1,2,3,6,7,8-HXCDD | 0.0456 ng/Kg | 0.0456U ng/Kg |
| SL-776-SA5A-SB-6.0-7.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0260 ng/Kg | 0.0260U ng/Kg |
| SL-776-SA5A-SB-6.0-7.0(RES) | 1,2,3,7,8,9-HXCDD | 0.0464 ng/Kg | 0.0464U ng/Kg |
| SL-776-SA5A-SB-6.0-7.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0405 ng/Kg | 0.0405U ng/Kg |
| SL-776-SA5A-SB-6.0-7.0(RES) | 1,2,3,7,8-PECDD | 0.0362 ng/Kg | 0.0362U ng/Kg |
| SL-776-SA5A-SB-6.0-7.0(RES) | 1,2,3,7,8-PECDF | 0.0239 ng/Kg | 0.0239U ng/Kg |
| SL-776-SA5A-SB-6.0-7.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0315 ng/Kg | 0.0315U ng/Kg |
| SL-776-SA5A-SB-6.0-7.0(RES) | OCDD | 0.441 ng/Kg | 0.441U ng/Kg |
| SL-776-SA5A-SB-6.0-7.0(RES) | OCDF | 0.131 ng/Kg | 0.131U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|------------------------------|--|---|
| P16437DB221958 | 6/19/2013 7:58:00 PM | CALCIUM PHOSPHORUS TIN | 5.00 mg/Kg 1.15 mg/Kg 1.37 mg/Kg | SL-1174-SA5A-SB-0.0-0.5 SL-773-SA5A-SB-0.0-0.5 SL-774-SA5A-SB-0.0-0.5 SL-776-SA5A-SB-0.0-0.5 |
| P16737AB221426 | 6/18/2013 2:26:00 PM | PHOSPHORUS TIN | 1.25 mg/Kg 1.37 mg/Kg | SL-1176-SA5A-SB-6.0-7.0 SL-776-SA5A-SB-6.0-7.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------------|---------|-----------------|-----------------------|
| SL-1174-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.87 mg/Kg | 2.87U mg/Kg |
| SL-1176-SA5A-SB-6.0-7.0(REA2/TOT) | TIN | 3.14 mg/Kg | 3.14U mg/Kg |
| SL-773-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.85 mg/Kg | 2.85U mg/Kg |
| SL-774-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 3.09 mg/Kg | 3.09U mg/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.61 mg/Kg | 2.61U mg/Kg |
| SL-776-SA5A-SB-6.0-7.0(REA2/TOT) | TIN | 3.12 mg/Kg | 3.12U mg/Kg |

Method: 6020A
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|-----------|--------------|---|
| P16437DB220832A | 6/19/2013 8:32:00 AM | STRONTIUM | 0.0351 mg/Kg | SL-1174-SA5A-SB-0.0-0.5 SL-773-SA5A-SB-0.0-0.5 SL-774-SA5A-SB-0.0-0.5 SL-776-SA5A-SB-0.0-0.5 |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|---------------------------|---------------|---------|--------|-----------------------|
|---------------------------|---------------|---------|--------|-----------------------|

Field Blank Outlier Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|----------------------|----------------------------|--|
| FB-041113(REA2) | 4/11/2013 3:00:00 PM | COPPER MOLYBDENUM | 0.0036 mg/L 0.0036 mg/L | SL-1174-SA5A-SB-0.0-0.5 SL-1176-SA5A-SB-6.0-7.0 SL-773-SA5A-SB-0.0-0.5 SL-774-SA5A-SB-0.0-0.5 SL-776-SA5A-SB-0.0-0.5 SL-776-SA5A-SB-6.0-7.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------------|------------|-----------------|-----------------------|
| SL-1174-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.860 mg/Kg | 0.860U mg/Kg |
| SL-1176-SA5A-SB-6.0-7.0(REA2/TOT) | MOLYBDENUM | 0.331 mg/Kg | 0.331U mg/Kg |
| SL-773-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 1.05 mg/Kg | 1.05U mg/Kg |
| SL-774-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 1.62 mg/Kg | 1.62U mg/Kg |
| SL-776-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.619 mg/Kg | 0.619U mg/Kg |
| SL-776-SA5A-SB-6.0-7.0(REA2/TOT) | MOLYBDENUM | 0.339 mg/Kg | 0.339U mg/Kg |

Surrogate Outlier Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8081B
Matrix: SO

| <i>Sample ID (Analysis Type)</i> | <i>Surrogate</i> | <i>Sample % Recovery</i> | <i>% Recovery Limits</i> | <i>Affected Compounds</i> | <i>Flag</i> |
|--------------------------------------|--------------------|------------------------------|------------------------------|-------------------------------|-----------------|
| SL-776-SA5A-SB-6.0-7.0 | DECACHLOROBIPHENYL | 122 | 20.00-120.00 | All Target Analytes | J (all detects) |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8015M
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|---------------|----------|-----------|--------------|-----------------|-----------------------|-----------------|
| SL-774-SA5A-SB-0.0-0.5MS | EFH (C12-C14) | - | - | 49.00-123.00 | 24 (20.00) | EFH (C12-C14) | J (all detects) |
| SL-774-SA5A-SB-0.0-0.5MSD | EFH (C15-C20) | - | 178 | 49.00-123.00 | 47 (20.00) | EFH (C15-C20) | |
| (SL-774-SA5A-SB-0.0-0.5) | EFH (C21-C30) | 146 | 340 | 49.00-123.00 | 62 (20.00) | EFH (C21-C30) | |
| | EFH (C30-C40) | 161 | 483 | 49.00-123.00 | 71 (20.00) | EFH (C30-C40) | |
| | EFH (C8-C11) | - | - | 49.00-123.00 | 26 (20.00) | EFH (C8-C11) | |

Method: 8081B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--------------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-776-SA5A-SB-6.0-7.0MSD (SL-776-SA5A-SB-6.0-7.0) | METHOXYCHLOR | - | 231 | 34.00-168.00 | 67 (50.00) | METHOXYCHLOR | J(all detects) |

Method: 8015M
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------|----------|-----------|--------------|-----------------|-----------------------|-------------------------|
| SL-776-SA5A-SB-6.0-7.0MSD (SL-776-SA5A-SB-6.0-7.0) | EFH (C15-C20) | - | 174 | 49.00-123.00 | 49 (20.00) | EFH (C15-C20) | No Qual, Diluted Out |
| | EFH (C21-C30) | - | 1702 | 49.00-123.00 | 176 (20.00) | EFH (C21-C30) | |
| | EFH (C30-C40) | - | 4133 | 49.00-123.00 | 191 (20.00) | EFH (C30-C40) | |

Method: 1613B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|----------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-774-SA5A-SB-0.0-0.5MS SL-774-SA5A-SB-0.0-0.5MSD (SL-774-SA5A-SB-0.0-0.5) | OCDD | 183 | - | 40.00-135.00 | 68 (20.00) | OCDD | J(all detects) |

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|-----------|----------|-----------|--------------|-----------------|-----------------------|---|
| SL-774-SA5A-SB-0.0-0.5MS (TOT) | ALUMINUM | 2568 | 2305 | 75.00-125.00 | - | ALUMINUM | J(all detects) Al, Ca, Fe, Mg, Mn, Ti, No Qual, >4x |
| SL-774-SA5A-SB-0.0-0.5MSD (TOT) | CALCIUM | 144 | 135 | 75.00-125.00 | - | CALCIUM | |
| (SL-1174-SA5A-SB-0.0-0.5) | IRON | 930 | 510 | 75.00-125.00 | - | IRON | |
| SL-773-SA5A-SB-0.0-0.5 | MAGNESIUM | 179 | 144 | 75.00-125.00 | - | MAGNESIUM | |
| SL-774-SA5A-SB-0.0-0.5 | MANGANESE | 131 | 129 | 75.00-125.00 | - | MANGANESE | |
| SL-774-SA5A-SB-0.0-0.5 | POTASSIUM | 142 | 136 | 75.00-125.00 | - | POTASSIUM | |
| SL-776-SA5A-SB-0.0-0.5) | TITANIUM | 361 | 310 | 75.00-125.00 | - | TITANIUM | |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|--------------------|----------|-----------|------------------------------|-----------------|-----------------------|---------------------------------------|
| SL-774-SA5A-SB-0.0-0.5MS (TOT) SL-774-SA5A-SB-0.0-0.5MSD (TOT) (SL-1174-SA5A-SB-0.0-0.5 SL-773-SA5A-SB-0.0-0.5 SL-774-SA5A-SB-0.0-0.5 SL-776-SA5A-SB-0.0-0.5) | ANTIMONY COPPER | 59 34 | 59 51 | 75.00-125.00 75.00-125.00 | - 40 (20.00) | ANTIMONY COPPER | J(all detects) UJ(all non-detects) |

Method: 6020A

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|---------------------------------|-------------------|-------------|--|--|---------------------------------|---------------------------------------|
| SL-774-SA5A-SB-0.0-0.5MS (TOT) SL-774-SA5A-SB-0.0-0.5MSD (TOT) (SL-1174-SA5A-SB-0.0-0.5 SL-773-SA5A-SB-0.0-0.5 SL-774-SA5A-SB-0.0-0.5 SL-776-SA5A-SB-0.0-0.5) | SILVER STRONTIUM THALLIUM | 152 300 181 | - - - | 75.00-125.00 75.00-125.00 75.00-125.00 | 30 (20.00) 37 (20.00) 28 (20.00) | SILVER STRONTIUM THALLIUM | J(all detects) UJ(all non-detects) |
| SL-774-SA5A-SB-0.0-0.5MS (TOT) SL-774-SA5A-SB-0.0-0.5MSD (TOT) (SL-1174-SA5A-SB-0.0-0.5 SL-773-SA5A-SB-0.0-0.5 SL-774-SA5A-SB-0.0-0.5 SL-776-SA5A-SB-0.0-0.5) | SELENIUM | 147 | - | 75.00-125.00 | 33 (20.00) | SELENIUM | J(all detects) UJ(all non-detects) |

Method: 8270D SIM

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--|------------------|------------------|--|--|---|---------------------------------------|
| SL-776-SA5A-SB-6.0-7.0MSD (SL-776-SA5A-SB-6.0-7.0) | BIS(2-ETHYLHEXYL)PHTHALAT CHRYSENE DIBENZO(A,H)ANTHRACENE Di-n-octylphthalate | - - - - | - - - - | 39.00-167.00 29.00-148.00 34.00-125.00 52.00-162.00 | 31 (30.00) 48 (30.00) 35 (30.00) 57 (30.00) | BIS(2-ETHYLHEXYL)PHTHALA CHRYSENE DIBENZO(A,H)ANTHRACENE Di-n-octylphthalate | J(all detects) |
| SL-776-SA5A-SB-6.0-7.0MS SL-776-SA5A-SB-6.0-7.0MSD (SL-776-SA5A-SB-6.0-7.0) | Butylbenzylphthalate Diethylphthalate | 51 65 | - - | 59.00-153.00 76.00-127.00 | 65 (30.00) - | Butylbenzylphthalate Diethylphthalate | J(all detects) UJ(all non-detects) |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|-----------|----------|-----------|--------------|-----------------|-----------------------|---------------------------------------|
| SL-776-SA5A-SB-6.0-7.0MS (TOT) | ALUMINUM | 1829 | 1645 | 75.00-125.00 | - | ALUMINUM | J(all detects) |
| SL-776-SA5A-SB-6.0-7.0MSD (TOT) | CALCIUM | - | 130 | 75.00-125.00 | - | CALCIUM | |
| (SL-1176-SA5A-SB-6.0-7.0) | MAGNESIUM | 241 | 165 | 75.00-125.00 | - | MAGNESIUM | |
| SL-776-SA5A-SB-6.0-7.0) | POTASSIUM | 139 | 130 | 75.00-125.00 | - | POTASSIUM | |
| SL-776-SA5A-SB-6.0-7.0) | TITANIUM | 262 | 267 | 75.00-125.00 | - | TITANIUM | AI, Mg, Ti, No Qual, >4x |
| SL-776-SA5A-SB-6.0-7.0MS (TOT) | IRON | 3374 | -244 | 75.00-125.00 | - | IRON | Fe, No Qual, >4x |
| SL-776-SA5A-SB-6.0-7.0MSD (TOT) | | | | | | | |
| (SL-1176-SA5A-SB-6.0-7.0) | | | | | | | |
| SL-776-SA5A-SB-6.0-7.0) | | | | | | | |
| SL-776-SA5A-SB-6.0-7.0MS (TOT) | ANTIMONY | 66 | 64 | 75.00-125.00 | - | ANTIMONY | J(all detects) UJ(all non-detects) |
| SL-776-SA5A-SB-6.0-7.0MSD (TOT) | | | | | | | |
| (SL-1176-SA5A-SB-6.0-7.0) | | | | | | | |
| SL-776-SA5A-SB-6.0-7.0) | | | | | | | |

Method: 8270D SIM

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------------|----------|-----------|--------------|-----------------|-----------------------|--------------|
| SL-774-SA5A-SB-0.0-0.5MS SL-774-SA5A-SB-0.0-0.5MSD (SL-774-SA5A-SB-0.0-0.5) | Di-n-octylphthalate | -74 | -424 | 52.00-162.00 | 115 (30.00) | Di-n-octylphthalate | No Qual, >4x |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|-------------------------|------------|----------------|------------------------------|
| SL-774-SA5A-SB-0.0-0.5DUP (TOT) (SL-1174-SA5A-SB-0.0-0.5 SL-773-SA5A-SB-0.0-0.5 SL-774-SA5A-SB-0.0-0.5 SL-776-SA5A-SB-0.0-0.5) | MOLYBDENUM Zirconium | 45 24 | 20.00 20.00 | No Qual, OK by Difference |

Method: 6020A
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|--------------------------------|----------------|-------------------------|------------------------------|
| SL-774-SA5A-SB-0.0-0.5DUP (TOT) (SL-1174-SA5A-SB-0.0-0.5 SL-773-SA5A-SB-0.0-0.5 SL-774-SA5A-SB-0.0-0.5 SL-776-SA5A-SB-0.0-0.5) | SELENIUM SILVER THALLIUM | 30 42 23 | 20.00 20.00 20.00 | No Qual, OK by Difference |

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|------------|------------|-----------|------------------------------|
| SL-776-SA5A-SB-6.0-7.0DUP (TOT) (SL-1176-SA5A-SB-6.0-7.0 SL-776-SA5A-SB-6.0-7.0) | MOLYBDENUM | 33 | 20.00 | No Qual, OK by Difference |

Method: 7471B
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|---------|------------|-----------|------------------------------|
| SL-776-SA5A-SB-6.0-7.0DUP (TOT) (SL-1176-SA5A-SB-6.0-7.0 SL-776-SA5A-SB-6.0-7.0) | MERCURY | 200 | 20.00 | No Qual, OK by Difference |

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8081B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|--------------|-----------|------------|--------------|-----------------|-----------------------|-----------------|
| P31653AQ241734A (SL-1176-SA5A-SB-6.0-7.0 SL-776-SA5A-SB-6.0-7.0) | METHOXYCHLOR | 126 | - | 59.00-125.00 | - | METHOXYCHLOR | J (all detects) |

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|----------------|-----------|------------|--------------|-----------------|-----------------------|---------------------------------------|
| P1LCLCSQ260341 (SL-774-SA5A-SB-0.0-0.5) | BENZO(A)PYRENE | 74 | - | 76.00-117.00 | - | BENZO(A)PYRENE | J(all detects) UJ(all non-detects) |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 160.3M
Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-774-SA5A-SB-0.0-0.5 | SL-1174-SA5A-SB-0.0-0.5 | | | |
| MOISTURE | 2.0 | 4.5 | 77 | | No Qualifiers Applied |

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-776-SA5A-SB-6.0-7.0 | SL-1176-SA5A-SB-6.0-7.0 | | | |
| MOISTURE | 6.8 | 7.5 | 10 | | No Qualifiers Applied |

Method: 1613B
Matrix: SO

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag | |
|---------------------|------------------------|-------------------------|------------|-----------|-----------------------|---------------------------------------|
| | SL-774-SA5A-SB-0.0-0.5 | SL-1174-SA5A-SB-0.0-0.5 | | | | |
| 1,2,3,4,7,8-HXCDF | 0.117 | 0.0823 | 35 | 50.00 | No Qualifiers Applied | |
| 1,2,3,6,7,8-HXCDF | 0.109 | 0.116 | 6 | 50.00 | | |
| 1,2,3,7,8,9-HXCDF | 0.284 | 0.202 | 34 | 50.00 | | |
| 1,2,3,7,8-PECDD | 0.142 | 0.225 | 45 | 50.00 | | |
| 1,2,3,7,8-PECDF | 0.171 | 0.214 | 22 | 50.00 | | |
| 2,3,4,6,7,8-HXCDF | 0.0807 | 0.0798 | 1 | 50.00 | | |
| 2,3,4,7,8-PECDF | 0.0936 | 0.109 | 15 | 50.00 | | |
| 2,3,7,8-TCDF | 0.0306 | 0.0391 | 24 | 50.00 | | |
| 1,2,3,4,6,7,8-HPCDD | 5.55 | 0.690 | 156 | 50.00 | | J(all detects) UJ(all non-detects) |
| 1,2,3,4,6,7,8-HPCDF | 0.762 | 0.156 | 132 | 50.00 | | |
| 1,2,3,4,7,8,9-HPCDF | 0.0922 | 0.0515 | 57 | 50.00 | | |
| 1,2,3,4,7,8-HxCDD | 0.131 | 0.0762 | 53 | 50.00 | | |
| 1,2,3,6,7,8-HXCDD | 0.453 | 0.197 | 79 | 50.00 | | |
| 1,2,3,7,8,9-HXCDD | 0.548 | 0.319 | 53 | 50.00 | | |
| 2,3,7,8-TCDD | 1.02 U | 0.0501 | 200 | 50.00 | | |
| OCDD | 64.9 | 7.33 | 159 | 50.00 | | |
| OCDF | 2.08 | 0.314 | 148 | 50.00 | | |

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag | |
|---------------------|------------------------|-------------------------|------------|-----------|-----------------------|---------------------------------------|
| | SL-776-SA5A-SB-6.0-7.0 | SL-1176-SA5A-SB-6.0-7.0 | | | | |
| 1,2,3,4,6,7,8-HPCDD | 0.0947 | 0.137 | 37 | 50.00 | No Qualifiers Applied | |
| 1,2,3,4,6,7,8-HPCDF | 0.0482 | 0.0478 | 1 | 50.00 | | |
| 1,2,3,4,7,8-HXCDF | 0.0481 | 0.0443 | 8 | 50.00 | | |
| 1,2,3,6,7,8-HXCDD | 0.0456 | 0.0413 | 10 | 50.00 | | |
| 1,2,3,6,7,8-HXCDF | 0.0260 | 0.0273 | 5 | 50.00 | | |
| 1,2,3,7,8,9-HXCDD | 0.0464 | 0.0640 | 32 | 50.00 | | |
| 1,2,3,7,8,9-HXCDF | 0.0405 | 0.0568 | 34 | 50.00 | | |
| 1,2,3,7,8-PECDD | 0.0362 | 0.0460 | 24 | 50.00 | | |
| 2,3,4,6,7,8-HXCDF | 0.0315 | 0.0446 | 34 | 50.00 | | |
| OCDD | 0.441 | 0.649 | 38 | 50.00 | | |
| OCDF | 0.131 | 0.107 | 20 | 50.00 | | |
| 1,2,3,4,7,8,9-HPCDF | 0.0203 | 0.0450 | 76 | 50.00 | | J(all detects) UJ(all non-detects) |
| 1,2,3,4,7,8-HxCDD | 5.34 U | 0.0598 | 200 | 50.00 | | |
| 1,2,3,7,8-PECDF | 0.0239 | 0.0593 | 85 | 50.00 | | |
| 2,3,4,7,8-PECDF | 5.34 U | 0.0561 | 200 | 50.00 | | |
| 2,3,7,8-TCDF | 1.07 U | 0.0313 | 200 | 50.00 | | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Field Duplicate RPD Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-774-SA5A-SB-0.0-0.5 (TOT) | SL-1174-SA5A-SB-0.0-0.5 (TOT) | | | |
| ALUMINUM | 23300 | 17600 | 28 | 50.00 | No Qualifiers Applied |
| ARSENIC | 4.42 | 3.81 | 15 | 50.00 | |
| BARIUM | 108 | 105 | 3 | 50.00 | |
| BERYLLIUM | 0.812 | 0.641 | 24 | 50.00 | |
| BORON | 4.91 | 4.55 | 8 | 50.00 | |
| CADMIUM | 0.511 | 0.561 | 9 | 50.00 | |
| CALCIUM | 1800 | 1710 | 5 | 50.00 | |
| CHROMIUM | 22.1 | 19.6 | 12 | 50.00 | |
| COBALT | 6.52 | 6.18 | 5 | 50.00 | |
| IRON | 22100 | 20200 | 9 | 50.00 | |
| LEAD | 6.50 | 6.83 | 5 | 50.00 | |
| LITHIUM | 22.6 | 19.2 | 16 | 50.00 | |
| MAGNESIUM | 3820 | 3640 | 5 | 50.00 | |
| MANGANESE | 275 | 346 | 23 | 50.00 | |
| NICKEL | 14.2 | 13.0 | 9 | 50.00 | |
| PHOSPHORUS | 217 | 259 | 18 | 50.00 | |
| POTASSIUM | 2170 | 3340 | 42 | 50.00 | |
| SODIUM | 99.1 | 85.0 | 15 | 50.00 | |
| TIN | 3.09 | 2.87 | 7 | 50.00 | |
| TITANIUM | 1310 | 1310 | 0 | 50.00 | |
| VANADIUM | 41.3 | 36.4 | 13 | 50.00 | |
| ZINC | 42.4 | 45.4 | 7 | 50.00 | |
| MOLYBDENUM | 1.62 | 0.860 | 61 | 50.00 | J(all detects) |
| Zirconium | 2.25 | 1.28 | 55 | 50.00 | |

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-776-SA5A-SB-6.0-7.0 (TOT) | SL-1176-SA5A-SB-6.0-7.0 (TOT) | | | |
| ALUMINUM | 18400 | 18600 | 1 | 50.00 | No Qualifiers Applied |
| ANTIMONY | 0.735 | 0.846 | 14 | 50.00 | |
| ARSENIC | 6.93 | 6.23 | 11 | 50.00 | |
| BARIUM | 58.2 | 53.1 | 9 | 50.00 | |
| BERYLLIUM | 0.716 | 0.671 | 6 | 50.00 | |
| BORON | 2.53 | 2.23 | 13 | 50.00 | |
| CALCIUM | 1620 | 1630 | 1 | 50.00 | |
| CHROMIUM | 21.1 | 21.2 | 0 | 50.00 | |
| COBALT | 3.30 | 5.01 | 41 | 50.00 | |
| COPPER | 8.65 | 9.37 | 8 | 50.00 | |
| IRON | 23400 | 24000 | 3 | 50.00 | |
| LEAD | 6.39 | 7.02 | 9 | 50.00 | |
| LITHIUM | 22.9 | 23.5 | 3 | 50.00 | |
| MAGNESIUM | 4560 | 4690 | 3 | 50.00 | |
| MANGANESE | 130 | 171 | 27 | 50.00 | |
| MOLYBDENUM | 0.339 | 0.331 | 2 | 50.00 | |
| NICKEL | 8.79 | 9.26 | 5 | 50.00 | |
| PHOSPHORUS | 115 | 94.3 | 20 | 50.00 | |
| POTASSIUM | 1520 | 1830 | 19 | 50.00 | |
| SODIUM | 895 | 854 | 5 | 50.00 | |
| TIN | 3.12 | 3.14 | 1 | 50.00 | |
| TITANIUM | 1090 | 1150 | 5 | 50.00 | |
| VANADIUM | 37.8 | 37.4 | 1 | 50.00 | |
| ZINC | 41.8 | 44.8 | 7 | 50.00 | |
| Zirconium | 3.14 | 3.14 | 0 | 50.00 | |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-774-SA5A-SB-0.0-0.5 (TOT) | SL-1174-SA5A-SB-0.0-0.5 (TOT) | | | |
| SELENIUM | 0.156 | 0.197 | 23 | 50.00 | No Qualifiers Applied |
| SILVER | 0.0444 | 0.0459 | 3 | 50.00 | |
| STRONTIUM | 22.6 | 24.3 | 7 | 50.00 | |
| THALLIUM | 0.261 | 0.277 | 6 | 50.00 | |

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|------------------------------|-------------------------------|------------|-----------|---------------------------------------|
| | SL-776-SA5A-SB-6.0-7.0 (TOT) | SL-1176-SA5A-SB-6.0-7.0 (TOT) | | | |
| STRONTIUM | 18.8 | 17.0 | 10 | 50.00 | No Qualifiers Applied |
| THALLIUM | 0.263 | 0.288 | 9 | 50.00 | |
| SILVER | 0.0319 | 0.210 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |

Method: 7471B

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-774-SA5A-SB-0.0-0.5 (TOT) | SL-1174-SA5A-SB-0.0-0.5 (TOT) | | | |
| MERCURY | 0.0125 | 0.0114 | 9 | 50.00 | No Qualifiers Applied |

Method: 8015M

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-774-SA5A-SB-0.0-0.5 | SL-1174-SA5A-SB-0.0-0.5 | | | |
| EFH (C21-C30) | 3.0 | 4.4 | 38 | 50.00 | No Qualifiers Applied |
| EFH (C30-C40) | 6.8 | 12 | 55 | 50.00 | J(all detects) |

Method: 8270D SIM

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-774-SA5A-SB-0.0-0.5 | SL-1174-SA5A-SB-0.0-0.5 | | | |
| CHRYSENE | 1.7 U | 0.61 | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| Di-n-octylphthalate | 190 | 54 | 111 | 50.00 | |

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-776-SA5A-SB-6.0-7.0 | SL-1176-SA5A-SB-6.0-7.0 | | | |
| CHRYSENE | 0.66 | 0.50 | 28 | 50.00 | No Qualifiers Applied |
| BENZO(A)PYRENE | 0.79 | 1.8 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 9045M
Matrix: SO

| <i>Analyte</i> | <i>Concentration (pH unit)</i> | | <i>Sample RPD</i> | <i>eQAPP RPD</i> | <i>Flag</i> |
|----------------|--------------------------------|-------------------------|-------------------|------------------|-----------------------|
| | SL-774-SA5A-SB-0.0-0.5 | SL-1174-SA5A-SB-0.0-0.5 | | | |
| PH | 6.33 | 6.62 | 4 | 50.00 | No Qualifiers Applied |

| <i>Analyte</i> | <i>Concentration (pH unit)</i> | | <i>Sample RPD</i> | <i>eQAPP RPD</i> | <i>Flag</i> |
|----------------|--------------------------------|-------------------------|-------------------|------------------|-----------------------|
| | SL-776-SA5A-SB-6.0-7.0 | SL-1176-SA5A-SB-6.0-7.0 | | | |
| PH | 7.86 | 8.42 | 7 | 50.00 | No Qualifiers Applied |

Reporting Limit Outliers

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1174-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 0.690 | 5.15 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.156 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0515 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0762 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.0823 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.197 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.116 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.319 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.202 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.225 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.214 | 5.15 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0798 | 5.15 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.109 | 5.15 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0501 | 1.03 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0391 | 1.03 | PQL | ng/Kg | |
| | OCDD | JB | 7.33 | 10.3 | PQL | ng/Kg | |
| OCDF | JB | 0.314 | 10.3 | PQL | ng/Kg | | |
| SL-1176-SA5A-SB-6.0-7.0 | 1,2,3,4,6,7,8-HPCDD | JB | 0.137 | 5.35 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0478 | 5.35 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0450 | 5.35 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | J | 0.0598 | 5.35 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.0443 | 5.35 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.0413 | 5.35 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0273 | 5.35 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.0640 | 5.35 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.0568 | 5.35 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0460 | 5.35 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0593 | 5.35 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0446 | 5.35 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.0561 | 5.35 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0313 | 1.07 | PQL | ng/Kg | |
| OCDD | JB | 0.649 | 10.7 | PQL | ng/Kg | | |
| OCDF | JB | 0.107 | 10.7 | PQL | ng/Kg | | |
| SL-773-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 0.660 | 5.03 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | JB | 0.897 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.629 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 2.37 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.413 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 1.85 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.613 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.335 | 5.03 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.454 | 5.03 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.311 | 5.03 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0534 | 1.01 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.208 | 1.01 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-774-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 0.762 | 5.09 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0922 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.131 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.117 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.453 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.109 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.548 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.284 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.142 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.171 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0807 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0936 | 5.09 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0306 | 1.02 | PQL | ng/Kg | |
| | OCDF | JB | 2.08 | 10.2 | PQL | ng/Kg | |
| SL-776-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.44 | 4.97 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.128 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.268 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.226 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.847 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.231 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 1.12 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.249 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.376 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.370 | 4.97 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.204 | 4.97 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.273 | 4.97 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.103 | 0.994 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.0858 | 0.994 | PQL | ng/Kg | |
| OCDF | JB | 3.16 | 9.94 | PQL | ng/Kg | | |
| SL-776-SA5A-SB-6.0-7.0 | 1,2,3,4,6,7,8-HPCDD | JB | 0.0947 | 5.34 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.0482 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0203 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0481 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.0456 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0260 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.0464 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0405 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0362 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0239 | 5.34 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0315 | 5.34 | PQL | ng/Kg | |
| | OCDD | JB | 0.441 | 10.7 | PQL | ng/Kg | |
| | OCDF | JB | 0.131 | 10.7 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1174-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.81 | 4.11 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.641 | 1.03 | PQL | mg/Kg | |
| | BORON | J | 4.55 | 10.3 | PQL | mg/Kg | |
| | CADMIUM | J | 0.561 | 1.03 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.860 | 2.05 | PQL | mg/Kg | |
| | SODIUM | J | 85.0 | 103 | PQL | mg/Kg | |
| | TIN | J | 2.87 | 10.3 | PQL | mg/Kg | |
| Zirconium | J | 1.28 | 5.13 | PQL | mg/Kg | | |
| SL-1176-SA5A-SB-6.0-7.0 | ANTIMONY | J | 0.846 | 4.20 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.671 | 1.05 | PQL | mg/Kg | |
| | BORON | J | 2.23 | 10.5 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.331 | 2.10 | PQL | mg/Kg | |
| | TIN | J | 3.14 | 10.5 | PQL | mg/Kg | |
| Zirconium | J | 3.14 | 5.25 | PQL | mg/Kg | | |
| SL-773-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.84 | 3.99 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.675 | 0.997 | PQL | mg/Kg | |
| | BORON | J | 4.57 | 9.97 | PQL | mg/Kg | |
| | CADMIUM | J | 0.529 | 0.997 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 1.05 | 1.99 | PQL | mg/Kg | |
| | TIN | J | 2.85 | 9.97 | PQL | mg/Kg | |
| | Zirconium | J | 2.35 | 4.99 | PQL | mg/Kg | |
| SL-774-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.812 | 1.00 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.91 | 10.0 | PQL | mg/Kg | |
| | CADMIUM | J | 0.511 | 1.00 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 1.62 | 2.00 | PQL | mg/Kg | |
| | SODIUM | J | 99.1 | 100 | PQL | mg/Kg | |
| | TIN | J | 3.09 | 10.0 | PQL | mg/Kg | |
| | Zirconium | J | 2.25 | 5.00 | PQL | mg/Kg | |
| SL-776-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.580 | 1.01 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.26 | 10.1 | PQL | mg/Kg | |
| | CADMIUM | J | 0.508 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.619 | 2.01 | PQL | mg/Kg | |
| | TIN | J | 2.61 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 1.48 | 5.04 | PQL | mg/Kg | |
| SL-776-SA5A-SB-6.0-7.0 | ANTIMONY | J | 0.735 | 4.17 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.716 | 1.04 | PQL | mg/Kg | |
| | BORON | J | 2.53 | 10.4 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.339 | 2.08 | PQL | mg/Kg | |
| | TIN | J | 3.12 | 10.4 | PQL | mg/Kg | |
| | Zirconium | J | 3.14 | 5.21 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1174-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.197 | 0.411 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0459 | 0.205 | PQL | mg/Kg | |
| SL-773-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.186 | 0.399 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0674 | 0.199 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-774-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.156 | 0.400 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0444 | 0.200 | PQL | mg/Kg | |
| SL-776-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.195 | 0.403 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0256 | 0.201 | PQL | mg/Kg | |
| SL-776-SA5A-SB-6.0-7.0 | SILVER | J | 0.0319 | 0.208 | PQL | mg/Kg | J (all detects) |

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1174-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0114 | 0.0172 | PQL | mg/Kg | J (all detects) |
| SL-774-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0125 | 0.0164 | PQL | mg/Kg | J (all detects) |

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1174-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 4.4 | 5.2 | PQL | mg/Kg | J (all detects) |
| SL-774-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 3.0 | 5.1 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 6.8 | 10 | PQL | mg/Kg | |
| SL-776-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 3.0 | 5.1 | PQL | mg/Kg | J (all detects) |

Method: 8081B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|-----------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-773-SA5A-SB-0.0-0.5 | 4,4'-DDT | J | 1.2 | 1.7 | PQL | ug/Kg | J (all detects) |
| | ENDRIN ALDEHYDE | J | 0.49 | 1.7 | PQL | ug/Kg | |
| SL-776-SA5A-SB-0.0-0.5 | 4,4'-DDE | J | 0.52 | 1.7 | PQL | ug/Kg | J (all detects) |
| | 4,4'-DDT | J | 0.82 | 1.7 | PQL | ug/Kg | |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1174-SA5A-SB-0.0-0.5 | CHRYSENE | J | 0.61 | 1.7 | PQL | ug/Kg | J (all detects) |
| SL-1176-SA5A-SB-6.0-7.0 | CHRYSENE | J | 0.50 | 1.8 | PQL | ug/Kg | J (all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH052

Laboratory: LL

EDD Filename: PH052_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-773-SA5A-SB-0.0-0.5 | 1-METHYLNAPHTHALENE | J | 0.69 | 1.7 | PQL | ug/Kg | J (all detects) |
| | 2-METHYLNAPHTHALENE | J | 0.97 | 1.7 | PQL | ug/Kg | |
| | ANTHRACENE | J | 0.92 | 1.7 | PQL | ug/Kg | |
| | BENZO(E)PYRENE | J | 5.2 | 17 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 6.3 | 18 | PQL | ug/Kg | |
| | DIBENZO(A,H)ANTHRACENE | J | 0.88 | 1.7 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| SL-776-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 1.1 | 1.7 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 1.5 | 1.7 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| SL-776-SA5A-SB-6.0-7.0 | BENZO(A)PYRENE | J | 0.79 | 1.8 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 0.66 | 1.8 | PQL | ug/Kg | |

LDC #: 30037H4

VALIDATION COMPLETENESS WORKSHEET

Date: 7/25/13

SDG #: PH052

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|-------------------------------|
| I. | Technical holding times | - | Sampling dates: |
| II. | ICP/MS Tune | - | |
| III. | Calibration | - | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | - | |
| VI. | Matrix Spike Analysis | SW | MS/D |
| VII. | Duplicate Sample Analysis | SW | DUP |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | A | |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | N | |
| XV. | Field Blanks | SW | EB = EB-061213 FB = FB-041113 |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

(P#055)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank
 (P#029)

Validated Samples:

soil

| | | | | | | | |
|----|---------------------------|----|---------------------------|----|--|----|--|
| 1 | SL-773-SA5A-SB-0.0-0.5 | 11 | SL-776-SA5A-SB-6.0-7.0MSD | 21 | | 31 | |
| 2 | SL-774-SA5A-SB-0.0-0.5 | 12 | SL-776-SA5A-SB-6.0-7.0DUP | 22 | | 32 | |
| 3 | SL-1174-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 | |
| 4 | SL-776-SA5A-SB-0.0-0.5 | 14 | | 24 | | 34 | |
| 5 | SL-776-SA5A-SB-6.0-7.0 | 15 | | 25 | | 35 | |
| 6 | SL-1176-SA5A-SB-6.0-7.0 | 16 | | 26 | | 36 | |
| 7 | SL-774-SA5A-SB-0.0-0.5MS | 17 | | 27 | | 37 | |
| 8 | SL-774-SA5A-SB-0.0-0.5MSD | 18 | | 28 | | 38 | |
| 9 | SL-774-SA5A-SB-0.0-0.5DUP | 19 | | 29 | | 39 | |
| 10 | SL-776-SA5A-SB-6.0-7.0MS | 20 | | 30 | | 40 | |

Notes: _____

LDC #: 30037G4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1

Reviewer: *[Signature]*

2nd Reviewer: *[Signature]*

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: 100x Reason: B

Sample Concentration units, unless otherwise noted: mg/Kg

Associated Samples: 1-4

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 1 | 2 | 3 | 4 | | | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|-----|-----|------|------|--|--|--|--|--|--|--|--|
| Mo | | | 5.7 | 2.85 | 1.1 | 1.6 | 0.86 | 0.62 | | | | | | | | |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F
Sampling date: 4/11/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|---------------------------|-----------------------|-----|-----|------|------|------|------|--|--|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 1 | 2 | 3 | 4 | 5 | 6 | | | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 1.1 | 1.6 | 0.86 | 0.62 | 0.34 | 0.33 | | | | |

Sampling date: 6/12/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|----------------------------|-----------------------|---------------|--|--|--|--|--|--|--|--|--|
| | EB1-061213 (SDG: PH055) | Action Limit | No Qualifiers | | | | | | | | | |
| Ba | 0.00037 | 0.185 | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".



Lancaster
Laboratories

QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: PH052

Matrix: SOIL

Level

(low/med):

LOW

Background Lab Sample ID: 7088252BKG Matrix Spike Lab Sample ID: 7088253MS Matrix Spike Duplicate Lab Sample ID: 7088254MSD
Batch Id(s): P16437D, P16438D

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike | MSD Spike | Units | MS | | MSD | | Control Limit | | | |
|------------|------|------------|---|------------|---|------------|---|----------|-----------|-------|------|---|------|---|---------------|---|----|----------------|
| | | Result | C | Result | C | Result | C | Added | Added | | %R | Q | %R | Q | RPD | Q | %R | RPD |
| Aluminum | | 22882.4627 | | 27918.4539 | | 27402.2451 | | 196.0784 | 196.0784 | MG/KG | 2568 | | 2305 | | 2 | | | 20 P |
| Antimony | | 0.4902 | U | 29.1196 | | 28.8225 | | 49.0196 | 49.0196 | MG/KG | 59 | N | 59 | N | 1 | | | 75 - 125 20 P |
| Arsenic | | 4.3314 | | 18.2510 | | 17.7961 | | 14.7059 | 14.7059 | MG/KG | 95 | | 92 | | 3 | | | 75 - 125 20 P |
| Barium | | 105.7657 | | 301.8676 | | 296.8931 | | 196.0784 | 196.0784 | MG/KG | 100 | | 97 | | 2 | | | 75 - 125 20 P |
| Beryllium | | 0.7961 | B | 5.7471 | | 5.7451 | | 4.9020 | 4.9020 | MG/KG | 101 | | 101 | | 0 | | | 75 - 125 20 P |
| Boron | | 4.8108 | B | 195.5716 | | 194.0686 | | 196.0784 | 196.0784 | MG/KG | 97 | | 97 | | 1 | | | 75 - 125 20 P |
| Cadmium | | 0.5010 | B | 5.0843 | | 5.1000 | | 4.9020 | 4.9020 | MG/KG | 93 | | 94 | | 0 | | | 75 - 125 20 P |
| Calcium | | 1762.3804 | | 2328.8618 | | 2290.7275 | | 392.1569 | 392.1569 | MG/KG | 144 | | 135 | | 2 | | | 20 P |
| Chromium | | 21.6137 | | 43.2725 | | 42.4627 | | 19.6078 | 19.6078 | MG/KG | 110 | | 106 | | 2 | | | 75 - 125 20 P |
| Cobalt | | 6.3892 | | 52.1843 | | 52.3667 | | 49.0196 | 49.0196 | MG/KG | 93 | | 94 | | 0 | | | 75 - 125 20 P |
| Copper | | 1.7647 | U | 8.2451 | B | 12.3824 | B | 24.5098 | 24.5098 | MG/KG | 34 | N | 51 | N | 40 | * | | 75 - 125 20 P |
| Iron | | 21653.4471 | | 22564.9471 | | 22153.8971 | | 98.0392 | 98.0392 | MG/KG | 930 | | 510 | | 2 | | | 20 P |
| Lead | | 6.3667 | | 20.5284 | | 20.2480 | | 14.7059 | 14.7059 | MG/KG | 96 | | 94 | | 1 | | | 75 - 125 20 P |
| Lithium | | 22.1049 | | 120.4833 | | 119.9716 | | 98.0392 | 98.0392 | MG/KG | 100 | | 100 | | 0 | | | 75 - 125 20 P |
| Magnesium | | 3740.6373 | | 4091.7078 | | 4022.9069 | | 196.0784 | 196.0784 | MG/KG | 179 | | 144 | | 2 | | | 20 P |
| Manganese | | 269.9873 | | 334.0667 | | 333.1578 | | 49.0196 | 49.0196 | MG/KG | 131 | | 129 | | 0 | | | 20 P |
| Mercury | | 0.0122 | B | 0.1670 | | 0.1635 | | 0.1636 | 0.1602 | MG/KG | 95 | | 94 | | 2 | | | 65 - 135 20 CV |
| Molybdenum | | 1.5882 | B | 188.0216 | | 188.6127 | | 196.0784 | 196.0784 | MG/KG | 95 | | 95 | | 0 | | | 75 - 125 20 P |
| Nickel | | 13.9451 | | 61.7980 | | 61.2961 | | 49.0196 | 49.0196 | MG/KG | 98 | | 97 | | 1 | | | 75 - 125 20 P |
| Phosphorus | | 212.4029 | | 308.8402 | | 307.4775 | | 98.0392 | 98.0392 | MG/KG | 98 | | 97 | | 0 | | | 75 - 125 20 P |
| Potassium | | 2128.2284 | | 3520.9637 | | 3460.5451 | | 980.3922 | 980.3922 | MG/KG | 142 | N | 136 | N | 2 | | | 75 - 125 20 P |
| Selenium | 78 | 0.1526 | B | 3.0412 | | 2.1863 | | 1.9608 | 1.9608 | MG/KG | 147 | N | 104 | | 33 | * | | 75 - 125 20 MS |
| Silver | 107 | 0.0435 | B | 14.9353 | | 11.0039 | | 9.8039 | 9.8039 | MG/KG | 152 | N | 112 | | 30 | * | | 75 - 125 20 MS |
| Sodium | | 97.0892 | B | 1054.5941 | | 1049.7951 | | 980.3922 | 980.3922 | MG/KG | 98 | | 97 | | 0 | | | 75 - 125 20 P |
| Strontium | 88 | 22.1961 | | 45.7451 | | 31.3922 | | 7.8431 | 7.8431 | MG/KG | 300 | N | 117 | | 37 | * | | 75 - 125 20 MS |
| Thallium | 203 | 0.2561 | | 0.9651 | | 0.7253 | | 0.3922 | 0.3922 | MG/KG | 181 | N | 120 | | 28 | * | | 75 - 125 20 MS |
| Tin | | 3.0304 | B | 355.5686 | | 353.9441 | | 392.1569 | 392.1569 | MG/KG | 90 | | 89 | | 0 | | | 75 - 125 20 P |
| Titanium | | 1285.8725 | | 1639.7559 | | 1589.6647 | | 98.0392 | 98.0392 | MG/KG | 361 | | 310 | | 3 | | | 20 P |
| Vanadium | | 40.4637 | | 94.2059 | | 92.8422 | | 49.0196 | 49.0196 | MG/KG | 110 | | 107 | | 1 | | | 75 - 125 20 P |
| Zinc | | 41.5676 | | 90.1461 | | 89.7157 | | 49.0196 | 49.0196 | MG/KG | 99 | | 98 | | 0 | | | 75 - 125 20 P |
| Zirconium | | 2.2039 | B | 94.5804 | | 92.9931 | | 98.0392 | 98.0392 | MG/KG | 94 | | 93 | | 2 | | | 75 - 125 20 P |

Note: Results shown are reported on an as-received basis.

| | | |
|--|--|--|
| METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry | CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence | CONCENTRATION QUALIFIERS: U = Below MDL, B = Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS |
|--|--|--|

QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: PH052

Matrix: SOIL

Level

(low/med):

LOW

Handwritten: duplicate w/ (5,6) LOQs
 (100)

Background Lab Sample ID: 7088258BKG Matrix Spike Lab Sample ID: 7088259MS Matrix Spike Duplicate Lab Sample ID: 7088260MSD
 Batch Id(s): P16737A, P16738A

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | Control Limit | | | | |
|------------|------|------------|---|------------|---|------------|---|----------------|-----------------|-------|------|---|------|---|---------------|----------|----|-----|---|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | RPD | Q | %R | RPD | M |
| Aluminum | | 171.07 | A | 20659.7777 | | 20302.4951 | | 194.1748 | 194.1748 | MG/KG | 1829 | | 1645 | | 2 | | 20 | P | |
| Antimony | | 0.6854 | B | 32.9563 | | 31.9786 | | 48.5437 | 48.5437 | MG/KG | 66 | N | 64 | N | 3 | 75 - 125 | 20 | P | |
| Arsenic | | 6.4631 | | 19.9359 | | 19.6408 | | 14.5631 | 14.5631 | MG/KG | 93 | | 90 | | 1 | 75 - 125 | 20 | P | |
| Barium | | 54.2680 | | 240.7971 | | 242.5223 | | 194.1748 | 194.1748 | MG/KG | 96 | | 97 | | 1 | 75 - 125 | 20 | P | |
| Beryllium | | 0.6670 | B | 5.5233 | | 5.5107 | | 4.8544 | 4.8544 | MG/KG | 100 | | 100 | | 0 | 75 - 125 | 20 | P | |
| Boron | | 2.3544 | B | 184.6602 | | 186.5738 | | 194.1748 | 194.1748 | MG/KG | 94 | | 95 | | 1 | 75 - 125 | 20 | P | |
| Cadmium | | 0.0320 | U | 3.9320 | | 3.9971 | | 4.8544 | 4.8544 | MG/KG | 81 | | 82 | | 2 | 75 - 125 | 20 | P | |
| Calcium | | 1505.9476 | | 1985.9019 | | 2010.1301 | | 388.3495 | 388.3495 | MG/KG | 124 | | 130 | N | 1 | 75 - 125 | 20 | P | |
| Chromium | | 19.6874 | | 39.9621 | | 39.5000 | | 19.4175 | 19.4175 | MG/KG | 104 | | 102 | | 1 | 75 - 125 | 20 | P | |
| Cobalt | | 3.0718 | | 47.6291 | | 47.5893 | | 48.5437 | 48.5437 | MG/KG | 92 | | 92 | | 0 | 75 - 125 | 20 | P | |
| Copper | | 8.0660 | | 32.2835 | | 32.2505 | | 24.2718 | 24.2718 | MG/KG | 100 | | 100 | | 0 | 75 - 125 | 20 | P | |
| Iron | | 21825.8272 | | 25101.7049 | | 21588.8689 | | 97.0874 | 97.0874 | MG/KG | 3374 | | 244 | | 15 | | | 20 | P |
| Lead | | 5.9553 | | 19.5495 | | 18.6301 | | 14.5631 | 14.5631 | MG/KG | 93 | | 87 | | 5 | 75 - 125 | 20 | P | |
| Lithium | | 21.3641 | | 117.3194 | | 116.9466 | | 97.0874 | 97.0874 | MG/KG | 99 | | 98 | | 0 | 75 - 125 | 20 | P | |
| Magnesium | | 4249.2437 | | 4717.5427 | | 4568.8068 | | 194.1748 | 194.1748 | MG/KG | 241 | | 165 | | 3 | | | 20 | P |
| Manganese | | 121.4369 | | 178.4058 | | 169.6922 | | 48.5437 | 48.5437 | MG/KG | 117 | | 99 | | 5 | 75 - 125 | 20 | P | |
| Mercury | | 0.0099 | U | 0.1756 | | 0.1794 | | 0.1621 | 0.1640 | MG/KG | 108 | | 109 | | 2 | 65 - 135 | 20 | CV | |
| Molybdenum | | 0.3155 | B | 177.1000 | | 177.4796 | | 194.1748 | 194.1748 | MG/KG | 91 | | 91 | | 0 | 75 - 125 | 20 | P | |
| Nickel | | 8.1951 | | 53.5097 | | 53.5427 | | 48.5437 | 48.5437 | MG/KG | 93 | | 93 | | 0 | 75 - 125 | 20 | P | |
| Phosphorus | | 106.7544 | | 207.1990 | | 190.3417 | | 97.0874 | 97.0874 | MG/KG | 103 | | 86 | | 8 | 75 - 125 | 20 | P | |
| Potassium | | 1416.8971 | | 2765.3883 | | 2683.0058 | | 970.8738 | 970.8738 | MG/KG | 139 | N | 130 | N | 3 | 75 - 125 | 20 | P | |
| Selenium | 78 | 0.0971 | U | 1.9276 | | 1.8050 | | 1.9417 | 1.9417 | MG/KG | 99 | | 93 | | 7 | 75 - 125 | 20 | MS | |
| Silver | 107 | 0.0297 | B | 9.8524 | | 9.8369 | | 9.7087 | 9.7087 | MG/KG | 101 | | 101 | | 0 | 75 - 125 | 20 | MS | |
| Sodium | | 834.1223 | | 1781.4078 | | 1747.9942 | | 970.8738 | 970.8738 | MG/KG | 98 | | 94 | | 2 | 75 - 125 | 20 | P | |
| Strontium | 88 | 17.5359 | | 24.7573 | | 24.3495 | | 7.7670 | 7.7670 | MG/KG | 93 | | 88 | | 2 | 75 - 125 | 20 | MS | |
| Thallium | 203 | 0.2450 | | 0.5771 | | 0.5918 | | 0.3883 | 0.3883 | MG/KG | 86 | | 89 | | 3 | 75 - 125 | 20 | MS | |
| Tin | | 2.9058 | B | 337.3680 | | 336.8291 | | 388.3495 | 388.3495 | MG/KG | 86 | | 86 | | 0 | 75 - 125 | 20 | P | |
| Titanium | | 1013.5893 | | 1268.0738 | | 1272.7146 | | 97.0874 | 97.0874 | MG/KG | 262 | | 267 | | 0 | | | 20 | P |
| Vanadium | | 35.2291 | | 90.0738 | | 84.9903 | | 48.5437 | 48.5437 | MG/KG | 113 | | 103 | | 6 | 75 - 125 | 20 | P | |
| Zinc | | 38.9961 | | 87.5738 | | 85.9544 | | 48.5437 | 48.5437 | MG/KG | 100 | | 97 | | 2 | 75 - 125 | 20 | P | |
| Zirconium | | 2.9243 | B | 97.7573 | | 96.8592 | | 97.0874 | 97.0874 | MG/KG | 98 | | 97 | | 1 | 75 - 125 | 20 | P | |

Note: Results shown are reported on an as-received basis.

| | |
|---|---|
| <p>METHODS:</p> <p>P = ICP Atomic Emission Spectrometer CV = Cold Vapor MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence</p> | <p>CONCENTRATION QUALIFIERS:</p> <p>U = Below MDL, B = Below LOQ</p> <p>FLAGS:</p> <p>N = Matrix Spike OOS, * = Duplicate OOS</p> |
|---|---|

Background Lab Sample ID: 7088252BKG
 Batch ID(s): P16437D, P16438D
 Concentration Units: MG/KG

Duplicate Lab Sample ID: 7088255DUP

| Analyte | Mass | Control Limit | Samples (S) | C | Duplicate (D) | C | RPD | Q | M |
|------------|------|---------------|-------------|---|---------------|---|-----|---|----|
| Aluminum | | | 22882.4627 | | 23083.1304 | | 1 | | P |
| Antimony | | | -0.8216 | B | -0.8049 | B | -2 | | P |
| Arsenic | | 3.9 | 4.3314 | | 4.7206 | | 9 | | P |
| Barium | | | 105.7657 | | 104.0020 | | 2 | | P |
| Beryllium | | | 0.7961 | B | 0.7892 | B | 1 | | P |
| Boron | | | 4.8108 | B | 4.8794 | B | 1 | | P |
| Cadmium | | | 0.5010 | B | 0.4539 | B | 10 | | P |
| Calcium | | | 1762.3804 | | 1695.3118 | | 4 | | P |
| Chromium | | | 21.6137 | | 21.4814 | | 1 | | P |
| Cobalt | | | 6.3892 | | 6.5314 | | 2 | | P |
| Copper | | | 7.2745 | B | 10.2647 | B | -34 | | P |
| Iron | | | 21653.4471 | | 21497.1206 | | 1 | | P |
| Lead | | 2.9 | 6.3667 | | 6.3412 | | 0 | | P |
| Lithium | | | 22.1049 | | 21.9735 | | 1 | | P |
| Magnesium | | | 3740.6373 | | 3661.3578 | | 2 | | P |
| Manganese | | | 269.9873 | | 276.8569 | | 3 | | P |
| Mercury | | | 0.0122 | B | 0.0122 | B | 0 | | CV |
| Molybdenum | | | 1.5882 | B | 1.0029 | B | 45 | | P |
| Nickel | | | 13.9451 | | 13.6343 | | 2 | | P |
| Phosphorus | | | 212.4029 | | 209.7657 | | 1 | | P |
| Potassium | | | 2128.2284 | | 2077.3176 | | 2 | | P |
| Selenium | 78 | | 0.1526 | B | 0.2073 | B | 30 | | MS |
| Silver | 107 | | 0.0435 | B | 0.0666 | B | 42 | | MS |
| Sodium | | | 97.0892 | B | 95.2471 | B | 2 | | P |
| Strontium | 88 | | 22.1961 | | 25.4706 | | 14 | | MS |
| Thallium | 203 | 0.2 | 0.2561 | | 0.3212 | | 23 | | MS |
| Tin | | | 3.0304 | B | 3.0333 | B | 0 | | P |
| Titanium | | | 1285.8725 | | 1282.8441 | | 0 | | P |
| Vanadium | | | 40.4637 | | 40.5892 | | 0 | | P |
| Zinc | | | 41.5676 | | 40.2755 | | 3 | | P |
| Zirconium | | | 2.2039 | B | 2.8039 | B | 24 | | P |

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
 The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

*Substantive
 Associate 1-84*

Note: Results shown are reported on an as-received basis.

| | |
|---|--|
| METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence | CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: * = Duplicate Out of Spec |
|---|--|

Background Lab Sample ID: 7088258BKG
 Batch ID(s): P16737A, P16738A
 Concentration Units: MG/KG

Duplicate Lab Sample ID: 7088261DUP

| Analyte | Mass | Control Limit | Samples (S) | C | Duplicate (D) | C | RPD | Q | M |
|-----------------------|------|---------------|-------------------|--------------|-------------------|--------------|----------------|---|---------------|
| Aluminum | | | 17107.4524 | | 17431.8379 | | 2 | | P |
| Antimony | | | 0.6854 | B | 0.6214 | B | 10 | | P |
| Arsenic | | 3.9 | 6.4631 | | 6.0388 | | 7 | | P |
| Barium | | | 54.2680 | | 52.3301 | | 4 | | P |
| Beryllium | | | 0.6670 | B | 0.6689 | B | 0 | | P |
| Boron | | | 2.3544 | B | 2.0311 | B | 15 | | P |
| Cadmium | | | -0.4010 | B | -0.4359 | B | -8 | | P |
| Calcium | | | 1505.9476 | | 1508.3990 | | 0 | | P |
| Chromium | | | 19.6874 | | 19.5010 | | 1 | | P |
| Cobalt | | 1.0 | 3.0718 | | 2.9845 | | 3 | | P |
| Copper | | 1.9 | 8.0660 | | 8.1019 | | 0 | | P |
| Iron | | | 21825.8272 | | 22106.4379 | | 1 | | P |
| Lead | | 2.9 | 5.9553 | | 5.7748 | | 3 | | P |
| Lithium | | | 21.3641 | | 22.1699 | | 4 | | P |
| Magnesium | | | 4249.2437 | | 4315.2544 | | 2 | | P |
| Manganese | | | 121.4369 | | 125.0864 | | 3 | | P |
| Mercury | | | 0.0099 | U | 0.0137 | B | 200 | | CV |
| Molybdenum | | | 0.3155 | B | 0.2252 | B | 38 | | P |
| Nickel | | 1.9 | 8.1951 | | 8.2544 | | 1 | | P |
| Phosphorus | | | 106.7544 | | 100.3165 | | 6 | | P |
| Potassium | | | 1416.8971 | | 1470.4272 | | 4 | | P |
| Selenium | 78 | | 0.0971 | U | 0.0971 | U | | | MS |
| Silver | 107 | | 0.0297 | B | 0.0286 | B | 4 | | MS |
| Sodium | | | 834.1223 | | 842.2107 | | 1 | | P |
| Strontium | 88 | | 17.5359 | | 16.0291 | | 9 | | MS |
| Thallium | 203 | 0.2 | 0.2450 | | 0.2328 | | 5 | | MS |
| Tin | | | 2.9058 | B | 2.8777 | B | 1 | | P |
| Titanium | | | 1013.5893 | | 1029.0874 | | 2 | | P |
| Vanadium | | | 35.2291 | | 34.8971 | | 1 | | P |
| Zinc | | | 38.9961 | | 39.5495 | | 1 | | P |
| Zirconium | | | 2.9243 | B | 2.8883 | B | 1 | | P |

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
 The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

As Received
(Associate w/ 5,6)

Note: Results shown are reported on an as-received basis.

| | |
|---|--|
| METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence | CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: * Duplicate Out of Spec |
|---|--|

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|----------------|-------------|-------------|-------------------|--------------|
| 10-Jun-2013 | TB-061013 | 7088263 | TB | 5030B | 8015M | III |
| 10-Jun-2013 | SL-776-SA5A-6.0-7.0 | 7088264 | N | 5035A | 8015M | III |
| 10-Jun-2013 | SL-776-SA5A-6.0-7.0MS | 7088265 | MS | 5035A | 8015M | III |
| 10-Jun-2013 | SL-776-SA5A-6.0-7.0MSD | 7088266 | MSD | 5035A | 8015M | III |
| 10-Jun-2013 | SL-1176-SA5A-6.0-7.0 | 7088267 | FD | 5035A | 8015M | III |
| 10-Jun-2013 | SL-779-SA5A-0.0-0.5 | 7088269 | N | 3050B | 6010C | III |
| 10-Jun-2013 | SL-779-SA5A-0.0-0.5 | 7088269 | N | 3050B | 6020A | III |
| 10-Jun-2013 | SL-779-SA5A-0.0-0.5 | 7088269 | N | 3546 | 8015M | III |
| 10-Jun-2013 | SL-779-SA5A-0.0-0.5 | 7088269 | N | 3546 | 8081B | IV |
| 10-Jun-2013 | SL-779-SA5A-0.0-0.5 | 7088269 | N | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-779-SA5A-0.0-0.5 | 7088269 | N | METHOD | 1613B | III |
| 10-Jun-2013 | SL-779-SA5A-0.0-0.5 | 7088269 | N | METHOD | 7471B | III |
| 10-Jun-2013 | SL-779-SA5A-0.0-0.5MSD | P088269M260919 | MSD | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-779-SA5A-0.0-0.5MS | P088269R260847 | MS | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-777-SA5A-0.0-0.5 | 7088268 | N | 3050B | 6010C | III |
| 10-Jun-2013 | SL-777-SA5A-0.0-0.5 | 7088268 | N | 3050B | 6020A | III |
| 10-Jun-2013 | SL-777-SA5A-0.0-0.5 | 7088268 | N | 3546 | 8015M | III |
| 10-Jun-2013 | SL-777-SA5A-0.0-0.5 | 7088268 | N | 3546 | 8081B | IV |
| 10-Jun-2013 | SL-777-SA5A-0.0-0.5 | 7088268 | N | 3546 | 8270D SIM | III |
| 10-Jun-2013 | SL-777-SA5A-0.0-0.5 | 7088268 | N | METHOD | 1613B | III |
| 10-Jun-2013 | SL-777-SA5A-0.0-0.5 | 7088268 | N | METHOD | 7471B | III |

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH053

Laboratory: LL

EDD Filename: PH053_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-777-SA5A-0.0-0.5 Collected: 6/10/2013 2:45:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 0.703 | J | 0.504 | MDL | 4.03 | PQL | mg/Kg | J | Z, Q |
| BERYLLIUM | 0.567 | J | 0.0676 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 3.67 | J | 0.837 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| CALCIUM | 2000 | | 4.05 | MDL | 20.2 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.566 | J | 0.171 | MDL | 2.02 | PQL | mg/Kg | U | F |
| POTASSIUM | 3310 | | 13.6 | MDL | 101 | PQL | mg/Kg | J | Q |
| SODIUM | 83.5 | J | 16.8 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 2.69 | J | 0.222 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 2.90 | J | 0.837 | MDL | 5.04 | PQL | mg/Kg | J | Z |

Sample ID: SL-779-SA5A-0.0-0.5 Collected: 6/10/2013 2:00:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 0.773 | J | 0.504 | MDL | 4.03 | PQL | mg/Kg | J | Z, Q |
| BERYLLIUM | 0.662 | J | 0.0676 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 3.45 | J | 0.837 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| CALCIUM | 2240 | | 4.05 | MDL | 20.2 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.572 | J | 0.171 | MDL | 2.02 | PQL | mg/Kg | U | F |
| POTASSIUM | 3590 | | 13.6 | MDL | 101 | PQL | mg/Kg | J | Q |
| SODIUM | 84.1 | J | 16.8 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 2.79 | J | 0.222 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 3.55 | J | 0.837 | MDL | 5.04 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-777-SA5A-0.0-0.5 Collected: 6/10/2013 2:45:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.156 | J | 0.101 | MDL | 0.403 | PQL | mg/Kg | J | Z |

Sample ID: SL-777-SA5A-0.0-0.5 Collected: 6/10/2013 2:45:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0485 | J | 0.0202 | MDL | 0.202 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH053

Laboratory: LL

EDD Filename: PH053_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-779-SA5A-0.0-0.5 Collected: 6/10/2013 2:00:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.120 | J | 0.101 | MDL | 0.403 | PQL | mg/Kg | J | Z |

Sample ID: SL-779-SA5A-0.0-0.5 Collected: 6/10/2013 2:00:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0339 | J | 0.0202 | MDL | 0.202 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|--------------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-777-SA5A-0.0-0.5 Collected: 6/10/2013 2:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 1.03 | JB | 0.0145 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.130 | JB | 0.0191 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.166 | JQ | 0.0351 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.134 | JB | 0.0197 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.639 | JB | 0.0357 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.142 | JB | 0.0190 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 0.800 | JB | 0.0335 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.366 | JB | 0.0225 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.192 | JBQ | 0.0376 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.266 | JB | 0.0219 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.108 | JB | 0.0189 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.207 | JB | 0.0210 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0432 | JQ | 0.0249 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.101 | J | 0.0331 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| OCDF | 2.49 | JB | 0.0265 | MDL | 10.2 | PQL | ng/Kg | J | Z |

Sample ID: SL-779-SA5A-0.0-0.5 Collected: 6/10/2013 2:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 0.740 | JB | 0.00957 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0702 | JB | 0.0142 | MDL | 4.91 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.140 | JQ | 0.0301 | MDL | 4.91 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH053

Laboratory: LL

EDD Filename: PH053_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|-------|----------------|----|
| Method Category: | SVOA | Matrix: | SO |
| Method: | 1613B | | |

Sample ID: SL-779-SA5A-0.0-0.5 Collected: 6/10/2013 2:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8-HXCDF | 0.104 | JBQ | 0.0147 | MDL | 4.91 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.369 | JB | 0.0315 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0664 | JB | 0.0133 | MDL | 4.91 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.560 | JB | 0.0303 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.227 | JBQ | 0.0172 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.114 | JB | 0.0322 | MDL | 4.91 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.166 | JB | 0.0179 | MDL | 4.91 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0628 | JB | 0.0132 | MDL | 4.91 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0556 | JB | 0.0175 | MDL | 4.91 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0246 | J | 0.0225 | MDL | 0.982 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.0369 | JQ | 0.0249 | MDL | 0.982 | PQL | ng/Kg | J | Z |
| OCDF | 2.05 | JB | 0.0264 | MDL | 9.82 | PQL | ng/Kg | J | Z |

| | | | |
|-------------------------|-------|----------------|----|
| Method Category: | SVOA | Matrix: | SO |
| Method: | 8015M | | |

Sample ID: SL-1176-SA5A-6.0-7.0 Collected: 6/10/2013 11:40:00 Analysis Type: RES Dilution: 23.81

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| GASOLINE RANGE ORGANICS (C5-C12) | 0.4 | J | 0.2 | MDL | 1.0 | PQL | mg/Kg | J | Z, FD |

Sample ID: SL-776-SA5A-6.0-7.0 Collected: 6/10/2013 11:30:00 Analysis Type: RES Dilution: 23.15

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| GASOLINE RANGE ORGANICS (C5-C12) | 1 | U | 0.2 | MDL | 1 | PQL | mg/Kg | UJ | FD |

| | | | |
|-------------------------|-----------|----------------|----|
| Method Category: | SVOA | Matrix: | SO |
| Method: | 8270D SIM | | |

Sample ID: SL-777-SA5A-0.0-0.5 Collected: 6/10/2013 2:45:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ACENAPHTHENE | 1.6 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH053

Laboratory: LL

EDD Filename: PH053_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-779-SA5A-0.0-0.5

Collected: 6/10/2013 2:00:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | Q |
| ACENAPHTHENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | Q |
| ACENAPHTHYLENE | 1.7 | U | 0.34 | MDL | 1.7 | PQL | ug/Kg | UJ | Q |
| ANTHRACENE | 1.7 | U | 0.34 | MDL | 1.7 | PQL | ug/Kg | UJ | Q |
| BENZO(B)FLUORANTHENE | 2.5 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q |
| BENZO(E)PYRENE | 17 | U | 3.4 | MDL | 17 | PQL | ug/Kg | UJ | Q |
| BENZO(K)FLUORANTHENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | Q |
| BIS(2-ETHYLHEXYL)PHTHALATE | 12 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | Z, Q, Q |
| Butylbenzylphthalate | 18 | U | 6.1 | MDL | 18 | PQL | ug/Kg | UJ | Q |
| CHRYSENE | 1.1 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z, Q |
| Diethylphthalate | 18 | U | 6.1 | MDL | 18 | PQL | ug/Kg | UJ | Q |
| Dimethylphthalate | 18 | U | 6.1 | MDL | 18 | PQL | ug/Kg | UJ | Q |
| Di-n-butylphthalate | 18 | U | 6.1 | MDL | 18 | PQL | ug/Kg | UJ | Q |
| Di-n-octylphthalate | 22 | | 6.1 | MDL | 18 | PQL | ug/Kg | J | Q, Q, Q |
| FLUORANTHENE | 2.2 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q, Q |
| FLUORENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | Q |
| NAPHTHALENE | 0.81 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | Q, F |
| N-NITROSODIMETHYLAMINE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | Q |
| PHENANTHRENE | 1.3 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, Q |
| PYRENE | 1.8 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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ADR version 1.7.0.207

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Data Qualifier Summary

Lab Reporting Batch ID: PH053

Laboratory: LL

EDD Filename: PH053_v1

eQAPP Name: CDM_SSFL_130705_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|--|
| B | Method Blank Contamination |
| E | Matrix Spike Precision |
| F | Field Blank Contamination |
| FD | Field Duplicate Precision |
| L | Laboratory Control Spike Upper Estimation |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| S | Surrogate/Tracer Recovery Lower Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

8/5/2013 12:06:49 PM

ADR version 1.7.0.207

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Enclosure I

Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

PH053

Method Blank Outlier Report

Lab Reporting Batch ID: PH053

Laboratory: LL

EDD Filename: PH053_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|--|---|--|
| BLK1680B370529 | 6/21/2013 5:29:00 AM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF OCDD OCDF | 0.0749 ng/Kg 0.0373 ng/Kg 0.0515 ng/Kg 0.0403 ng/Kg 0.0405 ng/Kg 0.0283 ng/Kg 0.0408 ng/Kg 0.0318 ng/Kg 0.0730 ng/Kg 0.0666 ng/Kg 0.0413 ng/Kg 0.0469 ng/Kg 0.399 ng/Kg 0.0900 ng/Kg | SL-777-SA5A-0.0-0.5 SL-779-SA5A-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|--------------------------|---------------------|-----------------|-----------------------|
| SL-777-SA5A-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.130 ng/Kg | 0.130U ng/Kg |
| SL-777-SA5A-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.134 ng/Kg | 0.134U ng/Kg |
| SL-777-SA5A-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.192 ng/Kg | 0.192U ng/Kg |
| SL-777-SA5A-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.266 ng/Kg | 0.266U ng/Kg |
| SL-777-SA5A-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.108 ng/Kg | 0.108U ng/Kg |
| SL-777-SA5A-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.207 ng/Kg | 0.207U ng/Kg |
| SL-779-SA5A-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0702 ng/Kg | 0.0702U ng/Kg |
| SL-779-SA5A-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.104 ng/Kg | 0.104U ng/Kg |
| SL-779-SA5A-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0664 ng/Kg | 0.0664U ng/Kg |
| SL-779-SA5A-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.114 ng/Kg | 0.114U ng/Kg |
| SL-779-SA5A-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.166 ng/Kg | 0.166U ng/Kg |
| SL-779-SA5A-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0628 ng/Kg | 0.0628U ng/Kg |
| SL-779-SA5A-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0556 ng/Kg | 0.0556U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|-------------------|--------------------------|--|
| P16737AB221426 | 6/18/2013 2:26:00 PM | PHOSPHORUS TIN | 1.25 mg/Kg 1.37 mg/Kg | SL-777-SA5A-0.0-0.5 SL-779-SA5A-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|---------|-----------------|-----------------------|
| SL-777-SA5A-0.0-0.5(RES/TOT) | TIN | 2.69 mg/Kg | 2.69U mg/Kg |
| SL-779-SA5A-0.0-0.5(RES/TOT) | TIN | 2.79 mg/Kg | 2.79U mg/Kg |

Field Blank Outlier Report

Lab Reporting Batch ID: PH053

Laboratory: LL

EDD Filename: PH053_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|----------------------|----------------------------|---|
| FB-041113(REA2) | 4/11/2013 3:00:00 PM | COPPER MOLYBDENUM | 0.0036 mg/L 0.0036 mg/L | SL-1176-SA5A-6.0-7.0 SL-776-SA5A-6.0-7.0 SL-777-SA5A-0.0-0.5 SL-779-SA5A-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|------------|-----------------|-----------------------|
| SL-777-SA5A-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.566 mg/Kg | 0.566U mg/Kg |
| SL-779-SA5A-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.572 mg/Kg | 0.572U mg/Kg |

Method: 8270D SIM
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|--|---|---|
| FB-041113(RES) | 4/11/2013 3:00:00 PM | 1-METHYLNAPHTHALENE 2-METHYLNAPHTHALENE BIS(2-ETHYLHEXYL)PHTHALATE Diethylphthalate Di-n-butylphthalate NAPHTHALENE | 0.019 ug/L 0.024 ug/L 0.082 ug/L 0.18 ug/L 0.17 ug/L 0.17 ug/L | SL-1176-SA5A-6.0-7.0 SL-776-SA5A-6.0-7.0 SL-777-SA5A-0.0-0.5 SL-779-SA5A-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|--------------------------|-------------|-----------------|-----------------------|
| SL-779-SA5A-0.0-0.5(RES) | NAPHTHALENE | 0.81 ug/Kg | 1.7U ug/Kg |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH053

Laboratory: LL

EDD Filename: PH053_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|---------------------------|----------|-----------|--------------|-----------------|--------------------------|---------------------------------------|
| SL-779-SA5A-0.0-0.5MSD (SL-779-SA5A-0.0-0.5) | 2-METHYLNAPHTHALENE | - | - | 28.00-144.00 | 43 (30.00) | 2-METHYLNAPHTHALENE | J (all detects) |
| | BENZO(A)ANTHRACENE | - | - | 32.00-135.00 | 41 (30.00) | BENZO(A)ANTHRACENE | |
| | BENZO(A)PYRENE | - | - | 36.00-138.00 | 41 (30.00) | BENZO(A)PYRENE | |
| | BENZO(B)FLUORANTHENE | - | - | 26.00-142.00 | 32 (30.00) | BENZO(B)FLUORANTHENE | |
| | BENZO(G,H,I)PERYLENE | - | - | 33.00-141.00 | 41 (30.00) | BENZO(G,H,I)PERYLENE | |
| | CHRYSENE | - | - | 29.00-148.00 | 42 (30.00) | CHRYSENE | |
| | DIBENZO(A,H)ANTHRACENE | - | - | 34.00-125.00 | 43 (30.00) | DIBENZO(A,H)ANTHRACENE | |
| | INDENO(1,2,3-CD)PYRENE | - | - | 17.00-136.00 | 44 (30.00) | INDENO(1,2,3-CD)PYRENE | |
| | NAPHTHALENE | - | - | 31.00-148.00 | 42 (30.00) | NAPHTHALENE | |
| | PHENANTHRENE | - | - | 29.00-142.00 | 43 (30.00) | PHENANTHRENE | |
| | PYRENE | - | - | 26.00-143.00 | 41 (30.00) | PYRENE | |
| SL-779-SA5A-0.0-0.5MS SL-779-SA5A-0.0-0.5MSD (SL-779-SA5A-0.0-0.5) | 1-METHYLNAPHTHALENE | - | 39 | 50.00-131.00 | 42 (30.00) | 1-METHYLNAPHTHALENE | J(all detects) UJ(all non-detects) |
| | ACENAPHTHENE | - | 38 | 48.00-127.00 | 41 (30.00) | ACENAPHTHENE | |
| | ACENAPHTHYLENE | - | 44 | 49.00-121.00 | 41 (30.00) | ACENAPHTHYLENE | |
| | ANTHRACENE | - | 41 | 52.00-126.00 | 45 (30.00) | ANTHRACENE | |
| | BENZO(E)PYRENE | 62 | 41 | 70.00-130.00 | 41 (30.00) | BENZO(E)PYRENE | |
| | BENZO(K)FLUORANTHENE | - | 40 | 47.00-129.00 | 47 (30.00) | BENZO(K)FLUORANTHENE | |
| | BIS(2-ETHYLHEXYL)PHTHALAT | - | 28 | 39.00-167.00 | 40 (30.00) | BIS(2-ETHYLHEXYL)PHTHALA | |
| | Butylbenzylphthalate | - | 49 | 59.00-153.00 | 39 (30.00) | Butylbenzylphthalate | |
| | Diethylphthalate | 63 | 42 | 76.00-127.00 | 39 (30.00) | Diethylphthalate | |
| | Dimethylphthalate | 58 | 38 | 62.00-136.00 | 42 (30.00) | Dimethylphthalate | |
| | Di-n-butylphthalate | - | 46 | 62.00-154.00 | 42 (30.00) | Di-n-butylphthalate | |
| | Di-n-octylphthalate | 427 | 51 | 52.00-162.00 | 124 (30.00) | Di-n-octylphthalate | |
| | FLUORANTHENE | - | 33 | 47.00-135.00 | 40 (30.00) | FLUORANTHENE | |
| | FLUORENE | - | 38 | 50.00-129.00 | 42 (30.00) | FLUORENE | |
| | N-NITROSODIMETHYLAMINE | - | 36 | 48.00-113.00 | 47 (30.00) | N-NITROSODIMETHYLAMINE | |

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH053

Laboratory: LL

EDD Filename: PH053_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8081B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--------------|-----------|------------|--------------|-----------------|-----------------------|-----------------|
| P31653AQ241734A (SL-777-SA5A-0.0-0.5 SL-779-SA5A-0.0-0.5) | METHOXYCHLOR | 126 | - | 59.00-125.00 | - | METHOXYCHLOR | J (all detects) |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH053

Laboratory: LL

EDD Filename: PH053_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 160.3M
Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|---------------------|----------------------|------------|-----------|-----------------------|
| | SL-776-SA5A-6.0-7.0 | SL-1176-SA5A-6.0-7.0 | | | |
| MOISTURE | 5.7 | 5.5 | 4 | | No Qualifiers Applied |

Method: 8015M
Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------------------------------|-----------------------|----------------------|------------|-----------|---------------------------------------|
| | SL-776-SA5A-6.0-7.0 | SL-1176-SA5A-6.0-7.0 | | | |
| GASOLINE RANGE ORGANICS (C5-C12) | 1 U | 0.4 | 200 | 50.00 | J(all detects) UJ(all non-detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH053

Laboratory: LL

EDD Filename: PH053_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|---------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-777-SA5A-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.03 | 5.09 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.130 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.166 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.134 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.639 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.142 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.800 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.366 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.192 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.266 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.108 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.207 | 5.09 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0432 | 1.02 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.101 | 1.02 | PQL | ng/Kg | |
| OCDF | JB | 2.49 | 10.2 | PQL | ng/Kg | | |
| SL-779-SA5A-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 0.740 | 4.91 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0702 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.140 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.104 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.369 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.0664 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.560 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.227 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.114 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.166 | 4.91 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0628 | 4.91 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.0556 | 4.91 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | J | 0.0246 | 0.982 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0369 | 0.982 | PQL | ng/Kg | |
| OCDF | JB | 2.05 | 9.82 | PQL | ng/Kg | | |

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|---------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-777-SA5A-0.0-0.5 | ANTIMONY | J | 0.703 | 4.03 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.567 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 3.67 | 10.1 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.566 | 2.02 | PQL | mg/Kg | |
| | SODIUM | J | 83.5 | 101 | PQL | mg/Kg | |
| | TIN | J | 2.69 | 10.1 | PQL | mg/Kg | |
| SL-779-SA5A-0.0-0.5 | Zirconium | J | 2.90 | 5.04 | PQL | mg/Kg | J (all detects) |
| | ANTIMONY | J | 0.773 | 4.03 | PQL | mg/Kg | |
| | BERYLLIUM | J | 0.662 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 3.45 | 10.1 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.572 | 2.02 | PQL | mg/Kg | |
| | SODIUM | J | 84.1 | 101 | PQL | mg/Kg | |
| TIN | J | 2.79 | 10.1 | PQL | mg/Kg | | |
| Zirconium | J | 3.55 | 5.04 | PQL | mg/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH053

Laboratory: LL

EDD Filename: PH053_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|---------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-777-SA5A-0.0-0.5 | SELENIUM | J | 0.156 | 0.403 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0485 | 0.202 | PQL | mg/Kg | |
| SL-779-SA5A-0.0-0.5 | SELENIUM | J | 0.120 | 0.403 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0339 | 0.202 | PQL | mg/Kg | |

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|----------------------|----------------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1176-SA5A-6.0-7.0 | GASOLINE RANGE ORGANICS (C5-C12) | J | 0.4 | 1.0 | PQL | mg/Kg | J (all detects) |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|---------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-777-SA5A-0.0-0.5 | ACENAPHTHENE | J | 1.6 | 1.7 | PQL | ug/Kg | J (all detects) |
| SL-779-SA5A-0.0-0.5 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 12 | 18 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 0.81 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.3 | 1.7 | PQL | ug/Kg | |

LDC #: 3003714

VALIDATION COMPLETENESS WORKSHEET

Date: 7/28/13

SDG #: PH053

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: CL

2nd Reviewer: LV

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|---|
| I. | Technical holding times | - | Sampling dates: 6/10/13 |
| II. | ICP/MS Tune | - | |
| III. | Calibration | - | |
| IV. | Blanks | A | |
| V. | ICP Interference Check Sample (ICS) Analysis | - | |
| VI. | Matrix Spike Analysis | SW | MSD (from PH052 (SL-776-SA5A-SB-6.0-7.0)) |
| VII. | Duplicate Sample Analysis | A | Dup |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | A | |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | - | |
| XV. | Field Blanks | SW | EB=EB1-061213 TB=FB-041113 |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

(PH055) D = Duplicate
 (PH029) TB = Trip blank
 EB = Equipment blank

Validated Samples: soil

| | | | | | | | |
|----|------------------------|----|--|----|--|----|--|
| 1 | SL-777-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-779-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F
Sampling date: 4/11/13 **Soil factor applied:** 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ **Associated Samples:** All

| Analyte | Blank ID | Sample Identification | | | | | | | | | |
|---------|---------------------------|-----------------------|------|------|--|--|--|--|--|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 1 | 2 | | | | | | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 0.57 | 0.57 | | | | | | | |

Sampling date: 6/12/13 **Soil factor applied:** 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ **Associated Samples:** All

| Analyte | Blank ID | Sample Identification | | | | | | | | | |
|---------|----------------------------|-----------------------|---------------|--|--|--|--|--|--|--|--|
| | EB1-061213 (SDG: PH055) | Action Limit | No Qualifiers | | | | | | | | |
| Ba | 0.00037 | 0.185 | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Enclosure II

Level IV Validation Reports

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: June 10, 2013

LDC Report Date: August 8, 2013

Matrix: Soil

Parameters: Chlorinated Pesticides

Validation Level: Level IV

Laboratory: Eurofins

Sample Delivery Group (SDG): PH053

Sample Identification

SL-777-SA5A-SB-0.0-0.5

SL-779-SA5A-SB-0.0-0.5

Introduction

This data review covers 2 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The individual 4,4'-DDT and Endrin breakdowns (%BD) were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

Sample EB1-061213 (from SDG PH055) was identified as an equipment blank. No chlorinated pesticide contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No chlorinated pesticide contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

| LCS ID | Compound | %R (Limits) | Associated Samples | Flag | A or P |
|----------|--------------|--------------|--------------------------|-----------------|--------|
| LCS03165 | Methoxychlor | 126 (59-125) | All samples in SDG PH053 | J (all detects) | P |

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH053 | All compounds reported below the RL. | J (all detects) | A |

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

No field duplicates were identified in this SDG.

**Santa Susana Field Laboratory
Chlorinated Pesticides - Data Qualification Summary - SDG PH053**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|--|--------------------------------------|-----------------|--------|-------------------------------------|
| PH053 | SL-777-SA5A-SB-0.0-0.5 SL-779-SA5A-SB-0.0-0.5 | Methoxychlor | J (all detects) | P | Laboratory control samples (%R) (L) |
| PH053 | SL-777-SA5A-SB-0.0-0.5 SL-779-SA5A-SB-0.0-0.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |

**Santa Susana Field Laboratory
Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG PH053**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Chlorinated Pesticides - Field Blank Data Qualification Summary - SDG PH053**

No Sample Data Qualified in this SDG

LDC #: 3003713a
 SDG #: PH037 PH053
 Laboratory: Eurofins Lancaster Laboratories

VALIDATION COMPLETENESS WORKSHEET

Level IV

Date: 7/22/13
 Page: 1 of 1
 Reviewer: FJ
 2nd Reviewer: [Signature]

METHOD: GC Chlorinated Pesticides (EPA SW846 Method 8081A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|---|
| I. | Technical holding times | Δ | Sampling dates: 6/10/13 |
| II. | GC/ECD Instrument Performance Check | A | |
| III. | Initial calibration | Δ | % PSD ≤ 20 |
| IV. | Continuing calibration/ICV | A | ICV/CW ≤ 20 |
| V. | Blanks | Δ | |
| VI. | Surrogate spikes | A | |
| VII. | Matrix spike/Matrix spike duplicates | N | client specified |
| VIII. | Laboratory control samples | sw | ics |
| IX. | Regional quality assurance and quality control | N | |
| X. | Florisil cartridge check | N | |
| XI. | GPC Calibration | N | |
| XII. | Target compound identification | Δ | |
| XIII. | Compound quantitation/RL/LOQ/LODs | Δ | |
| XIV. | Overall assessment of data | Δ | |
| XV. | Field duplicates | N | |
| XVI. | Field blanks | ND | FB = FB1 - 061213 } JP# PH053 FB2 - 061213 du |

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

FB = FB-041113 (SDG# PH02)

Validated Samples: soil

| | | | | | | | |
|----|------------------------|----|------------|----|--|----|--|
| 1 | SL-777-SA5A-SB-0.0-0.5 | 11 | PB LK03165 | 21 | | 31 | |
| 2 | SL-779-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

Method: Pesticides/PCBs (EPA SW 846 Method 8081A/8082)

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. GC/ECD Instrument performance check | | | | |
| Was the instrument performance found to be acceptable? | / | | | |
| III. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | / | | | |
| Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) \leq 20%? | / | | | |
| Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used? | | / | | |
| Did the initial calibration meet the curve fit acceptance criteria? | | | / | |
| Were the RT windows properly established? | / | | | |
| Were the required standard concentrations analyzed in the initial calibration? | / | | | |
| IV. Continuing calibration | | | | |
| What type of continuing calibration calculation was performed? ___%D or ___%R | / | | | |
| Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis? | / | | | |
| Were endrin and 4,4'-DDT breakdowns \leq 15% for individual breakdown in the Evaluation mix standards? | / | | | |
| Was a continuing calibration analyzed daily? | / | | | |
| Were all percent differences (%D) \leq 20%? | / | | | |
| Were all the retention times within the acceptance windows? | / | | | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was a method blank analyzed for each matrix and concentration? | / | | | |
| Were extract cleanup blanks analyzed with every batch requiring clean-up? | | / | | |
| Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet. | | | / | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within the QC limits? | / | | | |
| If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R? | | | / | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | | | / | |

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| VII. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | | | / | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | | | / | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | | | / | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |
| Was an LCS analyzed per extraction batch? | / | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | / | | | |
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | | / | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| X. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | / | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation? | / | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | | / | | |
| Target compounds were detected in the field duplicates. | | | / | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | | / | | |

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

| | | | | |
|-----------------------|-----------------------|--------------------|------------------|-----|
| A. alpha-BHC | I. Dieldrin | Q. Endrin ketone | Y. Aroclor-1242 | GG. |
| B. beta-BHC | J. 4,4'-DDE | R. Endrin aldehyde | Z. Aroclor-1248 | HH. |
| C. delta-BHC | K. Endrin | S. alpha-Chlordane | AA. Aroclor-1254 | II. |
| D. gamma-BHC | L. Endosulfan II | T. gamma-Chlordane | BB. Aroclor-1260 | JJ. |
| E. Heptachlor | M. 4,4'-DDD | U. Toxaphene | CC. DB 608 | KK. |
| F. Aldrin | N. Endosulfan sulfate | V. Aroclor-1016 | DD. DB 1701 | LL. |
| G. Heptachlor epoxide | O. 4,4'-DDT | W. Aroclor-1221 | EE. | MM. |
| H. Endosulfan I | P. Methoxychlor | X. Aroclor-1232 | FF. | NN. |

Notes: _____

LDC #: 30037 I 3e

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 61 /
Reviewer: F7
2nd Reviewer: Q

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) analyzed for each matrix in this SDG?

Y N N/A Were the LCS percent recoveries (%R) and relative percent differences (RPD) within the QC limits?

Level IV/D Only

Y N N/A Was an LCS analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

| # | LCS/LCSD ID | Compound | LCS %R (Limits) | LCSD %R (Limits) | RPD (Limits) | Associated Samples | Qualifications |
|---|-----------------|----------|---------------------|---------------------|--------------|--------------------|------------------|
| | <u>10503165</u> | <u>P</u> | <u>126 (59-120)</u> | () | () | <u>All</u> | <u>J/Pdt (L)</u> |
| | | | () | () | () | | |
| | | | () | () | () | | |
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LDC #: 30037 I 3a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: F7
2nd Reviewer: [Signature]

METHOD: GC HPLC

The calibration factors (CF) and relative standard deviation (%RSD) were recalculated using the following calculations:

CF = A/C
Average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where: A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|--------------|----------------------|----------------------|--------------|--------------|----------|--------------|
| | | | | CF 100 (10 / std) | CF 100 (10 / std) | CF (initial) | CF (initial) | %RSD | %RSD |
| 1 | KAL | 6/19/13 | endosulfanI | 106469.3 | 106469.3 | 104443.1 | 104443.1 | 3.959 | 3.959 |
| | RTXcup1 | | methoxychlor | 12339.25 | 12339.25 | 11602.49 | 11602.49 | 5.989 | 5.989 |
| | RTXcup2 | | ↓ | 257940.1 | 257940.1 | 26024.3 | 26024.3 | 9.761 | 9.761 |
| | | | | 2869088 | 2869088 | 26555.72 | 26555.72 | 4.643 | 4.643 |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30037I3a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
 Reviewer: FJ
 2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. CF} - \text{CF}) / \text{ave. CF}$

Where: ave. CF = initial calibration average CF
 CF = continuing calibration CF
 A = Area of compound
 C = Concentration of compound

| # | Standard ID | Calibration Date | Compound | Average CF(1cal)/ CCV Conc. | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|-----------------------------|-----------------------------|---------------|---------------|----------|--------------|
| | | | | | CF/ Conc. CCV | CF/ Conc. CCV | %D | %D |
| 1 | | <i>Samples</i> | <i>Analyzed after 1 cal</i> | | | | | |
| | | | | | | | | |
| 2 | | | | | | | | |
| | | | | | | | | |
| 3 | | | | | | | | |
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| 4 | | | | | | | | |
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Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3003713a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
 Reviewer: F7
 2nd reviewer: [Signature]

METHOD: GC Pesticides (EPA SW 846 Method 8081)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: # 1

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| TCMX | RTX CLP2 | 10.1 | 9.041929 | 90 | 90 | 0 |
| DCB | RTX CLP 1 | 10.2 | 11.12819 | 110 | 110 | 0 |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
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| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
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LDC #: 30037I 39

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: F7

2nd Reviewer: [Signature]

METHOD: GC Pesticides (EPA SW 846 method 8081)

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * (SSC - SC) / SA$

Where SSC = Spiked sample concentration

SC = Sample concentration

SA = Spike added

RPD = $((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD) * 100$

LCS = Laboratory Control Sample

LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS 03165

| Compound | Spike Added (ug/kg) | | Sample Conc (ug/kg) | Spike Sample Concentration (ug/kg) | | LCS | | LCSD | | LCS/LCSD | |
|-----------|------------------------|------|------------------------|---------------------------------------|------|------------------|---------|------------------|---------|----------|---------|
| | LCS | LCSD | | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gamma-BHC | 3.41 | NA | ↓ | 3.37 | NA | 99 | 99 | | | | |
| 4,4'-DDT | 7.14 | ↓ | ↓ | 9.21 | ↓ | 129 | 129 | NA | | | |
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Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30037I 32

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: F7
2nd Reviewer: [Signature]

METHOD: GC Pesticides (EPA SW 846 Method 8081)

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds within 10% of the reported results?

$$\text{Concentration} = \frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$$

Example:

Sample ID. _____ Compound Name ND

Concentration = _____

- A= Area or height of the compound to be measured
- Fv= Final Volume of extract
- Df= Dilution Factor
- RF= Average response factor of the compound
In the initial calibration
- Vs= Initial volume of the sample
- Ws= Initial weight of the sample
- %S= Percent Solid

| # | Sample ID | Compound | Reported Concentrations () | Recalculated Results Concentrations () | Qualifications |
|---|-----------|----------|--------------------------------|--|----------------|
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Comments: _____

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 14-Jun-2013 | TB-061413 | 7094795 | TB | 5030B | 8015M | IV |
| 14-Jun-2013 | SL-850-SA5A-SB-0.0-0.5 | 7094786 | N | 3050B | 6010C | IV |
| 14-Jun-2013 | SL-850-SA5A-SB-0.0-0.5 | 7094786 | N | 3050B | 6020A | IV |
| 14-Jun-2013 | SL-850-SA5A-SB-0.0-0.5 | 7094786 | N | 3546 | 8015M | IV |
| 14-Jun-2013 | SL-850-SA5A-SB-0.0-0.5 | 7094786 | N | 3546 | 8270D SIM | IV |
| 14-Jun-2013 | SL-850-SA5A-SB-0.0-0.5 | 7094786 | N | METHOD | 1613B | IV |
| 14-Jun-2013 | SL-850-SA5A-SB-0.0-0.5 | 7094786 | N | METHOD | 7471B | IV |
| 14-Jun-2013 | SL-869-SA5A-SB-0.0-0.5 | 7094787 | N | 3050B | 6010C | IV |
| 14-Jun-2013 | SL-869-SA5A-SB-0.0-0.5 | 7094787 | N | 3050B | 6020A | IV |
| 14-Jun-2013 | SL-869-SA5A-SB-0.0-0.5 | 7094787 | N | 3546 | 8015M | IV |
| 14-Jun-2013 | SL-869-SA5A-SB-0.0-0.5 | 7094787 | N | 3546 | 8270D SIM | IV |
| 14-Jun-2013 | SL-869-SA5A-SB-0.0-0.5 | 7094787 | N | METHOD | 1613B | IV |
| 14-Jun-2013 | SL-869-SA5A-SB-0.0-0.5 | 7094787 | N | METHOD | 7471B | IV |
| 14-Jun-2013 | SL-870-SA5A-SB-0.0-0.5 | 7094788 | N | 3050B | 6010C | IV |
| 14-Jun-2013 | SL-870-SA5A-SB-0.0-0.5 | 7094788 | N | 3050B | 6020A | IV |
| 14-Jun-2013 | SL-870-SA5A-SB-0.0-0.5 | 7094788 | N | 3546 | 8015M | IV |
| 14-Jun-2013 | SL-870-SA5A-SB-0.0-0.5 | 7094788 | N | 3546 | 8270D SIM | IV |
| 14-Jun-2013 | SL-870-SA5A-SB-0.0-0.5 | 7094788 | N | METHOD | 1613B | IV |
| 14-Jun-2013 | SL-870-SA5A-SB-0.0-0.5 | 7094788 | N | METHOD | 7471B | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5 | 7094789 | N | 3050B | 6010C | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5 | 7094789 | N | 3050B | 6020A | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5 | 7094789 | N | 3546 | 8015M | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5 | 7094789 | N | 3546 | 8082A | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5 | 7094789 | N | 3546 | 8270D SIM | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5 | 7094789 | N | METHOD | 1613B | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5 | 7094789 | N | METHOD | 7471B | IV |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MS | 7094790 | MS | 3050B | 6010C | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MS | 7094790 | MS | 3050B | 6020A | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MS | 7094790 | MS | 3546 | 8015M | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MS | 7094790 | MS | 3546 | 8082A | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MS | 7094790 | MS | 3546 | 8270D SIM | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MS | 7094790 | MS | METHOD | 1613B | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MS | 7094790 | MS | METHOD | 7471B | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MSD | 7094791 | MSD | 3050B | 6010C | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MSD | 7094791 | MSD | 3050B | 6020A | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MSD | 7094791 | MSD | 3546 | 8015M | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MSD | 7094791 | MSD | 3546 | 8082A | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MSD | 7094791 | MSD | 3546 | 8270D SIM | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MSD | 7094791 | MSD | METHOD | 1613B | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5MSD | 7094791 | MSD | METHOD | 7471B | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5DUP | 7094792 | DUP | 3050B | 6010C | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5DUP | 7094792 | DUP | 3050B | 6020A | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-0.0-0.5DUP | 7094792 | DUP | METHOD | 7471B | IV |
| 14-Jun-2013 | SL-1252-SA5A-SB-0.0-0.5 | 7094793 | FD | 3050B | 6010C | IV |
| 14-Jun-2013 | SL-1252-SA5A-SB-0.0-0.5 | 7094793 | FD | 3050B | 6020A | IV |
| 14-Jun-2013 | SL-1252-SA5A-SB-0.0-0.5 | 7094793 | FD | 3546 | 8015M | IV |
| 14-Jun-2013 | SL-1252-SA5A-SB-0.0-0.5 | 7094793 | FD | 3546 | 8082A | IV |
| 14-Jun-2013 | SL-1252-SA5A-SB-0.0-0.5 | 7094793 | FD | 3546 | 8270D SIM | IV |
| 14-Jun-2013 | SL-1252-SA5A-SB-0.0-0.5 | 7094793 | FD | METHOD | 1613B | IV |
| 14-Jun-2013 | SL-1252-SA5A-SB-0.0-0.5 | 7094793 | FD | METHOD | 7471B | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-4.5-5.5 | 7094794 | N | 3050B | 6010C | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-4.5-5.5 | 7094794 | N | 3050B | 6020A | IV |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 14-Jun-2013 | SL-852-SA5A-SB-4.5-5.5 | 7094794 | N | 3546 | 8015M | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-4.5-5.5 | 7094794 | N | 3546 | 8082A | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-4.5-5.5 | 7094794 | N | 3546 | 8270D SIM | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-4.5-5.5 | 7094794 | N | 5035A | 8015M | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-4.5-5.5 | 7094794 | N | METHOD | 1613B | IV |
| 14-Jun-2013 | SL-852-SA5A-SB-4.5-5.5 | 7094794 | N | METHOD | 7471B | IV |

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-1252-SA5A-SB-0.0-0.5 Collected: 6/14/2013 1:10:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ALUMINUM | 16000 | | 6.98 | MDL | 38.7 | PQL | mg/Kg | J | E, A |
| ANTIMONY | 3.87 | U | 0.717 | MDL | 3.87 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 2.86 | J | 0.678 | MDL | 3.87 | PQL | mg/Kg | J | Z, Q |
| BARIUM | 107 | | 0.0320 | MDL | 0.969 | PQL | mg/Kg | J | Q, A |
| BERYLLIUM | 0.591 | J | 0.0649 | MDL | 0.969 | PQL | mg/Kg | J | Z |
| BORON | 4.03 | J | 0.814 | MDL | 9.69 | PQL | mg/Kg | J | Z, Q |
| CADMIUM | 0.969 | U | 0.0736 | MDL | 0.969 | PQL | mg/Kg | UJ | Q |
| CALCIUM | 2560 | | 3.24 | MDL | 19.4 | PQL | mg/Kg | J | E, A |
| CHROMIUM | 22.4 | | 0.155 | MDL | 2.91 | PQL | mg/Kg | J | Q, A |
| COBALT | 5.64 | | 0.0959 | MDL | 0.969 | PQL | mg/Kg | J | Q |
| COPPER | 11.0 | | 0.281 | MDL | 1.94 | PQL | mg/Kg | J | Q |
| IRON | 21800 | | 3.51 | MDL | 38.7 | PQL | mg/Kg | J | E, A |
| LEAD | 8.94 | | 0.484 | MDL | 2.91 | PQL | mg/Kg | J | Q |
| LITHIUM | 21.8 | | 0.33 | MDL | 3.9 | PQL | mg/Kg | J | Q, E, A |
| MAGNESIUM | 4390 | | 1.62 | MDL | 9.69 | PQL | mg/Kg | J | E, A |
| MANGANESE | 337 | | 0.0804 | MDL | 0.969 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.454 | J | 0.165 | MDL | 1.94 | PQL | mg/Kg | UJ | Q, FD, B, F |
| NICKEL | 13.4 | | 0.126 | MDL | 1.94 | PQL | mg/Kg | J | Q |
| PHOSPHORUS | 423 | | 2.80 | MDL | 9.69 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3890 | | 8.08 | MDL | 96.9 | PQL | mg/Kg | J | Q, E, A |
| SODIUM | 82.5 | J | 16.2 | MDL | 96.9 | PQL | mg/Kg | J | Z, Q, E |
| TIN | 2.68 | J | 0.213 | MDL | 9.69 | PQL | mg/Kg | UJ | Q, B |
| TITANIUM | 1160 | | 0.165 | MDL | 0.969 | PQL | mg/Kg | J | A |
| VANADIUM | 38.5 | | 0.126 | MDL | 0.969 | PQL | mg/Kg | J | Q, A |
| ZINC | 60.4 | | 0.194 | MDL | 3.87 | PQL | mg/Kg | J | Q |
| Zirconium | 0.997 | J | 0.814 | MDL | 4.84 | PQL | mg/Kg | J | Z, Q, E |

Sample ID: SL-850-SA5A-SB-0.0-0.5 Collected: 6/14/2013 9:05:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ALUMINUM | 17000 | | 7.12 | MDL | 39.5 | PQL | mg/Kg | J | E, A |
| ANTIMONY | 3.95 | U | 0.731 | MDL | 3.95 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 2.68 | J | 0.691 | MDL | 3.95 | PQL | mg/Kg | J | Z, Q |
| BARIUM | 96.5 | | 0.0326 | MDL | 0.988 | PQL | mg/Kg | J | Q, A |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-850-SA5A-SB-0.0-0.5 Collected: 6/14/2013 9:05:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| BERYLLIUM | 0.648 | J | 0.0662 | MDL | 0.988 | PQL | mg/Kg | J | Z |
| BORON | 4.22 | J | 0.830 | MDL | 9.88 | PQL | mg/Kg | J | Z, Q |
| CADMIUM | 0.988 | U | 0.0751 | MDL | 0.988 | PQL | mg/Kg | UJ | Q |
| CALCIUM | 2180 | | 3.30 | MDL | 19.8 | PQL | mg/Kg | J | E, A |
| CHROMIUM | 23.0 | | 0.158 | MDL | 2.96 | PQL | mg/Kg | J | Q, A |
| COBALT | 5.52 | | 0.0978 | MDL | 0.988 | PQL | mg/Kg | J | Q |
| COPPER | 8.80 | | 0.286 | MDL | 1.98 | PQL | mg/Kg | J | Q |
| IRON | 21000 | | 3.58 | MDL | 39.5 | PQL | mg/Kg | J | E, A |
| LEAD | 6.55 | | 0.494 | MDL | 2.96 | PQL | mg/Kg | J | Q |
| LITHIUM | 22.5 | | 0.34 | MDL | 4.0 | PQL | mg/Kg | J | Q, E, A |
| MAGNESIUM | 4280 | | 1.65 | MDL | 9.88 | PQL | mg/Kg | J | E, A |
| MANGANESE | 310 | | 0.0820 | MDL | 0.988 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.513 | J | 0.168 | MDL | 1.98 | PQL | mg/Kg | UJ | Q, B, F |
| NICKEL | 12.8 | | 0.128 | MDL | 1.98 | PQL | mg/Kg | J | Q |
| PHOSPHORUS | 230 | | 2.85 | MDL | 9.88 | PQL | mg/Kg | J | Q |
| POTASSIUM | 2460 | | 8.24 | MDL | 98.8 | PQL | mg/Kg | J | Q, E, A |
| SODIUM | 156 | | 16.5 | MDL | 98.8 | PQL | mg/Kg | J | Q, E |
| TIN | 2.47 | J | 0.217 | MDL | 9.88 | PQL | mg/Kg | UJ | Q, B |
| TITANIUM | 1190 | | 0.168 | MDL | 0.988 | PQL | mg/Kg | J | A |
| VANADIUM | 39.2 | | 0.128 | MDL | 0.988 | PQL | mg/Kg | J | Q, A |
| ZINC | 52.6 | | 0.198 | MDL | 3.95 | PQL | mg/Kg | J | Q |
| Zirconium | 1.70 | J | 0.830 | MDL | 4.94 | PQL | mg/Kg | J | Z, Q, E |

Sample ID: SL-852-SA5A-SB-0.0-0.5 Collected: 6/14/2013 12:50:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ALUMINUM | 14200 | | 7.19 | MDL | 39.9 | PQL | mg/Kg | J | E, A |
| ANTIMONY | 3.99 | U | 0.738 | MDL | 3.99 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 1.99 | J | 0.698 | MDL | 3.99 | PQL | mg/Kg | J | Z, Q |
| BARIUM | 89.2 | | 0.0329 | MDL | 0.997 | PQL | mg/Kg | J | Q, A |
| BERYLLIUM | 0.487 | J | 0.0668 | MDL | 0.997 | PQL | mg/Kg | J | Z |
| BORON | 4.14 | J | 0.837 | MDL | 9.97 | PQL | mg/Kg | J | Z, Q |
| CADMIUM | 0.997 | U | 0.0758 | MDL | 0.997 | PQL | mg/Kg | UJ | Q |
| CALCIUM | 2240 | | 3.33 | MDL | 19.9 | PQL | mg/Kg | J | E, A |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|---------------|----------------|-----------|
| Method Category: | METALS | | |
| Method: | 6010C | Matrix: | SO |

Sample ID: SL-852-SA5A-SB-0.0-0.5 Collected: 6/14/2013 12:50:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| CHROMIUM | 19.0 | | 0.159 | MDL | 2.99 | PQL | mg/Kg | J | Q, A |
| COBALT | 4.41 | | 0.0987 | MDL | 0.997 | PQL | mg/Kg | J | Q |
| COPPER | 9.27 | | 0.289 | MDL | 1.99 | PQL | mg/Kg | J | Q |
| IRON | 18000 | | 3.61 | MDL | 39.9 | PQL | mg/Kg | J | E, A |
| LEAD | 7.29 | | 0.498 | MDL | 2.99 | PQL | mg/Kg | J | Q |
| LITHIUM | 19.6 | | 0.34 | MDL | 4.0 | PQL | mg/Kg | J | Q, E, A |
| MAGNESIUM | 3800 | | 1.66 | MDL | 9.97 | PQL | mg/Kg | J | E, A |
| MANGANESE | 275 | | 0.0827 | MDL | 0.997 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.782 | J | 0.169 | MDL | 1.99 | PQL | mg/Kg | UJ | Q, FD, B, F |
| NICKEL | 11.1 | | 0.130 | MDL | 1.99 | PQL | mg/Kg | J | Q |
| PHOSPHORUS | 337 | | 2.88 | MDL | 9.97 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3510 | | 8.31 | MDL | 99.7 | PQL | mg/Kg | J | Q, E, A |
| SODIUM | 75.7 | J | 16.6 | MDL | 99.7 | PQL | mg/Kg | J | Z, Q, E |
| TIN | 2.35 | J | 0.219 | MDL | 9.97 | PQL | mg/Kg | UJ | Q, B |
| TITANIUM | 1100 | | 0.169 | MDL | 0.997 | PQL | mg/Kg | J | A |
| VANADIUM | 31.2 | | 0.130 | MDL | 0.997 | PQL | mg/Kg | J | Q, A |
| ZINC | 49.7 | | 0.199 | MDL | 3.99 | PQL | mg/Kg | J | Q |
| Zirconium | 1.42 | J | 0.837 | MDL | 4.98 | PQL | mg/Kg | J | Z, Q, E |

Sample ID: SL-852-SA5A-SB-4.5-5.5 Collected: 6/14/2013 1:25:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 20400 | | 7.74 | MDL | 43.0 | PQL | mg/Kg | J | E, A |
| ANTIMONY | 4.30 | U | 0.795 | MDL | 4.30 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.64 | J | 0.752 | MDL | 4.30 | PQL | mg/Kg | J | Z, Q |
| BARIUM | 93.5 | | 0.0354 | MDL | 1.07 | PQL | mg/Kg | J | Q, A |
| BERYLLIUM | 0.727 | J | 0.0719 | MDL | 1.07 | PQL | mg/Kg | J | Z |
| BORON | 3.38 | J | 0.902 | MDL | 10.7 | PQL | mg/Kg | J | Z, Q |
| CADMIUM | 1.07 | U | 0.0816 | MDL | 1.07 | PQL | mg/Kg | UJ | Q |
| CALCIUM | 2310 | | 3.59 | MDL | 21.5 | PQL | mg/Kg | J | E, A |
| CHROMIUM | 25.4 | | 0.172 | MDL | 3.22 | PQL | mg/Kg | J | Q, A |
| COBALT | 6.67 | | 0.106 | MDL | 1.07 | PQL | mg/Kg | J | Q |
| COPPER | 9.72 | | 0.311 | MDL | 2.15 | PQL | mg/Kg | J | Q |
| IRON | 24400 | | 3.89 | MDL | 43.0 | PQL | mg/Kg | J | E, A |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-852-SA5A-SB-4.5-5.5 Collected: 6/14/2013 1:25:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| LEAD | 7.62 | | 0.537 | MDL | 3.22 | PQL | mg/Kg | J | Q |
| LITHIUM | 27.1 | | 0.37 | MDL | 4.3 | PQL | mg/Kg | J | Q, E, A |
| MAGNESIUM | 4680 | | 1.79 | MDL | 10.7 | PQL | mg/Kg | J | E, A |
| MANGANESE | 362 | | 0.0891 | MDL | 1.07 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.489 | J | 0.183 | MDL | 2.15 | PQL | mg/Kg | UJ | Q, B, F |
| NICKEL | 13.9 | | 0.140 | MDL | 2.15 | PQL | mg/Kg | J | Q |
| PHOSPHORUS | 213 | | 3.10 | MDL | 10.7 | PQL | mg/Kg | J | Q |
| POTASSIUM | 2210 | | 8.96 | MDL | 107 | PQL | mg/Kg | J | Q, E, A |
| SODIUM | 103 | J | 17.9 | MDL | 107 | PQL | mg/Kg | J | Z, Q, E |
| TIN | 2.61 | J | 0.236 | MDL | 10.7 | PQL | mg/Kg | UJ | Q, B |
| TITANIUM | 1230 | | 0.183 | MDL | 1.07 | PQL | mg/Kg | J | A |
| VANADIUM | 42.9 | | 0.140 | MDL | 1.07 | PQL | mg/Kg | J | Q, A |
| ZINC | 50.9 | | 0.215 | MDL | 4.30 | PQL | mg/Kg | J | Q |
| Zirconium | 1.46 | J | 0.902 | MDL | 5.37 | PQL | mg/Kg | J | Z, Q, E |

Sample ID: SL-869-SA5A-SB-0.0-0.5 Collected: 6/14/2013 9:55:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ALUMINUM | 16300 | | 7.17 | MDL | 39.8 | PQL | mg/Kg | J | E, A |
| ANTIMONY | 3.98 | U | 0.736 | MDL | 3.98 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 2.96 | J | 0.696 | MDL | 3.98 | PQL | mg/Kg | J | Z, Q |
| BARIUM | 95.9 | | 0.0328 | MDL | 0.995 | PQL | mg/Kg | J | Q, A |
| BERYLLIUM | 0.581 | J | 0.0666 | MDL | 0.995 | PQL | mg/Kg | J | Z |
| BORON | 3.62 | J | 0.836 | MDL | 9.95 | PQL | mg/Kg | J | Z, Q |
| CADMIUM | 0.995 | U | 0.0756 | MDL | 0.995 | PQL | mg/Kg | UJ | Q |
| CALCIUM | 2090 | | 3.32 | MDL | 19.9 | PQL | mg/Kg | J | E, A |
| CHROMIUM | 24.3 | | 0.159 | MDL | 2.98 | PQL | mg/Kg | J | Q, A |
| COBALT | 5.91 | | 0.0985 | MDL | 0.995 | PQL | mg/Kg | J | Q |
| COPPER | 11.5 | | 0.288 | MDL | 1.99 | PQL | mg/Kg | J | Q |
| IRON | 22500 | | 3.60 | MDL | 39.8 | PQL | mg/Kg | J | E, A |
| LEAD | 6.68 | | 0.497 | MDL | 2.98 | PQL | mg/Kg | J | Q |
| LITHIUM | 24.5 | | 0.34 | MDL | 4.0 | PQL | mg/Kg | J | Q, E, A |
| MAGNESIUM | 4750 | | 1.66 | MDL | 9.95 | PQL | mg/Kg | J | E, A |
| MANGANESE | 300 | | 0.0826 | MDL | 0.995 | PQL | mg/Kg | J | A |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|---------------|----------------|-----------|
| Method Category: | METALS | | |
| Method: | 6010C | Matrix: | SO |

Sample ID: SL-869-SA5A-SB-0.0-0.5 Collected: 6/14/2013 9:55:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| MOLYBDENUM | 0.492 | J | 0.169 | MDL | 1.99 | PQL | mg/Kg | UJ | Q, B, F |
| NICKEL | 15.1 | | 0.129 | MDL | 1.99 | PQL | mg/Kg | J | Q |
| PHOSPHORUS | 394 | | 2.87 | MDL | 9.95 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3660 | | 8.30 | MDL | 99.5 | PQL | mg/Kg | J | Q, E, A |
| SODIUM | 80.5 | J | 16.6 | MDL | 99.5 | PQL | mg/Kg | J | Z, Q, E |
| TIN | 2.53 | J | 0.219 | MDL | 9.95 | PQL | mg/Kg | UJ | Q, B |
| TITANIUM | 1210 | | 0.169 | MDL | 0.995 | PQL | mg/Kg | J | A |
| VANADIUM | 38.8 | | 0.129 | MDL | 0.995 | PQL | mg/Kg | J | Q, A |
| ZINC | 60.1 | | 0.199 | MDL | 3.98 | PQL | mg/Kg | J | Q |
| Zirconium | 1.40 | J | 0.836 | MDL | 4.97 | PQL | mg/Kg | J | Z, Q, E |

Sample ID: SL-870-SA5A-SB-0.0-0.5 Collected: 6/14/2013 10:40:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ALUMINUM | 14100 | | 7.13 | MDL | 39.5 | PQL | mg/Kg | J | E, A |
| ANTIMONY | 3.95 | U | 0.732 | MDL | 3.95 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 2.20 | J | 0.692 | MDL | 3.95 | PQL | mg/Kg | J | Z, Q |
| BARIUM | 93.4 | | 0.0326 | MDL | 0.989 | PQL | mg/Kg | J | Q, A |
| BERYLLIUM | 0.501 | J | 0.0662 | MDL | 0.989 | PQL | mg/Kg | J | Z |
| BORON | 3.86 | J | 0.830 | MDL | 9.89 | PQL | mg/Kg | J | Z, Q |
| CADMIUM | 0.989 | U | 0.0751 | MDL | 0.989 | PQL | mg/Kg | UJ | Q |
| CALCIUM | 2200 | | 3.30 | MDL | 19.8 | PQL | mg/Kg | J | E, A |
| CHROMIUM | 19.9 | | 0.158 | MDL | 2.97 | PQL | mg/Kg | J | Q, A |
| COBALT | 4.73 | | 0.0979 | MDL | 0.989 | PQL | mg/Kg | J | Q |
| COPPER | 9.33 | | 0.287 | MDL | 1.98 | PQL | mg/Kg | J | Q |
| IRON | 19400 | | 3.58 | MDL | 39.5 | PQL | mg/Kg | J | E, A |
| LEAD | 8.41 | | 0.494 | MDL | 2.97 | PQL | mg/Kg | J | Q |
| LITHIUM | 21.6 | | 0.34 | MDL | 4.0 | PQL | mg/Kg | J | Q, E, A |
| MAGNESIUM | 4110 | | 1.65 | MDL | 9.89 | PQL | mg/Kg | J | E, A |
| MANGANESE | 306 | | 0.0821 | MDL | 0.989 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.448 | J | 0.168 | MDL | 1.98 | PQL | mg/Kg | UJ | Q, B, F |
| NICKEL | 11.5 | | 0.129 | MDL | 1.98 | PQL | mg/Kg | J | Q |
| PHOSPHORUS | 396 | | 2.86 | MDL | 9.89 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3770 | | 8.25 | MDL | 98.9 | PQL | mg/Kg | J | Q, E, A |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-870-SA5A-SB-0.0-0.5 Collected: 6/14/2013 10:40:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SODIUM | 81.5 | J | 16.5 | MDL | 98.9 | PQL | mg/Kg | J | Z, Q, E |
| TIN | 2.41 | J | 0.218 | MDL | 9.89 | PQL | mg/Kg | UJ | Q, B |
| TITANIUM | 1170 | | 0.168 | MDL | 0.989 | PQL | mg/Kg | J | A |
| VANADIUM | 33.3 | | 0.129 | MDL | 0.989 | PQL | mg/Kg | J | Q, A |
| ZINC | 57.3 | | 0.198 | MDL | 3.95 | PQL | mg/Kg | J | Q |
| Zirconium | 0.901 | J | 0.830 | MDL | 4.94 | PQL | mg/Kg | J | Z, Q, E |

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-1252-SA5A-SB-0.0-0.5 Collected: 6/14/2013 1:10:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.170 | J | 0.0969 | MDL | 0.387 | PQL | mg/Kg | J | Z |

Sample ID: SL-1252-SA5A-SB-0.0-0.5 Collected: 6/14/2013 1:10:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0607 | J | 0.0252 | MDL | 0.194 | PQL | mg/Kg | UJ | Q, F |
| STRONTIUM | 29.9 | | 0.0504 | MDL | 0.387 | PQL | mg/Kg | J | Q |

Sample ID: SL-850-SA5A-SB-0.0-0.5 Collected: 6/14/2013 9:05:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.134 | J | 0.0988 | MDL | 0.395 | PQL | mg/Kg | J | Z |

Sample ID: SL-850-SA5A-SB-0.0-0.5 Collected: 6/14/2013 9:05:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0417 | J | 0.0257 | MDL | 0.198 | PQL | mg/Kg | J | Z, Q |
| STRONTIUM | 25.9 | | 0.0514 | MDL | 0.395 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

| Sample ID: SL-852-SA5A-SB-0.0-0.5 | | | Collected: 6/14/2013 12:50:00 | | | Analysis Type: REA/TOT | | | Dilution: 2 | |
|-----------------------------------|------------|----------|-------------------------------|---------|-------|------------------------|-------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SELENIUM | 0.164 | J | 0.0997 | MDL | 0.399 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-852-SA5A-SB-0.0-0.5 | | | Collected: 6/14/2013 12:50:00 | | | Analysis Type: RES/TOT | | | Dilution: 2 | |
|-----------------------------------|------------|----------|-------------------------------|---------|-------|------------------------|-------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SILVER | 0.0583 | J | 0.0259 | MDL | 0.199 | PQL | mg/Kg | UJ | Q, F | |
| STRONTIUM | 25.3 | | 0.0518 | MDL | 0.399 | PQL | mg/Kg | J | Q | |

| Sample ID: SL-852-SA5A-SB-4.5-5.5 | | | Collected: 6/14/2013 1:25:00 | | | Analysis Type: REA/TOT | | | Dilution: 2 | |
|-----------------------------------|------------|----------|------------------------------|---------|-------|------------------------|-------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SELENIUM | 0.133 | J | 0.107 | MDL | 0.430 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-852-SA5A-SB-4.5-5.5 | | | Collected: 6/14/2013 1:25:00 | | | Analysis Type: RES/TOT | | | Dilution: 2 | |
|-----------------------------------|------------|----------|------------------------------|---------|-------|------------------------|-------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SILVER | 0.0492 | J | 0.0279 | MDL | 0.215 | PQL | mg/Kg | UJ | Q, F | |
| STRONTIUM | 26.4 | | 0.0558 | MDL | 0.430 | PQL | mg/Kg | J | Q | |

| Sample ID: SL-869-SA5A-SB-0.0-0.5 | | | Collected: 6/14/2013 9:55:00 | | | Analysis Type: REA/TOT | | | Dilution: 2 | |
|-----------------------------------|------------|----------|------------------------------|---------|-------|------------------------|-------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SELENIUM | 0.147 | J | 0.0995 | MDL | 0.398 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-869-SA5A-SB-0.0-0.5 | | | Collected: 6/14/2013 9:55:00 | | | Analysis Type: RES/TOT | | | Dilution: 2 | |
|-----------------------------------|------------|----------|------------------------------|---------|-------|------------------------|-------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SILVER | 0.0361 | J | 0.0259 | MDL | 0.199 | PQL | mg/Kg | J | Z, Q | |
| STRONTIUM | 20.8 | | 0.0517 | MDL | 0.398 | PQL | mg/Kg | J | Q | |

| Sample ID: SL-870-SA5A-SB-0.0-0.5 | | | Collected: 6/14/2013 10:40:00 | | | Analysis Type: REA/TOT | | | Dilution: 2 | |
|-----------------------------------|------------|----------|-------------------------------|---------|-------|------------------------|-------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SELENIUM | 0.154 | J | 0.0989 | MDL | 0.395 | PQL | mg/Kg | J | Z | |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-870-SA5A-SB-0.0-0.5 Collected: 6/14/2013 10:40:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0600 | J | 0.0257 | MDL | 0.198 | PQL | mg/Kg | J | Z, Q |
| STRONTIUM | 20.9 | | 0.0514 | MDL | 0.395 | PQL | mg/Kg | J | Q |

| | | |
|-------------------------|--------------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-1252-SA5A-SB-0.0-0.5 Collected: 6/14/2013 1:10:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 0.891 | JB | 0.0228 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.134 | JB | 0.0375 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.139 | JB | 0.0513 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDF | 0.131 | JB | 0.0407 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.447 | JB | 0.0558 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDF | 0.196 | JBQ | 0.0353 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 0.514 | JBQ | 0.0538 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDF | 0.279 | JBQ | 0.0464 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.187 | JBQ | 0.0604 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.300 | JBQ | 0.0413 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HxCDF | 0.182 | JB | 0.0337 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.149 | JBQ | 0.0396 | MDL | 4.97 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0575 | JBQ | 0.0540 | MDL | 0.995 | PQL | ng/Kg | UJ | B, FD |
| OCDF | 2.05 | JB | 0.0566 | MDL | 9.95 | PQL | ng/Kg | J | Z, FD |

Sample ID: SL-850-SA5A-SB-0.0-0.5 Collected: 6/14/2013 9:05:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 1.63 | JB | 0.0342 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.190 | JB | 0.0449 | MDL | 5.02 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.152 | JBQ | 0.0487 | MDL | 5.02 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDF | 0.0916 | JB | 0.0276 | MDL | 5.02 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.296 | JB | 0.0502 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDF | 0.130 | JB | 0.0249 | MDL | 5.02 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.365 | JB | 0.0468 | MDL | 5.02 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|-------|----------------|----|
| Method Category: | SVOA | | |
| Method: | 1613B | Matrix: | SO |

Sample ID: SL-850-SA5A-SB-0.0-0.5 Collected: 6/14/2013 9:05:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,7,8,9-HXCDF | 0.141 | JBQ | 0.0310 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.0798 | JBQ | 0.0505 | MDL | 5.02 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0846 | JBQ | 0.0308 | MDL | 5.02 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0875 | JB | 0.0249 | MDL | 5.02 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0683 | JBQ | 0.0294 | MDL | 5.02 | PQL | ng/Kg | U | B |
| OCDF | 7.65 | JB | 0.0504 | MDL | 10.0 | PQL | ng/Kg | J | Z |

Sample ID: SL-852-SA5A-SB-0.0-0.5 Collected: 6/14/2013 12:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 8.64 | B | 0.0453 | MDL | 4.99 | PQL | ng/Kg | J | Q, Q |
| 1,2,3,4,6,7,8-HPCDF | 1.25 | JB | 0.0168 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.121 | JB | 0.0242 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.141 | JBQ | 0.0472 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.105 | JBQ | 0.0297 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.539 | JB | 0.0515 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.117 | JBQ | 0.0282 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.581 | JB | 0.0497 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.260 | JBQ | 0.0317 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.123 | JBQ | 0.0512 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.355 | JBQ | 0.0315 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.144 | JBQ | 0.0277 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.209 | JBQ | 0.0306 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.137 | JB | 0.0471 | MDL | 0.998 | PQL | ng/Kg | UJ | B, FD |
| OCDD | 131 | B | 0.0425 | MDL | 9.98 | PQL | ng/Kg | J | Q, Q |
| OCDF | 3.64 | JB | 0.0377 | MDL | 9.98 | PQL | ng/Kg | J | Z, FD |

Sample ID: SL-852-SA5A-SB-4.5-5.5 Collected: 6/14/2013 1:25:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.737 | JBQ | 0.0403 | MDL | 5.40 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.143 | JB | 0.0119 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0340 | JBQ | 0.0180 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0581 | JB | 0.0267 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0481 | JBQ | 0.0145 | MDL | 5.40 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|-------|----------------|----|
| Method Category: | SVOA | Matrix: | SO |
| Method: | 1613B | | |

| <i>Sample ID:</i> SL-852-SA5A-SB-4.5-5.5 | <i>Collected:</i> 6/14/2013 1:25:00 | <i>Analysis Type:</i> RES | <i>Dilution:</i> 1 | | | | | | |
|--|-------------------------------------|---------------------------|--------------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| <i>Analyte</i> | <i>Lab Result</i> | <i>Lab Qual</i> | <i>DL</i> | <i>DL Type</i> | <i>RL</i> | <i>RL Type</i> | <i>Units</i> | <i>Data Review Qual</i> | <i>Reason Code</i> |
| 1,2,3,6,7,8-HXCDD | 0.0916 | JBQ | 0.0291 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0579 | JBQ | 0.0136 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.0984 | JBQ | 0.0288 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0453 | JBQ | 0.0159 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.130 | JBQ | 0.0426 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.123 | JB | 0.0255 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0438 | JBQ | 0.0112 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0843 | JB | 0.0254 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0310 | JBQ | 0.0300 | MDL | 1.08 | PQL | ng/Kg | U | B |
| OCDD | 10.6 | JB | 0.0479 | MDL | 10.8 | PQL | ng/Kg | J | Z |
| OCDF | 0.182 | JBQ | 0.0551 | MDL | 10.8 | PQL | ng/Kg | U | B |

| <i>Sample ID:</i> SL-869-SA5A-SB-0.0-0.5 | <i>Collected:</i> 6/14/2013 9:55:00 | <i>Analysis Type:</i> RES | <i>Dilution:</i> 1 | | | | | | |
|--|-------------------------------------|---------------------------|--------------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| <i>Analyte</i> | <i>Lab Result</i> | <i>Lab Qual</i> | <i>DL</i> | <i>DL Type</i> | <i>RL</i> | <i>RL Type</i> | <i>Units</i> | <i>Data Review Qual</i> | <i>Reason Code</i> |
| 1,2,3,4,6,7,8-HPCDD | 0.356 | JBQ | 0.0379 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.102 | JB | 0.0117 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0313 | JBQ | 0.0168 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0382 | JB | 0.0379 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.148 | JBQ | 0.0397 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0523 | JBQ | 0.0153 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.224 | JBQ | 0.0364 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.207 | JBQ | 0.0174 | MDL | 4.94 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.0618 | JBQ | 0.0464 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0957 | JBQ | 0.0281 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0494 | JBQ | 0.0139 | MDL | 4.94 | PQL | ng/Kg | U | B |
| OCDD | 4.42 | JB | 0.0472 | MDL | 9.89 | PQL | ng/Kg | J | Z |
| OCDF | 0.167 | JBQ | 0.0445 | MDL | 9.89 | PQL | ng/Kg | U | B |

| <i>Sample ID:</i> SL-870-SA5A-SB-0.0-0.5 | <i>Collected:</i> 6/14/2013 10:40:00 | <i>Analysis Type:</i> RES | <i>Dilution:</i> 1 | | | | | | |
|--|--------------------------------------|---------------------------|--------------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| <i>Analyte</i> | <i>Lab Result</i> | <i>Lab Qual</i> | <i>DL</i> | <i>DL Type</i> | <i>RL</i> | <i>RL Type</i> | <i>Units</i> | <i>Data Review Qual</i> | <i>Reason Code</i> |
| 1,2,3,4,6,7,8-HPCDF | 1.52 | JB | 0.0264 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.165 | JB | 0.0370 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.102 | JB | 0.0301 | MDL | 5.08 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-870-SA5A-SB-0.0-0.5 Collected: 6/14/2013 10:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,6,7,8-HXCDD | 0.568 | JB | 0.0603 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.179 | JB | 0.0277 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.653 | JB | 0.0603 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.253 | JB | 0.0345 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.170 | JBQ | 0.0522 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.248 | JB | 0.0323 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.169 | JB | 0.0280 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.160 | JBQ | 0.0324 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0604 | JBQ | 0.0372 | MDL | 1.02 | PQL | ng/Kg | U | B |
| OCDF | 5.52 | JB | 0.0500 | MDL | 10.2 | PQL | ng/Kg | J | Z |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 8015M | Matrix: SO |

Sample ID: SL-852-SA5A-SB-0.0-0.5 Collected: 6/14/2013 12:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 8.1 | | 2.0 | MDL | 5.0 | PQL | mg/Kg | J | Q, Q |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 8082A | Matrix: SO |

Sample ID: SL-1252-SA5A-SB-0.0-0.5 Collected: 6/14/2013 1:10:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| Aroclor 5442 | 33 | U | 10 | MDL | 33 | PQL | ug/Kg | UJ | C |

Sample ID: SL-852-SA5A-SB-0.0-0.5 Collected: 6/14/2013 12:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| Aroclor 5442 | 33 | U | 10 | MDL | 33 | PQL | ug/Kg | UJ | C |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-----------|----------------|----|
| Method Category: | SVOA | Method: | 8270D SIM | Matrix: | SO |
|-------------------------|------|----------------|-----------|----------------|----|

Sample ID: SL-1252-SA5A-SB-0.0-0.5 Collected: 6/14/2013 1:10:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)ANTHRACENE | 1.7 | U | 0.66 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(A)PYRENE | 0.78 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(G,H,I)PERYLENE | 1.7 | U | 0.66 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(K)FLUORANTHENE | 0.74 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 11 | J | 5.9 | MDL | 18 | PQL | ug/Kg | J | Z |
| Butylbenzylphthalate | 6.2 | J | 5.9 | MDL | 18 | PQL | ug/Kg | J | Z, FD |
| CHRYSENE | 1.0 | J | 0.33 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| FLUORANTHENE | 1.2 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| INDENO(1,2,3-CD)PYRENE | 1.7 | U | 0.66 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| PHENANTHRENE | 0.67 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| PYRENE | 1.1 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |

Sample ID: SL-850-SA5A-SB-0.0-0.5 Collected: 6/14/2013 9:05:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| BIS(2-ETHYLHEXYL)PHTHALATE | 7.9 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 8.9 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |

Sample ID: SL-852-SA5A-SB-0.0-0.5 Collected: 6/14/2013 12:50:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)ANTHRACENE | 1.2 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(A)PYRENE | 1.4 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(G,H,I)PERYLENE | 0.72 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(K)FLUORANTHENE | 1.0 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 7.1 | J | 5.9 | MDL | 18 | PQL | ug/Kg | U | F |
| Butylbenzylphthalate | 18 | U | 5.9 | MDL | 18 | PQL | ug/Kg | UJ | FD |
| CHRYSENE | 2.4 | | 0.33 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| FLUORANTHENE | 3.1 | | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| INDENO(1,2,3-CD)PYRENE | 0.80 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| PHENANTHRENE | 1.8 | | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| PYRENE | 2.6 | | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-----------|-------------------|
| Method Category: | SVOA | |
| Method: | 8270D SIM | Matrix: SO |

| Sample ID: SL-852-SA5A-SB-4.5-5.5 | Collected: 6/14/2013 1:25:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|--------------------|-------------|---------|-----|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1-METHYLNAPHTHALENE | 1.2 | J | 0.72 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| 2-METHYLNAPHTHALENE | 0.74 | J | 0.72 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 16 | J | 6.5 | MDL | 19 | PQL | ug/Kg | J | Z |

| Sample ID: SL-869-SA5A-SB-0.0-0.5 | Collected: 6/14/2013 9:55:00 | Analysis Type: RES-BASE/NEUTRAL | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|---------------------------------|-------------|---------|-----|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| BENZO(B)FLUORANTHENE | 0.70 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 7.3 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |

| Sample ID: SL-870-SA5A-SB-0.0-0.5 | Collected: 6/14/2013 10:40:00 | Analysis Type: RES-BASE/NEUTRAL | Dilution: 1 | | | | | | |
|-----------------------------------|-------------------------------|---------------------------------|-------------|---------|-----|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| BENZO(B)FLUORANTHENE | 1.5 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 6.5 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |
| CHRYSENE | 0.74 | J | 0.33 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 16 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 0.78 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---|
| *# | Professional Judgment |
| A | ICP Serial Dilution |
| B | Calibration Blank Contamination |
| B | Method Blank Contamination |
| C | Continuing Calibration Verification Percent Difference Lower Estimation |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Equipment Blank Contamination |
| F | Field Blank Contamination |
| FD | Field Duplicate Precision |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| S | Surrogate/Tracer Recovery Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Enclosure I

Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

PH057

Method Blank Outlier Report

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PH057_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|---|---|---|
| BLK1750B371330 | 6/26/2013 1:30:00 PM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF 2,3,7,8-TCDD 2,3,7,8-TCDF OCDD OCDF | 0.0996 ng/Kg 0.0351 ng/Kg 0.0615 ng/Kg 0.0308 ng/Kg 0.0286 ng/Kg 0.0519 ng/Kg 0.0359 ng/Kg 0.0471 ng/Kg 0.0245 ng/Kg 0.0611 ng/Kg 0.0700 ng/Kg 0.0262 ng/Kg 0.0563 ng/Kg 0.0415 ng/Kg 0.0358 ng/Kg 0.326 ng/Kg 0.0789 ng/Kg | SL-1252-SA5A-SB-0.0-0.5 SL-850-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|---------------------|-----------------|-----------------------|
| SL-1252-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.134 ng/Kg | 0.134U ng/Kg |
| SL-1252-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.139 ng/Kg | 0.139U ng/Kg |
| SL-1252-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.131 ng/Kg | 0.131U ng/Kg |
| SL-1252-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.187 ng/Kg | 0.187U ng/Kg |
| SL-1252-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.300 ng/Kg | 0.300U ng/Kg |
| SL-1252-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.149 ng/Kg | 0.149U ng/Kg |
| SL-1252-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.0575 ng/Kg | 0.0575U ng/Kg |
| SL-850-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.190 ng/Kg | 0.190U ng/Kg |
| SL-850-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.152 ng/Kg | 0.152U ng/Kg |
| SL-850-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0916 ng/Kg | 0.0916U ng/Kg |
| SL-850-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.130 ng/Kg | 0.130U ng/Kg |
| SL-850-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.0798 ng/Kg | 0.0798U ng/Kg |
| SL-850-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.0846 ng/Kg | 0.0846U ng/Kg |
| SL-850-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0875 ng/Kg | 0.0875U ng/Kg |
| SL-850-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0683 ng/Kg | 0.0683U ng/Kg |
| SL-852-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.121 ng/Kg | 0.121U ng/Kg |
| SL-852-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.141 ng/Kg | 0.141U ng/Kg |
| SL-852-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.105 ng/Kg | 0.105U ng/Kg |
| SL-852-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.117 ng/Kg | 0.117U ng/Kg |
| SL-852-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.123 ng/Kg | 0.123U ng/Kg |
| SL-852-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.209 ng/Kg | 0.209U ng/Kg |
| SL-852-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.137 ng/Kg | 0.137U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.143 ng/Kg | 0.143U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0340 ng/Kg | 0.0340U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0581 ng/Kg | 0.0581U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0481 ng/Kg | 0.0481U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | 1,2,3,6,7,8-HXCDD | 0.0916 ng/Kg | 0.0916U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0579 ng/Kg | 0.0579U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PH057_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-852-SA5A-SB-4.5-5.5(RES) | 1,2,3,7,8,9-HXCDD | 0.0984 ng/Kg | 0.0984U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | 1,2,3,7,8,9-HXCDF | 0.0453 ng/Kg | 0.0453U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | 1,2,3,7,8-PECDD | 0.130 ng/Kg | 0.130U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | 1,2,3,7,8-PECDF | 0.123 ng/Kg | 0.123U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0438 ng/Kg | 0.0438U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | 2,3,4,7,8-PECDF | 0.0843 ng/Kg | 0.0843U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | 2,3,7,8-TCDF | 0.0310 ng/Kg | 0.0310U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES) | OCDF | 0.182 ng/Kg | 0.182U ng/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.356 ng/Kg | 0.356U ng/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.102 ng/Kg | 0.102U ng/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0313 ng/Kg | 0.0313U ng/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0382 ng/Kg | 0.0382U ng/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDD | 0.148 ng/Kg | 0.148U ng/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0523 ng/Kg | 0.0523U ng/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDD | 0.224 ng/Kg | 0.224U ng/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.0618 ng/Kg | 0.0618U ng/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.0957 ng/Kg | 0.0957U ng/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0494 ng/Kg | 0.0494U ng/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES) | OCDF | 0.167 ng/Kg | 0.167U ng/Kg |
| SL-870-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.165 ng/Kg | 0.165U ng/Kg |
| SL-870-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.102 ng/Kg | 0.102U ng/Kg |
| SL-870-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.179 ng/Kg | 0.179U ng/Kg |
| SL-870-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.170 ng/Kg | 0.170U ng/Kg |
| SL-870-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.248 ng/Kg | 0.248U ng/Kg |
| SL-870-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.160 ng/Kg | 0.160U ng/Kg |
| SL-870-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.0604 ng/Kg | 0.0604U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|----------------|--------------------------|---|
| P17137AB221147 | 6/27/2013 11:47:00 AM | CALCIUM TIN | 5.59 mg/Kg 1.44 mg/Kg | SL-1252-SA5A-SB-0.0-0.5 SL-850-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|---------|-----------------|-----------------------|
| SL-1252-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.68 mg/Kg | 2.68U mg/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PH057_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C

Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|---------|-----------------|-----------------------|
| SL-850-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.47 mg/Kg | 2.47U mg/Kg |
| SL-852-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.35 mg/Kg | 2.35U mg/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES/TOT) | TIN | 2.61 mg/Kg | 2.61U mg/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.53 mg/Kg | 2.53U mg/Kg |
| SL-870-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.41 mg/Kg | 2.41U mg/Kg |

Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PH057_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| Equipment Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|---------------------------|----------------------|---------------------|------------------------------|---|
| EB2-061213(REA2) | 6/12/2013 3:30:00 PM | SILVER STRONTIUM | 0.00062 mg/L 0.00053 mg/L | SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|---------|-----------------|-----------------------|
| SL-1252-SA5A-SB-0.0-0.5(RES/TOT) | SILVER | 0.0607 mg/Kg | 0.0607U mg/Kg |
| SL-852-SA5A-SB-0.0-0.5(RES/TOT) | SILVER | 0.0583 mg/Kg | 0.0583U mg/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES/TOT) | SILVER | 0.0492 mg/Kg | 0.0492U mg/Kg |

Method: 8270D SIM
Matrix: SO

| Equipment Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|---------------------------|----------------------|--|---|---|
| EB2-061213(RES) | 6/12/2013 3:30:00 PM | BIS(2-ETHYLHEXYL)PHTHALATE Diethylphthalate Di-n-butylphthalate NAPHTHALENE | 0.98 ug/L 0.13 ug/L 0.13 ug/L 0.054 ug/L | SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|----------------------------|-----------------|-----------------------|
| SL-852-SA5A-SB-0.0-0.5(RES) | BIS(2-ETHYLHEXYL)PHTHALATE | 7.1 ug/Kg | 18U ug/Kg |

Field Blank Outlier Report

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PH057_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|----------------------|----------------------------|---|
| FB-041113(REA2) | 4/11/2013 3:00:00 PM | COPPER MOLYBDENUM | 0.0036 mg/L 0.0036 mg/L | SL-1252-SA5A-SB-0.0-0.5 SL-850-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|------------|-----------------|-----------------------|
| SL-1252-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.454 mg/Kg | 0.454U mg/Kg |
| SL-850-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.513 mg/Kg | 0.513U mg/Kg |
| SL-852-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.782 mg/Kg | 0.782U mg/Kg |
| SL-852-SA5A-SB-4.5-5.5(RES/TOT) | MOLYBDENUM | 0.489 mg/Kg | 0.489U mg/Kg |
| SL-869-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.492 mg/Kg | 0.492U mg/Kg |
| SL-870-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.448 mg/Kg | 0.448U mg/Kg |

Surrogate Outlier Report

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PH057_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8082A
Matrix: SO

| <i>Sample ID (Analysis Type)</i> | <i>Surrogate</i> | <i>Sample % Recovery</i> | <i>% Recovery Limits</i> | <i>Affected Compounds</i> | <i>Flag</i> |
|--------------------------------------|--|------------------------------|------------------------------|-------------------------------|-----------------|
| SL-1252-SA5A-SB- 0.0-0.5 | DECACHLOROBIPHENYL TETRACHLORO-M-XYLENE | 213 222 | 45.00-120.00 45.00-120.00 | All Target Analytes | J (all detects) |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PH057_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8015M
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|---------------|----------|-----------|--------------|-----------------|-----------------------|-------------------------------|
| SL-852-SA5A-SB-0.0-0.5MS | EFH (C15-C20) | 147 | 133 | 49.00-123.00 | - | EFH (C15-C20) | J (all detects) |
| SL-852-SA5A-SB-0.0-0.5MSD | EFH (C21-C30) | 582 | - | 49.00-123.00 | 100 (20.00) | EFH (C21-C30) | EFH (C30-C40), No Qual >4x |
| (SL-852-SA5A-SB-0.0-0.5) | EFH (C30-C40) | 264 | 139 | 49.00-123.00 | - | EFH (C30-C40) | |

Method: 1613B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|---------------------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-852-SA5A-SB-0.0-0.5MS | 1,2,3,4,6,7,8-HPCDD | 215 | - | 40.00-135.00 | 79 (20.00) | 1,2,3,4,6,7,8-HPCDD | J(all detects) |
| SL-852-SA5A-SB-0.0-0.5MSD | OCDD | 324 | - | 40.00-135.00 | 72 (20.00) | OCDD | |
| (SL-852-SA5A-SB-0.0-0.5) | | | | | | | |

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|------------|----------|-----------|--------------|-----------------|-----------------------|--|
| SL-852-SA5A-SB-0.0-0.5MS (TOT) | TITANIUM | 274 | - | 75.00-125.00 | - | TITANIUM | No Qual, >4x |
| (SL-1252-SA5A-SB-0.0-0.5) | | | | | | | |
| SL-850-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-852-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-852-SA5A-SB-4.5-5.5 | | | | | | | |
| SL-869-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-870-SA5A-SB-0.0-0.5) | | | | | | | |
| SL-852-SA5A-SB-0.0-0.5MS (TOT) | ALUMINUM | 1018 | -854 | 75.00-125.00 | 26 (20.00) | ALUMINUM | J(all detects) UJ(all non-detects) |
| (SL-1252-SA5A-SB-0.0-0.5) | CALCIUM | - | -34 | 75.00-125.00 | 24 (20.00) | CALCIUM | |
| SL-850-SA5A-SB-0.0-0.5 | IRON | -229 | -4694 | 75.00-125.00 | 29 (20.00) | IRON | Al, Ca, Fe, Mg, Mn, No Qual %R >4x |
| SL-852-SA5A-SB-0.0-0.5MSD (TOT) | MAGNESIUM | - | -394 | 75.00-125.00 | 28 (20.00) | MAGNESIUM | |
| (SL-1252-SA5A-SB-0.0-0.5) | MANGANESE | - | 18 | 75.00-125.00 | - | MANGANESE | |
| SL-850-SA5A-SB-0.0-0.5 | PHOSPHORUS | - | 28 | 75.00-125.00 | - | PHOSPHORUS | J(all detects) R(all non-detects) |
| SL-852-SA5A-SB-0.0-0.5 | POTASSIUM | - | -7 | 75.00-125.00 | 27 (20.00) | POTASSIUM | |
| SL-852-SA5A-SB-4.5-5.5 | | | | | | | K, Post Spike = -206% P, Post Spike = 44% |
| SL-869-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-870-SA5A-SB-0.0-0.5) | | | | | | | |
| SL-852-SA5A-SB-0.0-0.5MS (TOT) | ANTIMONY | 51 | 42 | 75.00-125.00 | - | ANTIMONY | J(all detects) UJ(all non-detects) |
| (SL-1252-SA5A-SB-0.0-0.5) | ARSENIC | - | 74 | 75.00-125.00 | - | ARSENIC | |
| SL-850-SA5A-SB-0.0-0.5 | BARIUM | - | 65 | 75.00-125.00 | - | BARIUM | |
| SL-852-SA5A-SB-0.0-0.5MSD (TOT) | BORON | - | 72 | 75.00-125.00 | - | BORON | |
| (SL-1252-SA5A-SB-0.0-0.5) | CADMIUM | - | 70 | 75.00-125.00 | - | CADMIUM | |
| SL-850-SA5A-SB-0.0-0.5 | CHROMIUM | - | 68 | 75.00-125.00 | - | CHROMIUM | |
| SL-852-SA5A-SB-0.0-0.5 | COBALT | - | 70 | 75.00-125.00 | - | COBALT | |
| SL-852-SA5A-SB-4.5-5.5 | COPPER | - | 67 | 75.00-125.00 | - | COPPER | |
| SL-869-SA5A-SB-0.0-0.5 | LEAD | - | 74 | 75.00-125.00 | - | LEAD | |
| SL-870-SA5A-SB-0.0-0.5) | LITHIUM | - | 59 | 75.00-125.00 | 27 (20.00) | LITHIUM | |
| | MOLYBDENUM | - | 70 | 75.00-125.00 | - | MOLYBDENUM | |
| | NICKEL | - | 69 | 75.00-125.00 | - | NICKEL | |
| | SODIUM | - | 62 | 75.00-125.00 | 27 (20.00) | SODIUM | |
| | TIN | - | 67 | 75.00-125.00 | - | TIN | |
| | VANADIUM | - | 72 | 75.00-125.00 | - | VANADIUM | |
| | ZINC | - | 63 | 75.00-125.00 | - | ZINC | |
| | Zirconium | - | 60 | 75.00-125.00 | 25 (20.00) | Zirconium | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PH057_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------------|----------|------------|------------------------------|-----------------|-----------------------|----------------|
| SL-852-SA5A-SB-0.0-0.5MSD (TOT) (SL-1252-SA5A-SB-0.0-0.5 SL-850-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5) | SILVER STRONTIUM | - | 129 173 | 75.00-125.00 75.00-125.00 | - - | SILVER STRONTIUM | J(all detects) |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|--------------------------------|----------------|-------------------------|------------------------------|
| SL-852-SA5A-SB-0.0-0.5DUP (TOT) (SL-1252-SA5A-SB-0.0-0.5 SL-850-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5) | MOLYBDENUM TIN Zirconium | 59 26 36 | 20.00 20.00 20.00 | No Qual, OK by Difference |

Method: 6020A
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|---------|------------|-----------|------------------------------|
| SL-852-SA5A-SB-0.0-0.5DUP (TOT) (SL-1252-SA5A-SB-0.0-0.5 SL-850-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5) | SILVER | 24 | 20.00 | No Qual, OK by Difference |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

Method: 160.3M
Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-852-SA5A-SB-0.0-0.5 | SL-1252-SA5A-SB-0.0-0.5 | | | |
| MOISTURE | 0.67 | 0.74 | 10 | | No Qualifiers Applied |

Method: 1613B
Matrix: SO

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-852-SA5A-SB-0.0-0.5 | SL-1252-SA5A-SB-0.0-0.5 | | | |
| 1,2,3,4,6,7,8-HPCDD | 8.64 | 5.88 | 38 | 50.00 | No Qualifiers Applied |
| 1,2,3,4,6,7,8-HPCDF | 1.25 | 0.891 | 34 | 50.00 | |
| 1,2,3,4,7,8,9-HPCDF | 0.121 | 0.134 | 10 | 50.00 | |
| 1,2,3,4,7,8-HxCDD | 0.141 | 0.139 | 1 | 50.00 | |
| 1,2,3,4,7,8-HxCDF | 0.105 | 0.131 | 22 | 50.00 | |
| 1,2,3,6,7,8-HxCDD | 0.539 | 0.447 | 19 | 50.00 | |
| 1,2,3,6,7,8-HxCDF | 0.117 | 0.196 | 50 | 50.00 | |
| 1,2,3,7,8,9-HxCDD | 0.581 | 0.514 | 12 | 50.00 | |
| 1,2,3,7,8,9-HxCDF | 0.260 | 0.279 | 7 | 50.00 | |
| 1,2,3,7,8-PECDD | 0.123 | 0.187 | 41 | 50.00 | |
| 1,2,3,7,8-PECDF | 0.355 | 0.300 | 17 | 50.00 | |
| 2,3,4,6,7,8-HxCDF | 0.144 | 0.182 | 23 | 50.00 | |
| 2,3,4,7,8-PECDF | 0.209 | 0.149 | 34 | 50.00 | |
| OCDD | 131 | 88.1 | 39 | 50.00 | |
| 2,3,7,8-TCDF | 0.137 | 0.0575 | 82 | 50.00 | |
| OCDF | 3.64 | 2.05 | 56 | 50.00 | |

Method: 6010C
Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-852-SA5A-SB-0.0-0.5 (TOT) | SL-1252-SA5A-SB-0.0-0.5 (TOT) | | | |
| ALUMINUM | 14200 | 16000 | 12 | 50.00 | No Qualifiers Applied |
| ARSENIC | 1.99 | 2.86 | 36 | 50.00 | |
| BARIUM | 89.2 | 107 | 18 | 50.00 | |
| BERYLLIUM | 0.487 | 0.591 | 19 | 50.00 | |
| BORON | 4.14 | 4.03 | 3 | 50.00 | |
| CALCIUM | 2240 | 2560 | 13 | 50.00 | |
| CHROMIUM | 19.0 | 22.4 | 16 | 50.00 | |
| COBALT | 4.41 | 5.64 | 24 | 50.00 | |
| COPPER | 9.27 | 11.0 | 17 | 50.00 | |
| IRON | 18000 | 21800 | 19 | 50.00 | |
| LEAD | 7.29 | 8.94 | 20 | 50.00 | |
| LITHIUM | 19.6 | 21.8 | 11 | 50.00 | |
| MAGNESIUM | 3800 | 4390 | 14 | 50.00 | |
| MANGANESE | 275 | 337 | 20 | 50.00 | |
| NICKEL | 11.1 | 13.4 | 19 | 50.00 | |
| PHOSPHORUS | 337 | 423 | 23 | 50.00 | |
| POTASSIUM | 3510 | 3890 | 10 | 50.00 | |
| SODIUM | 75.7 | 82.5 | 9 | 50.00 | |
| TIN | 2.35 | 2.68 | 13 | 50.00 | |
| TITANIUM | 1100 | 1160 | 5 | 50.00 | |
| VANADIUM | 31.2 | 38.5 | 21 | 50.00 | |
| ZINC | 49.7 | 60.4 | 19 | 50.00 | |
| Zirconium | 1.42 | 0.997 | 35 | 50.00 | |
| MOLYBDENUM | 0.782 | 0.454 | 53 | 50.00 | J(all detects) |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Field Duplicate RPD Report

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PrepPH057

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-852-SA5A-SB-0.0-0.5 (TOT) | SL-1252-SA5A-SB-0.0-0.5 (TOT) | | | |
| SELENIUM | 0.164 | 0.170 | 4 | 50.00 | No Qualifiers Applied |
| SILVER | 0.0583 | 0.0607 | 4 | 50.00 | |
| STRONTIUM | 25.3 | 29.9 | 17 | 50.00 | |
| THALLIUM | 0.337 | 0.319 | 5 | 50.00 | |

Method: 8015M
Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-852-SA5A-SB-0.0-0.5 | SL-1252-SA5A-SB-0.0-0.5 | | | |
| EFH (C21-C30) | 8.1 | 7.6 | 6 | 50.00 | No Qualifiers Applied |
| EFH (C30-C40) | 22 | 21 | 5 | 50.00 | |

Method: 8270D SIM
Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-852-SA5A-SB-0.0-0.5 | SL-1252-SA5A-SB-0.0-0.5 | | | |
| BENZO(B)FLUORANTHENE | 3.4 | 2.4 | 34 | 50.00 | No Qualifiers Applied |
| BENZO(K)FLUORANTHENE | 1.0 | 0.74 | 30 | 50.00 | |
| BIS(2-ETHYLHEXYL)PHTHALATE | 7.1 | 11 | 43 | 50.00 | |
| BENZO(A)ANTHRACENE | 1.2 | 1.7 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| BENZO(A)PYRENE | 1.4 | 0.78 | 57 | 50.00 | |
| BENZO(G,H,I)PERYLENE | 0.72 | 1.7 U | 200 | 50.00 | |
| Butylbenzylphthalate | 18 U | 6.2 | 200 | 50.00 | |
| CHRYSENE | 2.4 | 1.0 | 82 | 50.00 | |
| FLUORANTHENE | 3.1 | 1.2 | 88 | 50.00 | |
| INDENO(1,2,3-CD)PYRENE | 0.80 | 1.7 U | 200 | 50.00 | |
| PHENANTHRENE | 1.8 | 0.67 | 91 | 50.00 | |
| PYRENE | 2.6 | 1.1 | 81 | 50.00 | |

Method: 9045M
Matrix: SO

| Analyte | Concentration (pH unit) | | Sample RPD | eQAPP RPD | Flag |
|---------|-------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-852-SA5A-SB-0.0-0.5 | SL-1252-SA5A-SB-0.0-0.5 | | | |
| PH | 6.20 | 6.03 | 3 | 50.00 | No Qualifiers Applied |

Reporting Limit Outliers

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PH057_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|------------------------|---------------------|--------|-----------------|---------|-------|-----------------|
| SL-1252-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 0.891 | 4.97 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.134 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.139 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.131 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 0.447 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.196 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.514 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.279 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.187 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.300 | 4.97 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.182 | 4.97 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.149 | 4.97 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0575 | 0.995 | PQL | ng/Kg | |
| | OCDF | JB | 2.05 | 9.95 | PQL | ng/Kg | |
| SL-850-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.63 | 5.02 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.190 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.152 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.0916 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 0.296 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.130 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.365 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.141 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0798 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0846 | 5.02 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0875 | 5.02 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0683 | 5.02 | PQL | ng/Kg | |
| | OCDF | JB | 7.65 | 10.0 | PQL | ng/Kg | |
| | SL-852-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.25 | 4.99 | PQL | |
| 1,2,3,4,7,8,9-HPCDF | | JB | 0.121 | 4.99 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HxCDD | | JBQ | 0.141 | 4.99 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HXCDF | | JBQ | 0.105 | 4.99 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HXCDD | | JB | 0.539 | 4.99 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HXCDF | | JBQ | 0.117 | 4.99 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HXCDD | | JB | 0.581 | 4.99 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HXCDF | | JBQ | 0.260 | 4.99 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDD | | JBQ | 0.123 | 4.99 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDF | | JBQ | 0.355 | 4.99 | PQL | ng/Kg | |
| 2,3,4,6,7,8-HXCDF | | JBQ | 0.144 | 4.99 | PQL | ng/Kg | |
| 2,3,4,7,8-PECDF | | JBQ | 0.209 | 4.99 | PQL | ng/Kg | |
| 2,3,7,8-TCDF | | JB | 0.137 | 0.998 | PQL | ng/Kg | |
| OCDF | | JB | 3.64 | 9.98 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PH057_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-852-SA5A-SB-4.5-5.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.737 | 5.40 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.143 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0340 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.0581 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0481 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.0916 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.0579 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.0984 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.0453 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.130 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.123 | 5.40 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0438 | 5.40 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.0843 | 5.40 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0310 | 1.08 | PQL | ng/Kg | |
| | OCDD | JB | 10.6 | 10.8 | PQL | ng/Kg | |
| OCDF | JBQ | 0.182 | 10.8 | PQL | ng/Kg | | |
| SL-869-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.356 | 4.94 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.102 | 4.94 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0313 | 4.94 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.0382 | 4.94 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.148 | 4.94 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.0523 | 4.94 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.224 | 4.94 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.207 | 4.94 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0618 | 4.94 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0957 | 4.94 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0494 | 4.94 | PQL | ng/Kg | |
| | OCDD | JB | 4.42 | 9.89 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.167 | 9.89 | PQL | ng/Kg | |
| SL-870-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.52 | 5.08 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.165 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JB | 0.102 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.568 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.179 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.653 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.253 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.170 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.248 | 5.08 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 0.169 | 5.08 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.160 | 5.08 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0604 | 1.02 | PQL | ng/Kg | |
| OCDF | JB | 5.52 | 10.2 | PQL | ng/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PH057_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1252-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.86 | 3.87 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.591 | 0.969 | PQL | mg/Kg | |
| | BORON | J | 4.03 | 9.69 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.454 | 1.94 | PQL | mg/Kg | |
| | SODIUM | J | 82.5 | 96.9 | PQL | mg/Kg | |
| | TIN | J | 2.68 | 9.69 | PQL | mg/Kg | |
| | Zirconium | J | 0.997 | 4.84 | PQL | mg/Kg | |
| SL-850-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.68 | 3.95 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.648 | 0.988 | PQL | mg/Kg | |
| | BORON | J | 4.22 | 9.88 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.513 | 1.98 | PQL | mg/Kg | |
| | TIN | J | 2.47 | 9.88 | PQL | mg/Kg | |
| | Zirconium | J | 1.70 | 4.94 | PQL | mg/Kg | |
| SL-852-SA5A-SB-0.0-0.5 | ARSENIC | J | 1.99 | 3.99 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.487 | 0.997 | PQL | mg/Kg | |
| | BORON | J | 4.14 | 9.97 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.782 | 1.99 | PQL | mg/Kg | |
| | SODIUM | J | 75.7 | 99.7 | PQL | mg/Kg | |
| | TIN | J | 2.35 | 9.97 | PQL | mg/Kg | |
| | Zirconium | J | 1.42 | 4.98 | PQL | mg/Kg | |
| SL-852-SA5A-SB-4.5-5.5 | ARSENIC | J | 3.64 | 4.30 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.727 | 1.07 | PQL | mg/Kg | |
| | BORON | J | 3.38 | 10.7 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.489 | 2.15 | PQL | mg/Kg | |
| | SODIUM | J | 103 | 107 | PQL | mg/Kg | |
| | TIN | J | 2.61 | 10.7 | PQL | mg/Kg | |
| | Zirconium | J | 1.46 | 5.37 | PQL | mg/Kg | |
| SL-869-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.96 | 3.98 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.581 | 0.995 | PQL | mg/Kg | |
| | BORON | J | 3.62 | 9.95 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.492 | 1.99 | PQL | mg/Kg | |
| | SODIUM | J | 80.5 | 99.5 | PQL | mg/Kg | |
| | TIN | J | 2.53 | 9.95 | PQL | mg/Kg | |
| | Zirconium | J | 1.40 | 4.97 | PQL | mg/Kg | |
| SL-870-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.20 | 3.95 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.501 | 0.989 | PQL | mg/Kg | |
| | BORON | J | 3.86 | 9.89 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.448 | 1.98 | PQL | mg/Kg | |
| | SODIUM | J | 81.5 | 98.9 | PQL | mg/Kg | |
| | TIN | J | 2.41 | 9.89 | PQL | mg/Kg | |
| | Zirconium | J | 0.901 | 4.94 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1252-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.170 | 0.387 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0607 | 0.194 | PQL | mg/Kg | |
| SL-850-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.134 | 0.395 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0417 | 0.198 | PQL | mg/Kg | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Reporting Limit Outliers

Lab Reporting Batch ID: PH057

Laboratory: LL

EDD Filename: PH057_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-852-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.164 | 0.399 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0583 | 0.199 | PQL | mg/Kg | |
| SL-852-SA5A-SB-4.5-5.5 | SELENIUM | J | 0.133 | 0.430 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0492 | 0.215 | PQL | mg/Kg | |
| SL-869-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.147 | 0.398 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0361 | 0.199 | PQL | mg/Kg | |
| SL-870-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.154 | 0.395 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0600 | 0.198 | PQL | mg/Kg | |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1252-SA5A-SB-0.0-0.5 | BENZO(A)PYRENE | J | 0.78 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(K)FLUORANTHENE | J | 0.74 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 11 | 18 | PQL | ug/Kg | |
| | Butylbenzylphthalate | J | 6.2 | 18 | PQL | ug/Kg | |
| | CHRYSENE | J | 1.0 | 1.7 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.67 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| SL-850-SA5A-SB-0.0-0.5 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 7.9 | 18 | PQL | ug/Kg | J (all detects) |
| | Di-n-octylphthalate | J | 8.9 | 18 | PQL | ug/Kg | |
| SL-852-SA5A-SB-0.0-0.5 | BENZO(A)ANTHRACENE | J | 1.2 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)PYRENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 0.72 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 1.0 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 7.1 | 18 | PQL | ug/Kg | |
| | INDENO(1,2,3-CD)PYRENE | J | 0.80 | 1.7 | PQL | ug/Kg | |
| SL-852-SA5A-SB-4.5-5.5 | 1-METHYLNAPHTHALENE | J | 1.2 | 1.8 | PQL | ug/Kg | J (all detects) |
| | 2-METHYLNAPHTHALENE | J | 0.74 | 1.8 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 16 | 19 | PQL | ug/Kg | |
| SL-869-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 0.70 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 7.3 | 18 | PQL | ug/Kg | |
| SL-870-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 1.5 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 6.5 | 18 | PQL | ug/Kg | |
| | CHRYSENE | J | 0.74 | 1.7 | PQL | ug/Kg | |
| | Di-n-octylphthalate | J | 16 | 18 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 0.78 | 1.7 | PQL | ug/Kg | |

Enclosure II

Level IV Validation Reports

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 14, 2013
LDC Report Date: August 8, 2013
Matrix: Soil
Parameters: Polynuclear Aromatic Hydrocarbons
Validation Level: Level IV
Laboratory: Eurofins
Sample Delivery Group (SDG): PH057

Sample Identification

SL-850-SA5A-SB-0.0-0.5
SL-869-SA5A-SB-0.0-0.5
SL-870-SA5A-SB-0.0-0.5
SL-852-SA5A-SB-0.0-0.5
SL-1252-SA5A-SB-0.0-0.5
SL-852-SA5A-SB-4.5-5.5
SL-852-SA5A-SB-0.0-0.5MS
SL-852-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 8 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Polynuclear Aromatic Hydrocarbons.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 30.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 25.0% for all compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polynuclear aromatic hydrocarbon contaminants were found in the method.

Samples EB1-061213 and EB2-061213 (from SDG PH055) were identified as equipment blanks. No polynuclear aromatic hydrocarbon contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|------------|---------------|--|---|---|
| EB1-061213 | 6/12/13 | Benzo(g,h,i)perylene Di-n-butylphthalate Diethylphthalate Bis(2-ethylhexyl)phthalate Naphthalene | 0.014 ug/L 0.11 ug/L 0.12 ug/L 0.11 ug/L 0.056 ug/L | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 |
| EB2-061213 | 6/12/13 | Di-n-butylphthalate Diethylphthalate Bis(2-ethylhexyl)phthalate Naphthalene | 0.13 ug/L 0.13 ug/L 0.98 ug/L 0.054 ug/L | SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 |

Sample FB-041113 (from SDG PH029) were identified as equipment blanks. No polynuclear aromatic hydrocarbon contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|-----------|---------------|--|---|--------------------------|
| FB-041113 | 4/11/13 | Diethylphthalate Di-n-butylphthalate 1-Methylnaphthalene Naphthalene 2-Methylnaphthalene | 0.18 ug/L 0.17 ug/L 0.019 ug/L 0.17 ug/L 0.024 ug/L | All samples in SDG PH057 |

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

| Sample | Compound | Reported Concentration | Modified Final Concentration |
|------------------------|----------------------------|------------------------|------------------------------|
| SL-852-SA5A-SB-0.0-0.5 | Bis(2-ethylhexyl)phthalate | 7.1 ug/Kg | 18U ug/Kg |

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation

All compound quantitation were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|---------------|
| All samples in SDG PH057 | All compounds reported below the RL. | J (all detects) | A |

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SL-852-SA5A-SB-0.0-0.5 and SL-1252-SA5A-SB-0.0-0.5 were identified as field duplicates. No polynuclear aromatic hydrocarbons were detected in any of the samples with the following exceptions:

| Compound | Concentration (ug/Kg) | | RPD (Limits) | Flag | A or P |
|----------------------------|------------------------|-------------------------|-----------------|---|--------|
| | SL-852-SA5A-SB-0.0-0.5 | SL-1252-SA5A-SB-0.0-0.5 | | | |
| Benzo(b)fluoranthene | 2.3 | 2.4 | 4 (≤50) | - | - |
| Bis(2-ethylhexyl)phthalate | 7.9 | 11 | 33 (≤50) | - | - |
| Di-n-octylphthalate | 8.9 | 18U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Benzo(a)pyrene | 1.7U | 0.78 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Benzo(k)fluoranthene | 1.7U | 0.74 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Butylbenzylphthalate | 18U | 6.2 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Chrysene | 1.7U | 1.0 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Fluoranthene | 1.7U | 1.2 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Phenanthrene | 1.7U | 0.67 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Pyrene | 1.7U | 1.1 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Benzo(a)anthracene | 1.2 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |

**Santa Susana Field Laboratory
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG PH057**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|---|---|---|--------|-----------------------------|
| PH057 | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |
| PH057 | SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 | Di-n-octylphthalate Benzo(a)pyrene Benzo(k)fluoranthene Butylbenzylphthalate Chrysene Fluoranthene Phenanthrene Pyrene Benzo(a)anthracene | J (all detects) UJ (all non-detects) | A | Field duplicates (RPD) (FD) |

**Santa Susana Field Laboratory
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG PH057**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG PH057**

| SDG | Sample | Compound | Modified Final Concentration | A or P | Code |
|-------|------------------------|----------------------------|------------------------------|--------|------|
| PH057 | SL-852-SA5A-SB-0.0-0.5 | Bis(2-ethylhexyl)phthalate | 18U ug/Kg | A | F |

LDC #: 30037J2b

VALIDATION COMPLETENESS WORKSHEET

SDG #: PH057

Level IV

Laboratory: Eurofins Lancaster Laboratories

Date: 7/22/13

Page: 1 of 1

Reviewer: P

2nd Reviewer: C

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270C-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--|
| I. | Technical holding times | Δ | Sampling dates: 6/23/13 SM |
| II. | GC/MS Instrument performance check | Δ | |
| III. | Initial calibration | Δ | % PSD = 30, r ² |
| IV. | Continuing calibration/ICV | A | ICV/CCV = 20 25 |
| V. | Blanks | Δ | ↑ |
| VI. | Surrogate spikes | A | |
| VII. | Matrix spike/Matrix spike duplicates | Δ | |
| VIII. | Laboratory control samples | A | LCS |
| IX. | Regional Quality Assurance and Quality Control | N | |
| X. | Internal standards | Δ | |
| XI. | Target compound identification | Δ | |
| XII. | Compound quantitation/RL/LOQ/LODs | Δ | |
| XIII. | Tentatively identified compounds (TICs) | N | |
| XIV. | System performance | Δ | |
| XV. | Overall assessment of data | Δ | |
| XVI. | Field duplicates | SW | D = 4+5 |
| XVII. | Field blanks | SW | EB = EB1-061213 } SDG# PH057 EB2-061213 |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

FB = 041113
(PH029)

Validated Samples:

soil

| | | | | | |
|----|---------------------------|----|-----------|----|----|
| 1 | SL-850-SA5A-SB-0.0-0.5 | 11 | SBLKLD170 | 21 | 31 |
| 2 | SL-869-SA5A-SB-0.0-0.5 | 12 | | 22 | 32 |
| 3 | SL-870-SA5A-SB-0.0-0.5 | 13 | | 23 | 33 |
| 4 | SL-852-SA5A-SB-0.0-0.5 | 14 | | 24 | 34 |
| 5 | SL-1252-SA5A-SB-0.0-0.5 | 15 | | 25 | 35 |
| 6 | SL-852-SA5A-SB-4.5-5.5 | 16 | | 26 | 36 |
| 7 | SL-852-SA5A-SB-0.0-0.5MS | 17 | | 27 | 37 |
| 8 | SL-852-SA5A-SB-0.0-0.5MSD | 18 | | 28 | 38 |
| 9 | | 19 | | 29 | 39 |
| 10 | | 20 | | 30 | 40 |

Method: Semivolatiles (EPA SW 846 Method 8270C)

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Cooler temperature criteria was met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| II. GC/MS Instrument performance check | | | | |
| Were the DFTPP performance results reviewed and found to be within the specified criteria? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all samples analyzed within the 12 hour clock criteria? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| III. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a curve fit used for evaluation? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990 ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent relative standard deviations (%RSD) $\leq 30\%/15\%$ and relative response factors (RRF) > 0.05 ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IV. Continuing calibration | | | | |
| Was a continuing calibration standard analyzed at least once every 12 hours for each instrument? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent differences (%D) $\leq 20\%$ and relative response factors (RRF) ≥ 0.05 ? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a method blank analyzed for each matrix and concentration? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| VII. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|--------------------------|-------------------------------------|-------------------|
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the performance evaluation (PE) samples within the acceptance limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| X. Internal standards | | | | |
| Were internal standard area counts within -50% or +100% of the associated calibration standard? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were retention times within + 30 seconds from the associated calibration standard? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XI. Target compound identification | | | | |
| Were relative retention times (RRT's) within + 0.06 RRT units of the standard? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Did compound spectra meet specified EPA "Functional Guidelines" criteria? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were chromatogram peaks verified and accounted for? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XII. Compound quantitation/CRQLs | | | | |
| Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XIII. Tentatively identified compounds (TICs) | | | | |
| Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were relative intensities of the major ions within ± 20% between the sample and the reference spectra? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| XIV. System performance | | | | |
| System performance was found to be acceptable. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XV. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XVI. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Target compounds were detected in the field duplicates. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XVII. Field blanks | | | | |
| Field blanks were identified in this SDG. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Target compounds were detected in the field blanks. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

| | | | | |
|---------------------------------|------------------------------|---------------------------------|----------------------------------|---------------------------------|
| A. Phenol | T. 4-Chloroaniline | MM. 4-Chlorophenyl-phenyl ether | FFF. Di-n-octylphthalate | YYY. 2,3,5-Trimethylnaphthalene |
| B. Bis (2-chloroethyl) ether | U. Hexachlorobutadiene | NN. Fluorene | GGG. Benzo(b)fluoranthene | ZZZ. Perylene |
| C. 2-Chlorophenol | V. 4-Chloro-3-methylphenol | OO. 4-Nitroaniline | HHH. Benzo(k)fluoranthene | AAAA. Dibenzothiophene |
| D. 1,3-Dichlorobenzene | W. 2-Methylnaphthalene | PP. 4,6-Dinitro-2-methylphenol | III. Benzo(a)pyrene | BBBB. Benzo(a)fluoranthene |
| E. 1,4-Dichlorobenzene | X. Hexachlorocyclopentadiene | QQ. N-Nitrosodiphenylamine | JJJ. Indeno(1,2,3-cd)pyrene | CCCC. Benzo(b)fluorene |
| F. 1,2-Dichlorobenzene | Y. 2,4,6-Trichlorophenol | RR. 4-Bromophenyl-phenylether | KKK. Dibenz(a,h)anthracene | DDDD. cis/trans-Decalin |
| G. 2-Methylphenol | Z. 2,4,5-Trichlorophenol | SS. Hexachlorobenzene | LLL. Benzo(g,h,i)perylene | EEEE. Biphenyl |
| H. 2,2'-Oxybis(1-chloropropane) | AA. 2-Chloronaphthalene | TT. Pentachlorophenol | MMM. Bis(2-Chloroisopropyl)ether | FFFF. Retene |
| I. 4-Methylphenol | BB. 2-Nitroaniline | UU. Phenanthrene | NNN. Aniline | GGGG. C30-Hopane |
| J. N-Nitroso-di-n-propylamine | CC. Dimethylphthalate | VV. Anthracene | OOO. N-Nitrosodimethylamine | HHHH. 1-Methylphenanthrene |
| K. Hexachloroethane | DD. Acenaphthylene | WW. Carbazole | PPP. Benzoic Acid | IIII. 1,4-Dioxane |
| L. Nitrobenzene | EE. 2,6-Dinitrotoluene | XX. Di-n-butylphthalate | QQQ. Benzyl alcohol | JJJJ. Acetophenone |
| M. Isophorone | FF. 3-Nitroaniline | YY. Fluoranthene | RRR. Pyridine | KKKK. Atrazine |
| N. 2-Nitrophenol | GG. Acenaphthene | ZZ. Pyrene | SSS. Benzidine | LLLL. Benzaldehyde |
| O. 2,4-Dimethylphenol | HH. 2,4-Dinitrophenol | AAA. Butylbenzylphthalate | TTT. 1-Methylnaphthalene | MMMM. Caprolactam |
| P. Bis(2-chloroethoxy)methane | II. 4-Nitrophenol | BBB. 3,3'-Dichlorobenzidine | UUU. Benzo(b)thiophene | NNNN. |
| Q. 2,4-Dichlorophenol | JJ. Dibenzofuran | CCC. Benzo(a)anthracene | VVV. Benzonaphthothiophene | OOOO. |
| R. 1,2,4-Trichlorobenzene | KK. 2,4-Dinitrotoluene | DDD. Chrysene | WWW. Benzo(e)pyrene | PPPP. |
| S. Naphthalene | LL. Diethylphthalate | EEE. Bis(2-ethylhexyl)phthalate | XXX. 2,6-Dimethylnaphthalene | QQQQ. |

LDC #: 30037J26

VALIDATION FINDINGS WORKSHEET Field Blanks

Page: 1 of 1

Reviewer: FT

2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N/N/A Were field blanks identified in this SDG?

Y N/N/A Were target compounds detected in the field blanks?

Blank units: ug/l Associated sample units: ug/kg

Sampling date: 6/12/13

Field blank type: (circle one) Field Blank / Rinsate / Other:

Associated Samples: All

code = F

EB₁ = EB1-061213 1-73

EB₂ = EB2-061213 4-6

| Compound | Blank ID | Sample Identification | | | | | | |
|----------|----------|-----------------------|--------------------|--------------------|--------------------|---------|---|------|
| | | EB1 | EB2 | 1 | 2 | 3 | 4 | 5 F7 |
| LLL | 0.014 | - | | | | | | |
| XX | 0.11 | 0.13 | | | | | | |
| LL | 0.12 | 0.13 | | F7 | | | | |
| EEE | 0.11 | 0.98 | 7.9/184 | 7.3/184 | 6.5/184 | 7.1/184 | | |
| S | 0.056 | 0.054 | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Blank units: Associated sample units:

Sampling date:

Field blank type: (circle one) Field Blank / Rinsate / Other:

Associated Samples:

| Compound | Blank ID | Sample Identification | | | | | | |
|----------|----------|-----------------------|--|--|--|--|--|--|
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CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 300372b

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1

Reviewer: FT

2nd Reviewer: ←

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

FB = FB-041113

Blank units: ug/l Associated sample units: ug/kg

Sampling date: 4/11/13

Field blank type: (circle one) Field Blank / Rinsate / Other: FB Associated Samples: All

| Compound | Blank ID | Sample Identification | | | | | | | |
|------------|--------------|-----------------------|--|--|--|--|--|--|--|
| | <u>FB</u> | <u>gx</u> | | | | | | | |
| <u>LL</u> | <u>0.18</u> | <u>0.90</u> | | | | | | | |
| <u>XX</u> | <u>0.17</u> | <u>0.85</u> | | | | | | | |
| <u>TTT</u> | <u>0.019</u> | <u>0.095</u> | | | | | | | |
| <u>S</u> | <u>0.17</u> | <u>0.85</u> | | | | | | | |
| <u>W</u> | <u>0.024</u> | <u>0.12</u> | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Blank units: _____ Associated sample units: _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

| Compound | Blank ID | Sample Identification | | | | | | | |
|----------|----------|-----------------------|--|--|--|--|--|--|--|
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CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were field duplicate pairs identified in this SDG?
 Y N N/A Were target compounds identified in the field duplicate pairs?

Fd

| Compound | Concentration (<u>ug/kg</u>) | | ≤ 50 RPD |
|------------------------|--------------------------------|------|-------------|
| | 4 | 5 | |
| GGG | 2.3 | 2.4 | 4 |
| EEE | 7.9 | 11 | 33 |
| FFF | 8.9 | 18 u | 200 ↓/N/A |
| P Z Z Z III | 1.74 | 0.78 | ↓ ↓ |
| HHH | 1.74 | 0.74 | ↓ ↓ |

| Compound | Concentration (<u>ug/kg</u>) | | ≤ 50 RPD |
|----------|--------------------------------|------|-------------|
| | 4 | 5 | |
| AAA | 18 u | 6.2 | 200 ↓/N/A |
| DDD | 1.74 | 1.0 | 200 |
| YY | 1.74 | 1.2 | ↓ ↓ |
| UU | 1.74 | 0.67 | ↓ ↓ |
| ZZ | 1.74 | 1.1 | ↓ ↓ |

| Compound | Concentration (<u>ug/kg</u>) | | RPD |
|----------|--------------------------------|-------|-----------|
| | 4 | 5 | |
| CCC | 1.2 | 1.7 u | 200 ↓/N/A |
| | | | |
| | | | |
| | | | |

| Compound | Concentration (_____) | | RPD |
|----------|-------------------------|--|-----|
| | | | |
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VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of compound,

C_x = Concentration of compound,

S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

X = Mean of the RRFs

| # | Standard ID | Calibration Date | Compound (Reference Internal Standard) | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|--|-----------|--------------|-----------------------|-----------------------|----------|--------------|
| | | | | RRF (std) | RRF (std) | Average RRF (initial) | Average RRF (initial) | %RSD | %RSD |
| 1 | ICAL | 6/20/13 | N-Nitrosodimethylamine (1st internal standard) | 0.892 | 0.892 | 0.924 | 0.924 | 9 | 9 |
| | | | Naphthalene (2nd internal standard) | 1.047 | 1.047 | 1.085 | 1.085 | 6 | 6 |
| | | | Acenaphthene (3rd internal standard) | 1.156 | 1.156 | 1.227 | 1.227 | 9 | 9 |
| | | | Fluoranthene (4th internal standard) | 1.233 | 1.233 | 1.280 | 1.280 | 15 | 15 |
| | | | Chrysene (5th internal standard) | 1.403 | 1.403 | 1.414 | 1.414 | 6 | 6 |
| | | | Benzo(a)pyrene (6th internal standard) | 1.251 | 1.251 | 1.243 | 1.243 | 11 | 11 |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
 RRF = (A_x)(C_{is})/(A_{is})(C_x)

Where: ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 A_x = Area of compound, A_{is} = Area of associated internal standard
 C_x = Concentration of compound, C_{is} = Concentration of internal standard

| # | Standard ID | Calibration Date | Compound (Reference Internal Standard) | Average RRF (initial) | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|--|-----------------------|----------|--------------|----------|--------------|
| | | | | | RRF (CC) | RRF (CC) | %Diff | %D |
| 1 | CCV 9:13 | 6/23/13 | N-Nitrosodimethylamine (1st internal standard) | 0.924 | 0.840 | 0.840 | 9 | 9.1 |
| | | | Naphthalene (2nd internal standard) | 1.085 | 1.039 | 1.039 | 4 | 4.2 |
| | | | Acenaphthene (3rd internal standard) | 1.227 | 1.143 | 1.143 | 7 | 6.8 |
| | | | Fluoranthene (4th internal standard) | 1.280 | 1.249 | 1.249 | 2 | 2.4 |
| | | | Chrysene (5th internal standard) | 1.414 | 1.292 | 1.292 | 9 | 8.6 |
| | | | Benzo(a)pyrene (6th internal standard) | 1.243 | 1.200 | 1.200 | 3 | 3.4 |
| 2 | | | (1st internal standard) | | | | | |
| | | | (2nd internal standard) | | | | | |
| | | | (3rd internal standard) | | | | | |
| | | | (4th internal standard) | | | | | |
| | | | (5th internal standard) | | | | | |
| | | | (6th internal standard) | | | | | |
| 3 | | | (2nd internal standard) | | | | | |
| | | | (3rd internal standard) | | | | | |
| | | | (4th internal standard) | | | | | |
| | | | (5th internal standard) | | | | | |
| | | | (6th internal standard) | | | | | |
| | | | | | | | | |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: #1

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|------------------------|------------------------|-----------------|---------------------------|-------------------------------|--------------------|
| Nitrobenzene-d5 | Fluoranthene d10 1.0 | 0.726 | 73 | 73 | 0 |
| 2-Fluorobiphenyl | Benzo(a)pyrene ↓ | 0.803 | 80 | 80 | ↓ |
| Terphenyl-d74 | 1-Methyl naphthalene ↓ | 0.824 | 82 | 82 | ↓ |
| Phenol-d5 | | | | | |
| 2-Fluorophenol | | | | | |
| 2,4,6-Tribromophenol | | | | | |
| 2-Chlorophenol-d4 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | |

Sample ID:

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|------------------------|------------------|-----------------|---------------------------|-------------------------------|--------------------|
| Nitrobenzene-d5 | | | | | |
| 2-Fluorobiphenyl | | | | | |
| Terphenyl-d14 | | | | | |
| Phenol-d5 | | | | | |
| 2-Fluorophenol | | | | | |
| 2,4,6-Tribromophenol | | | | | |
| 2-Chlorophenol-d4 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | |

Sample ID:

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|------------------------|------------------|-----------------|---------------------------|-------------------------------|--------------------|
| Nitrobenzene-d5 | | | | | |
| 2-Fluorobiphenyl | | | | | |
| Terphenyl-d14 | | | | | |
| Phenol-d5 | | | | | |
| 2-Fluorophenol | | | | | |
| 2,4,6-Tribromophenol | | | | | |
| 2-Chlorophenol-d4 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | |

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

RPD = |MSC - MSC| * 2 / (MSC + MSC)

MSC = Matrix spike concentration

MSC = Matrix spike duplicate concentration

MS/MSD samples: 7 + 8

| Compound | Spike Added (ug/kg) | | Sample Concentration (ug/kg) | Spiked Sample Concentration (ug/kg) | | Matrix Spike | | Matrix Spike Duplicate | | MS/MSD | |
|----------------------------|---------------------|-------|------------------------------|-------------------------------------|-------|------------------|--------|------------------------|--------|----------|--------------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc | Reported | Recalc | Reported | Recalculated |
| Phenol | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | | | | | | | | | | | |
| Acenaphthene | 32.79 | 32.79 | ND | 27.04 | 26.29 | 82 | 82 | 80 | 80 | 3 | 3 |
| Pentachlorophenol | | | | | | | | | | | |
| Pyrene | 32.79 | 32.79 | 2.63 | 27.74 | 33.32 | 77 | 77 | 94 | 94 | 18 | 18 |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30037026

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1

Reviewer: FT

2nd Reviewer: [Signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA)

Where: SSC = Spike concentration

SA = Spike added

RPD = | LCSC - LCSDC | * 2 / (LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170L0LCS

| Compound | Spike Added (ug/kg) | | Spike Concentration (ug/kg) | | LCS | | LCSD | | LCS/LCSD | |
|----------------------------|------------------------|------|--------------------------------|------|------------------|---------|------------------|---------|----------|--------------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalculated |
| Phenol | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | | | | | | | | | | |
| 4-Chloro-3-methylphenol | | | | | | | | | | |
| Acenaphthene | 33.33 | NA | 33.44 | NA | 100 | 100 | | | | |
| Pentachlorophenol | | | | | | | | | | |
| Pyrene | 33.33 | NA | 31.8 | NA | 95 | 95 | NA | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?
 Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(V_i)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_t)(\%S)}$$

- A_x = Area of the characteristic ion (EICP) for the compound to be measured
- A_{is} = Area of the characteristic ion (EICP) for the specific internal standard
- I_s = Amount of internal standard added in nanograms (ng)
- V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).
- V_i = Volume of extract injected in microliters (ul)
- V_t = Volume of the concentrated extract in microliters (ul)
- Df = Dilution Factor.
- %S = Percent solids, applicable to soil and solid matrices only.
- 2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. #1, Benz(a,b) fluoranthene

$$\text{Conc.} = \frac{(18223) \times (1.0) \times (1.0) \times (1000)}{213076 \times 1.263 \times 30.5 \times 0.98}$$

= 2.26 ug/kg

| # | Sample ID | Compound | Reported Concentration () | Calculated Concentration () | Qualification |
|---|-----------|----------|----------------------------|------------------------------|---------------|
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Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 14, 2013
LDC Report Date: August 8, 2013
Matrix: Soil
Parameters: Polychlorinated Biphenyls
Validation Level: Level IV
Laboratory: Eurofins
Sample Delivery Group (SDG): PH057

Sample Identification

SL-852-SA5A-SB-0.0-0.5
SL-1252-SA5A-SB-0.0-0.5
SL-852-SA5A-SB-4.5-5.5
SL-852-SA5A-SB-0.0-0.5MS
SL-852-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 5 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082A for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory, Area IV, Site SA7 (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits with the following exceptions:

| Date | Standard | Column | Compound | %D | Associated Samples | Affected Compound | Flag | A or P |
|---------|----------|-----------|--------------|----|---|-------------------|---|--------|
| 6/22/13 | A4423ZQ | ZBMultiR1 | Aroclor-5442 | 25 | SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5MS SL-852-SA5A-SB-0.0-0.5MSD PBLK02172 | Aroclor-5442 | J (all detects) UJ (all non-detects) | A |

The percent difference (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB2-061213 (from SDG PH055) was identified as an equipment blank. No polychlorinated biphenyl contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No polychlorinated biphenyl contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

| Sample | Column | Surrogate | %R (Limits) | Compound | Flag | A or P |
|-------------------------|-----------|--|------------------------------|-------------------|-----------------|--------|
| SL-1252-SA5A-SB-0.0-0.5 | ZBMultiR1 | Tetrachloro-m-xylene Decachlorobiphenyl | 222 (45-120) 213 (45-120) | All TCL compounds | J (all detects) | P |

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH057 | All compounds reported below the RL. | J (all detects) | A |

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

Samples SL-852-SA5A-SB-0.0-0.5 and SL-1252-SA5A-SB-0.0-0.5 were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

**Santa Susana Field Laboratory
 Polychlorinated Biphenyls - Data Qualification Summary - SDG PH057**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|---|--------------------------------------|---|--------|---------------------------------|
| PH057 | SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 | Aroclor-5442 | J (all detects) UJ (all non-detects) | A | Continuing calibration (%D) (C) |
| PH057 | SL-1252-SA5A-SB-0.0-0.5 | All TCL compounds | J (all detects) | P | Surrogate spikes (%R) (S) |
| PH057 | SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |

**Santa Susana Field Laboratory
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG PH057**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG PH057**

No Sample Data Qualified in this SDG

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--|
| I. | Technical holding times | A | Sampling dates: 6/23 ¹⁴ /13 ^{am} |
| II. | GC/ECD Instrument Performance Check | NA | |
| III. | Initial calibration | A | % RSD ≤ 20 |
| IV. | Continuing calibration/ICV | SW | ICV/CV ≤ 20 |
| V. | Blanks | Δ | |
| VI. | Surrogate spikes | SW | |
| VII. | Matrix spike/Matrix spike duplicates | A | |
| VIII. | Laboratory control samples | Δ | LCS ID |
| IX. | Regional quality assurance and quality control | N | |
| X. | Florisil cartridge check | N | |
| XI. | GPC Calibration | N | |
| XII. | Target compound identification | Δ | |
| XIII. | Compound quantitation/RL/LOQ/LODs | Δ | |
| XIV. | Overall assessment of data | Δ | |
| XV. | Field duplicates | ND | D = 1, 2 |
| XVI. | Field blanks | ND | EB: EB-061213 ^{EB} SDG # PH055 |

Note: A = Acceptable ND = No compounds detected
 N = Not provided/applicable R = Rinsate D = Duplicate
 SW = See worksheet FB = Field blank TB = Trip blank
 EB = Equipment blank

EB₂ - 061213
 FB: FB - 041113 SDG # PH029

Validated Samples:

SOIL

| | | | | | |
|----|---------------------------|----|-----------|----|----|
| 1 | SL-852-SA5A-SB-0.0-0.5 | 11 | PBLK02172 | 21 | 31 |
| 2 | SL-1252-SA5A-SB-0.0-0.5 | 12 | | 22 | 32 |
| 3 | SL-852-SA5A-SB-4.5-5.5 | 13 | | 23 | 33 |
| 4 | SL-852-SA5A-SB-0.0-0.5MS | 14 | | 24 | 34 |
| 5 | SL-852-SA5A-SB-0.0-0.5MSD | 15 | | 25 | 35 |
| 6 | | 16 | | 26 | 36 |
| 7 | | 17 | | 27 | 37 |
| 8 | | 18 | | 28 | 38 |
| 9 | | 19 | | 29 | 39 |
| 10 | | 20 | | 30 | 40 |

Notes: _____

Method: GC HPLC

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Cooler temperature criteria was met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| II. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent relative standard deviations (%RSD) < 20%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a curve fit used for evaluation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Did the initial calibration meet the curve fit acceptance criteria of > 0.990? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the RT windows properly established? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IV. Continuing calibration | | | | |
| Was a continuing calibration analyzed daily? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all the retention times within the acceptance windows? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a method blank analyzed for each matrix and concentration? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within the QC limits? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| VII. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the performance evaluation (PE) samples within the acceptance limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| X. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | ✓ | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | ✓ | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | ✓ | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | ✓ | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | ✓ | | | |
| Target compounds were detected in the field duplicates. | | ✓ | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | ✓ | | | |
| Target compounds were detected in the field blanks. | | ✓ | | |

LDC #: 30037136

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: FT

METHOD: GC HPLC

2nd Reviewer: 

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- What type of continuing calibration calculation was performed? ___%D or ___RPD
 N N/A
- Y N N/A Were continuing calibration standards analyzed at the required frequencies?
- Y N N/A Did the continuing calibration standards meet the %D / RPD validation criteria of ≤20.0%?
- Level IV Only**
- Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

code = C

| # | Date | Standard ID | Detector/ Column | Compound | %D / RPD (Limit ≤ 20.0) | RT (limit) | Associated Samples | Qualifications |
|---|------------------|--------------|---------------------|--------------|----------------------------|------------|--------------------------|-------------------------|
| | 6/22/13 13:36 | CCV-A 442320 | zBmult/R | Aroclor-5442 | 25 | () | PBLK02172, 1, 2, 4, 5 | J/U/A qual 5442 only |
| | | | | | | () | | |
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VALIDATION FINDINGS WORKSHEET

Surrogate Recovery

METHOD: GC HPLC

Are surrogates required by the method? Yes or No .

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were surrogates spiked into all samples and blanks?

Y (N) N/A Did all surrogate recoveries (%R) meet the QC limits?

code = S

| # | Sample ID | Detector/ Column | Surrogate Compound | %R (Limits) | | Qualifications |
|---|-----------|------------------|----------------------|-------------|------------|----------------|
| | 2 | ZB-Multi R1 | F1 FLUX Y | 222 | (45-120) | J/Pdet |
| | | | 0 | 213 | (45-120) | ↓ |
| | | | | | () | |
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| | Surrogate Compound | | Surrogate Compound | | Surrogate Compound | | Surrogate Compound | | Surrogate Compound |
|---|----------------------------|---|---------------------|---|-----------------------------------|---|-------------------------|---|-----------------------|
| A | Chlorobenzene (CBZ) | G | Octacosane | M | Benzo(e)Pyrene | S | 1-Chloro-3-Nitrobenzene | Y | Tetrachloro-m- xylene |
| B | 4-Bromofluorobenzene (BFB) | H | Ortho-Terphenyl | N | Terphenyl-D14 | T | 3,4-Dinitrotoluene | | |
| C | a,a,a-Trifluorotoluene | I | Fluorobenzene (FBZ) | O | Decachlorobiphenyl (DCB) | U | Triphenyltin | | |
| D | Bromochlorobenzene | J | n-Triacontane | P | 1-methylnaphthalene | V | Tri-n-propyltin | | |
| E | 1,4-Dichlorobutane | K | Hexacosane | Q | Dichlorophenyl Acetic Acid (DCAA) | W | Tributyl Phosphate | | |
| F | 1,4-Difluorobenzene (DFB) | L | Bromobenzene | R | 4-Nitrophenol | X | Triphenyl Phosphate | | |

LDC #: 30037N36

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: F7
 2nd Reviewer: [Signature]

METHOD: GC HPLC

The calibration factors (CF) and relative standard deviation (%RSD) were recalculated using the following calculations:

CF = A/C
 Average CF = sum of the CF/number of standards
 %RSD = 100 * (S/X)

Where: A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|----------------|------------------|------------------|------------------|------------------|----------|--------------|
| | | | | CF (200 std) | CF (200 std) | Ave CF (initial) | Ave CF (initial) | %RSD | %RSD |
| 1 | 1 CAL | 6/9/13 | Aroclor 1260-1 | 14355 | 14355 | 14384 | 14384 | 13 | 13 |
| | ZB Multi R1 | | | 30157 | 30157 | 30763 | 30763 | 12 | 12 |
| | ZB Multi R2 | | | | | | | | |
| 2 | ↓ | 6/25/13 | ↓ | 14469 | 14469 | 14936 | 14936 | 9 | 9 |
| | | | | 32628 | 32628 | 32902 | 32902 | 8 | 8 |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30037J36

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
 Reviewer: F7
 2nd Reviewer: [Signature]

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave.CF
 Where: ave. CF = initial calibration average CF
 CF = continuing calibration CF
 A = Area of compound
 C = Concentration of compound

| # | Standard ID | Calibration Date | Compound | Average CF(Ical)/ CCV Conc. | Reported | Recalculated | Reported | Recalculated |
|---|-----------------------------|------------------|-------------------|--------------------------------|------------------|------------------|----------|--------------|
| | | | | | CF/ Conc. CCV | CF/ Conc. CCV | %D | %D |
| 1 | UV 12:59 ZBmultiR/ R2 | 6/22/13 | Arrolor 1260 ↓ | 200.00 200.00 | 209.33 195.04 | 209.33 195.04 | 5 2 | 5 2 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: #1

$M = 0.7\%$

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| TCMX | 2B multi R1 | 10.1 | 11.408772 | 114 | 114 | 0 |
| DCB | ↓ | 10.2 | 11.802328 | 117 | 117 | 0 |
| | | | (11.885) | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
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| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
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VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

Where

SSC = Spiked sample concentration

SC = Sample concentration

SA = Spike added

MS = Matrix spike

MSD = Matrix spike duplicate

RPD = (((SSCMS - SSCMSD) * 2) / (SSCMS + SSCMSD)) * 100

MS/MSD samples: 4 + 5

| Compound | Spike Added (ug/kg) | | Sample Conc. (ug/kg) | Spike Sample Concentration (ug/kg) | | Matrix spike | | Matrix Spike Duplicate | | MS/MSD | |
|------------------------------|---------------------|------------|----------------------|------------------------------------|--------------|------------------|------------|------------------------|------------|----------|----------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | | |
| <u>PCB 1260</u> | <u>165</u> | <u>165</u> | <u>ND</u> | <u>175.46</u> | <u>169.9</u> | <u>106</u> | <u>106</u> | <u>103</u> | <u>103</u> | <u>3</u> | <u>3</u> |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

Where SSC = Spiked sample concentration

SC = Sample concentration

$\text{RPD} = ((\text{SSCLCS} - \text{SSCLCSD}) * 2) / (\text{SSCLCS} + \text{SSCLCSD}) * 100$

SA = Spike added

LCSD = Laboratory Control Sample duplicate

LCS = Laboratory Control Sample

LCS/LCSD samples: LCS/D02172

| Compound | Spike Added (ug/kg) | | Sample Conc. (ug/kg) | Spike Sample Concentration (ug/kg) | | LCS | | LCSD | | LCS/LCSD | | |
|------------------------------|------------------------|------|-------------------------|---------------------------------------|-----|------|------------------|---------|------------------|----------|----------|---------|
| | LCS | LCSD | | --- | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | | | |
| PCB 1260 | 167 | NA | ND | 167.42 | NA | 100 | 100 | NA | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC HPLC

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?
 Were all recalculated results for detected target compounds within 10% of the reported results?

$$\text{Concentration} = \frac{(A)(F_v)(D_f)}{(RF)(V_s \text{ or } W_s)(\%S/100)}$$

Example: for LDC02172
 Sample ID: Aroclor 126 Compound Name _____

- A= Area or height of the compound to be measured
- Fv= Final Volume of extract
- Df= Dilution Factor
- RF= Average response factor of the compound in the initial calibration
- Vs= Initial volume of the sample
- Ws= Initial weight of the sample
- %S= Percent Solid

Concentration = _____

| # | Sample ID | Compound | Reported Concentrations () | Recalculated Results Concentrations () | Qualifications |
|---|-----------------------|-----------------|--------------------------------|--|-------------------|
| | <u>Aroclor 1260-1</u> | <u>14998008</u> | <u>= 167.513</u> | <u>1260-1 =</u> | <u>162.513713</u> |
| | | <u>30763</u> | | <u>- 2 =</u> | <u>177.150883</u> |
| | | | | <u>- 3 =</u> | <u>164.319211</u> |
| | | | | <u>- 4 =</u> | <u>187.115505</u> |
| | | | | <u>- 5 =</u> | <u>164.101006</u> |
| | | | | <u>- 6 =</u> | <u>149.308311</u> |
| | | | | <u>Ave =</u> | <u>167.418</u> |

Comments: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 14, 2013
LDC Report Date: July 31, 2013
Matrix: Soil
Parameters: Metals
Validation Level: Level IV
Laboratory: Eurofins
Sample Delivery Group (SDG): PH057

Sample Identification

SL-850-SA5A-SB-0.0-0.5
SL-869-SA5A-SB-0.0-0.5
SL-870-SA5A-SB-0.0-0.5
SL-852-SA5A-SB-0.0-0.5
SL-1252-SA5A-SB-0.0-0.5
SL-852-SA5A-SB-4.5-5.5
SL-852-SA5A-SB-0.0-0.5MS
SL-852-SA5A-SB-0.0-0.5MSD
SL-852-SA5A-SB-0.0-0.5DUP

Introduction

This data review covers 9 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010C, 6020A, and 7471A for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, and Zirconium.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (January 2010).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Calibration

The initial and continuing calibrations were performed at the required frequency.

The calibration standards criteria were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the initial, continuing and preparation blanks with the following exceptions:

| Method Blank ID | Analyte | Maximum Concentration | Associated Samples |
|-----------------|----------------|----------------------------|---|
| PB (prep blank) | Calcium Tin | 5.587 mg/Kg 1.443 mg/Kg | All samples in SDG PH057 |
| ICB/CCB | Molybdenum | 2.0 ug/L | All samples in SDG PH057 |
| ICB/CCB | Aluminum | 36.3 ug/L | SL-870-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 |

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

| Sample | Analyte | Reported Concentration | Modified Final Concentration |
|------------------------|-------------------|-------------------------|------------------------------|
| SL-850-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.51 mg/Kg 2.5 mg/Kg | 0.51U mg/Kg 2.5U mg/Kg |

| Sample | Analyte | Reported Concentration | Modified Final Concentration |
|-------------------------|-------------------|-------------------------|------------------------------|
| SL-869-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.49 mg/Kg 2.5 mg/Kg | 0.49U mg/Kg 2.5U mg/Kg |
| SL-870-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.45 mg/Kg 2.4 mg/Kg | 0.45U mg/Kg 2.4U mg/Kg |
| SL-852-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.78 mg/Kg 2.4 mg/Kg | 0.78U mg/Kg 2.4U mg/Kg |
| SL-1252-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.45 mg/Kg 2.7 mg/Kg | 0.45U mg/Kg 2.7U mg/Kg |
| SL-852-SA5A-SB-4.5-5.5 | Molybdenum Tin | 0.49 mg/Kg 2.6 mg/Kg | 0.49U mg/Kg 2.6U mg/Kg |

Samples EB1-061213 and EB2-061213 (both from SDG PH055) were identified as equipment blanks. No metal contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Analyte | Concentration | Associated Samples |
|------------|---------------|-------------------------------|--|---|
| EB1-061213 | 6/12/13 | Barium | 0.00037 mg/L | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 |
| EB2-061213 | 6/12/13 | Barium Silver Strontium | 0.00045 mg/L 0.00062 mg/L 0.00053 mg/L | SL-852-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 SL-1252-SA5A-SB-0.0-0.5 |

Sample FB-041113 (from SDG PH029) was identified as a field blank. No metal contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Analyte | Concentration | Associated Samples |
|-----------|---------------|----------------------|----------------------------|--------------------------|
| FB-041113 | 4/11/13 | Copper Molybdenum | 0.0036 mg/L 0.0036 mg/L | All samples in SDG PH057 |

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

| Sample | Analyte | Reported Concentration | Modified Final Concentration |
|------------------------|------------|------------------------|------------------------------|
| SL-850-SA5A-SB-0.0-0.5 | Molybdenum | 0.51 mg/Kg | 0.51U mg/Kg |

| Sample | Analyte | Reported Concentration | Modified Final Concentration |
|-------------------------|----------------------|---------------------------|------------------------------|
| SL-869-SA5A-SB-0.0-0.5 | Molybdenum | 0.49 mg/Kg | 0.49U mg/Kg |
| SL-870-SA5A-SB-0.0-0.5 | Molybdenum | 0.45 mg/Kg | 0.45U mg/Kg |
| SL-852-SA5A-SB-0.0-0.5 | Molybdenum Silver | 0.78 mg/Kg 0.058 mg/Kg | 0.78U mg/Kg 0.058U mg/Kg |
| SL-1252-SA5A-SB-0.0-0.5 | Molybdenum Silver | 0.45 mg/Kg 0.061 mg/Kg | 0.45U mg/Kg 0.061U mg/Kg |
| SL-852-SA5A-SB-4.5-5.5 | Molybdenum Silver | 0.49 mg/Kg 0.049 mg/Kg | 0.49U mg/Kg 0.049U mg/Kg |

V. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

| Spike ID (Associated Samples) | Analyte | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|--|------------|---------------------|----------------------|-----------------|---|--------|
| SL-852-SA5A-SB-0.0-0.5MS/MSD (All samples in SDG PH057) | Aluminum | - | - | 26 (≤20) | J (all detects) UJ (all non-detects) | A |
| | Antimony | 51 (75-125) | 42 (75-125) | - | | |
| | Arsenic | - | 74 (75-125) | - | | |
| | Barium | - | 65 (75-125) | - | | |
| | Boron | - | 72 (75-125) | - | | |
| | Cadmium | - | 70 (75-125) | - | | |
| | Calcium | - | - | 24 (≤20) | | |
| | Chromium | - | 68 (75-125) | - | | |
| | Cobalt | - | 70 (75-125) | - | | |
| | Copper | - | 67 (75-125) | - | | |
| | Iron | - | - | 29 (≤20) | | |
| | Lead | - | 74 (75-125) | - | | |
| | Lithium | - | 59 (75-125) | 27 (≤20) | | |
| | Magnesium | - | - | 28 (≤20) | | |
| | Molybdenum | - | 70 (75-125) | - | | |
| | Nickel | - | 69 (75-125) | - | | |
| | Sodium | - | 62 (75-125) | 27 (≤20) | | |
| | Tin | - | 67 (75-125) | - | | |
| Vanadium | - | 72 (75-125) | - | | | |
| Zinc | - | 63 (75-125) | - | | | |
| Zirconium | - | 60 (75-125) | 25 (≤20) | | | |

| Spike ID (Associated Samples) | Analyte | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|--|------------|---------------------|----------------------|-----------------|---|--------|
| SL-852-SA5A-SB-0.0-0.5MS/MSD (All samples in SDG PH057) | Phosphorus | - | 28 (75-125) | - | J (all detects) R (all non-detects) | A |
| | Potassium | - | -7 (75-125) | - | J (all detects) R (all non-detects) | |
| SL-852-SA5A-SB-0.0-0.5MS/MSD (All samples in SDG PH057) | Potassium | - | - | 27 (75-125) | J (all detects) UJ (all non-detects) | A |
| SL-852-SA5A-SB-0.0-0.5MS/MSD (All samples in SDG PH057) | Silver | - | 129 (75-125) | - | J (all detects) | A |
| | Strontium | - | 173 (75-125) | - | J (all detects) | |

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards

All internal standard percent recoveries (%R) were within QC limits.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

| Diluted Sample | Analyte | %D (Limits) | Associated Samples | Flag | A or P |
|------------------------|-----------|------------------|-----------------------------|---|--------|
| SL-852-SA5A-SB-0.0-0.5 | Aluminum | 18 (≤ 10) | All samples in SDG PH057 | J (all detects) UJ (all non-detects) | A |
| | Barium | 15 (≤ 10) | | | |
| | Calcium | 18 (≤ 10) | | | |
| | Chromium | 12 (≤ 10) | | | |
| | Iron | 21 (≤ 10) | | | |
| | Lithium | 20 (≤ 10) | | | |
| | Magnesium | 19 (≤ 10) | | | |
| | Manganese | 13 (≤ 10) | | | |
| | Potassium | 20 (≤ 10) | | | |
| | Titanium | 13 (≤ 10) | | | |
| | Vanadium | 13 (≤ 10) | | | |

XII. Sample Result Verification

All sample result verifications were acceptable.

All metals reported below the RL and above the MDL were qualified as follows:

| Sample | Analyte | Flag | A or P |
|--------------------------|---|-----------------|--------|
| All samples in SDG PH057 | All analytes reported below the RL and above the MDL. | J (all detects) | A |

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples SL-852-SA5A-SB-0.0-0.5 and SL-1252-SA5A-SB-0.0-0.5 were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

| Analyte | Concentration (ug/L) | | RPD (Limits) | Flag | A or P |
|-----------|------------------------|-------------------------|--------------|------|--------|
| | SL-852-SA5A-SB-0.0-0.5 | SL-1252-SA5A-SB-0.0-0.5 | | | |
| Aluminum | 14200 | 16000 | 12 (≤50) | - | - |
| Arsenic | 1.99 | 2.86 | 36 (≤50) | - | - |
| Barium | 89.2 | 107 | 18 (≤50) | - | - |
| Beryllium | 0.487 | 0.591 | 19 (≤50) | - | - |
| Boron | 4.14 | 4.03 | 3 (≤50) | - | - |
| Calcium | 2240 | 2560 | 13 (≤50) | - | - |
| Chromium | 19.0 | 22.4 | 16 (≤50) | - | - |
| Cobalt | 4.41 | 5.64 | 24 (≤50) | - | - |
| Copper | 9.27 | 11.0 | 17 (≤50) | - | - |
| Iron | 18100 | 21800 | 19 (≤50) | - | - |
| Lead | 7.29 | 8.94 | 20 (≤50) | - | - |

| Analyte | Concentration (ug/L) | | RPD (Limits) | Flag | A or P |
|------------|------------------------|-------------------------|-----------------|-----------------|--------|
| | SL-852-SA5A-SB-0.0-0.5 | SL-1252-SA5A-SB-0.0-0.5 | | | |
| Lithium | 19.6 | 21.8 | 11 (≤50) | - | - |
| Magnesium | 3800 | 4390 | 14 (≤50) | - | - |
| Manganese | 275 | 337 | 20 (≤50) | - | - |
| Molybdenum | 0.782 | 0.454 | 53 (≤50) | J (all detects) | A |
| Nickel | 11.1 | 13.4 | 19 (≤50) | - | - |
| Phosphorus | 338 | 422 | 22 (≤50) | - | - |
| Potassium | 3510 | 3890 | 10 (≤50) | - | - |
| Selenium | 0.164 | 0.170 | 4 (≤50) | - | - |
| Silver | 0.0583 | 0.0607 | 4 (≤50) | - | - |
| Sodium | 75.7 | 82.4 | 8 (≤50) | - | - |
| Strontium | 25.3 | 29.9 | 17 (≤50) | - | - |
| Thallium | 0.337 | 0.319 | 5 (≤50) | - | - |
| Tin | 2.35 | 2.68 | 13 (≤50) | - | - |
| Titanium | 1100 | 1160 | 5 (≤50) | - | - |
| Vanadium | 31.3 | 38.5 | 21 (≤50) | - | - |
| Zinc | 49.7 | 60.4 | 19 (≤50) | - | - |
| Zirconium | 1.42 | 0.997 | 35 (≤50) | - | - |

**Santa Susana Field Laboratory
Metals - Data Qualification Summary - SDG PH057**

| SDG | Sample | Analyte | Flag | A or P | Reason (Code) |
|-------|---|--|--|--------|--|
| PH057 | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | Aluminum Calcium Iron Magnesium Potassium | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (RPD) (E) |
| PH057 | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | Antimony Arsenic Barium Boron Cadmium Chromium Cobalt Copper Lead Molybdenum Nickel Tin Vanadium Zinc | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R) (Q) |
| PH057 | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | Lithium Sodium Zirconium | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q, E) |
| PH057 | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | Phosphorus Potassium | J (all detects) R (all non-detects) J (all detects) R (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R) (Q) |
| PH057 | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | Silver Strontium | J (all detects) J (all detects) | A | Matrix spike/Matrix spike duplicate (%R) (Q) |
| PH057 | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | Aluminum Barium Calcium Chromium Iron Lithium Magnesium Manganese Potassium Titanium Vanadium | J (all detects) UJ (all non-detects) | A | ICP serial dilution (%D) (A) |

| SDG | Sample | Analyte | Flag | A or P | Reason (Code) |
|-------|---|---|-----------------|--------|--------------------------------|
| PH057 | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | All analytes reported below the RL and above the MDL. | J (all detects) | A | Sample result verification (Z) |
| PH057 | SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 | Molybdenum | J (all detects) | A | Field duplicates (RPD) (FD) |

**Santa Susana Field Laboratory
Metals - Laboratory Blank Data Qualification Summary - SDG PH057**

| SDG | Sample | Analyte | Modified Final Concentration | A or P | Code |
|-------|-------------------------|-------------------|------------------------------|--------|------|
| PH057 | SL-850-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.51U mg/Kg 2.5U mg/Kg | A | B |
| PH057 | SL-869-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.49U mg/Kg 2.5U mg/Kg | A | B |
| PH057 | SL-870-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.45U mg/Kg 2.4U mg/Kg | A | B |
| PH057 | SL-852-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.78U mg/Kg 2.4U mg/Kg | A | B |
| PH057 | SL-1252-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.45U mg/Kg 2.7U mg/Kg | A | B |
| PH057 | SL-852-SA5A-SB-4.5-5.5 | Molybdenum Tin | 0.49U mg/Kg 2.6U mg/Kg | A | B |

**Santa Susana Field Laboratory
Metals - Field Blank Data Qualification Summary - SDG PH057**

| SDG | Sample | Analyte | Modified Final Concentration | A or P | Code |
|-------|------------------------|----------------------|------------------------------|--------|------|
| PH057 | SL-850-SA5A-SB-0.0-0.5 | Molybdenum | 0.51U mg/Kg | A | F |
| PH057 | SL-869-SA5A-SB-0.0-0.5 | Molybdenum | 0.49U mg/Kg | A | F |
| PH057 | SL-870-SA5A-SB-0.0-0.5 | Molybdenum | 0.45U mg/Kg | A | F |
| PH057 | SL-852-SA5A-SB-0.0-0.5 | Molybdenum Silver | 0.78U mg/Kg 0.058U mg/Kg | A | F |

| SDG | Sample | Analyte | Modified Final Concentration | A or P | Code |
|-------|-------------------------|----------------------|------------------------------|--------|------|
| PH057 | SL-1252-SA5A-SB-0.0-0.5 | Molybdenum Silver | 0.45U mg/Kg 0.061U mg/Kg | A | F |
| PH057 | SL-852-SA5A-SB-4.5-5.5 | Molybdenum Silver | 0.49U mg/Kg 0.049U mg/Kg | A | F |

LDC #: 30037J4

VALIDATION COMPLETENESS WORKSHEET

Date: 7/25/13

SDG #: PH057

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

7471A

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--|
| I. | Technical holding times | A | Sampling dates: 6/14/13 |
| II. | ICP/MS Tune | A | |
| III. | Calibration | A | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | A | |
| VI. | Matrix Spike Analysis | SW | MS/D |
| VII. | Duplicate Sample Analysis | A | DUP |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | A | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | SW | |
| XII. | Sample Result Verification | A | |
| XIII. | Overall Assessment of Data | A | |
| XIV. | Field Duplicates | SW | (4.5) |
| XV. | Field Blanks | SW | EB = EB1-061213 (PH055) FB = FB-041113 = EB2-061213 (PH029) |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Soil

| | | | | | | | |
|----|---------------------------|----|--|----|--|----|--|
| 1 | SL-850-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-869-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | SL-870-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 | |
| 4 | SL-852-SA5A-SB-0.0-0.5 | 14 | | 24 | | 34 | |
| 5 | SL-1252-SA5A-SB-0.0-0.5 | 15 | | 25 | | 35 | |
| 6 | SL-852-SA5A-SB-4.5-5.5 | 16 | | 26 | | 36 | |
| 7 | SL-852-SA5A-SB-0.0-0.5MS | 17 | | 27 | | 37 | |
| 8 | SL-852-SA5A-SB-0.0-0.5MSD | 18 | | 28 | | 38 | |
| 9 | SL-852-SA5A-SB-0.0-0.5DUP | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

Method: Metals (EPA SW 846 Method 6010B/7000/6020)

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. ICP/MS Tune | | | | |
| Were all isotopes in the tuning solution mass resolution within 0.1 amu? | / | | | |
| Were %RSD of isotopes in the tuning solution $\leq 5\%$? | / | | | |
| III. Calibration | | | | |
| Were all instruments calibrated daily, each set-up time? | / | | | |
| Were the proper number of standards used? | / | | | |
| Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits? | / | | | |
| Were all initial calibration correlation coefficients > 0.995 ? | / | | | |
| IV. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | / | | | |
| V. ICP Interference Check Sample | | | | |
| Were ICP interference check samples performed daily? | / | | | |
| Were the AB solution percent recoveries (%R) with the 80-120% QC limits? | / | | | |
| VI. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water. | / | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken. | | / | | |
| Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm RL$ ($\pm 2X RL$ for soil) was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $\leq 5X$ the RL. | | / | | |
| VII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |
| Was an LCS analyzed per extraction batch? | / | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils? | / | | | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| VIII. Furnace Atomic Absorption QC | | | | |
| If MSA was performed, was the correlation coefficients > 0.995? | | | ✓ | |
| Do all applicable analyses have duplicate injections? (Level IV only) | | | ✓ | |
| For sample concentrations > RL, are applicable duplicate injection RSD values < 20%? (Level IV only) | | | ✓ | |
| Were analytical spike recoveries within the 85-115% QC limits? | | | ✓ | |
| IX. ICP Serial Dilution | | | | |
| Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL (ICP/MS)? | ✓ | | | |
| Were all percent differences (%Ds) < 10%? | ✓ | | | |
| Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data. | | | ✓ | |
| X. Internal Standards (EPA SW 846 Method 6020/EPA 200.8) | | | | |
| Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration? | ✓ | | | |
| If the %Rs were outside the criteria, was a reanalysis performed? | | | ✓ | |
| XI. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | ✓ | | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | ✓ | |
| XII. Sample Result Verification | | | | |
| Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | ✓ | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | ✓ | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | ✓ | | | |
| Target analytes were detected in the field duplicates. | ✓ | | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | ✓ | | | |
| Target analytes were detected in the field blanks. | ✓ | | | |

VALIDATION FINDINGS WORKSHEET Sample Specific Element Reference

All circled elements are applicable to each sample.

| Sample ID | Matrix | Target Analyte List (TAL) |
|------------------------|--------|--|
| 1-6 | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| QC19 | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| Analysis Method | | |
| ICP | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |
| ICP-MS | | Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mo, Mn, Hg, Ni, P, K, Se, Ag, Na, Sr, Tl, Sn, Ti, V, Zn, Zr |

Comments: Mercury by CVAA if performed

LDC #: 30037J4

**VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES**

Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: 100x Reason: B

Sample Concentration units, unless otherwise noted: mg/Kg

Associated Samples: All

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 1 | 2 | 3 | 4 | 5 | 6 | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|------|------|------|------|------|------|--|--|--|
| Ca | 5.587 | | | 27.935 | | | | | | | | | |
| Mo | | | 2.0 | 1 | 0.51 | 0.49 | 0.45 | 0.78 | 0.45 | 0.49 | | | |
| Sn | 1.443 | | | 7.215 | 2.5 | 2.5 | 2.4 | 2.4 | 2.7 | 2.6 | | | |

Sample Concentration units, unless otherwise noted: mg/Kg

Associated Samples: 3, 5, 6

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | No Qualifiers | | | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|---------------|--|--|--|--|--|--|--|--|
| Al | | | 36.3 | 18.15 | | | | | | | | | |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F
Sampling date: 4/11/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | |
|---------|---------------------------|-----------------------|------|------|------|------|------|------|--|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 1 | 2 | 3 | 4 | 5 | 6 | | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 0.51 | 0.49 | 0.45 | 0.78 | 0.45 | 0.49 | | | |

Sampling date: 6/12/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 1-3

| Analyte | Blank ID | Sample Identification | | | | | | | | | |
|---------|----------------------------|-----------------------|---------------|--|--|--|--|--|--|--|--|
| | EB1-061213 (SDG: PH055) | Action Limit | No Qualifiers | | | | | | | | |
| Ba | 0.00037 | 0.185 | | | | | | | | | |

Sampling date: 6/12/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 4-6

| Analyte | Blank ID | Sample Identification | | | | | | | | | |
|---------|----------------------------|-----------------------|-------|-------|-------|--|--|--|--|--|--|
| | EB2-061213 (SDG: PH055) | Action Limit | 4 | 5 | 6 | | | | | | |
| Ba | 0.00045 | 0.225 | | | | | | | | | |
| Ag | 0.00062 | 0.31 | 0.058 | 0.061 | 0.049 | | | | | | |
| Sr | 0.00053 | 0.265 | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 3003754

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 2
 Reviewer: CR
 2nd Reviewer: [Signature]

METHOD: Inorganics, EPA Method

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N/A Was a matrix spike analyzed for each matrix in this SDG?
 - N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.
 - N/A Were all duplicate sample relative percent differences (RPD) $\leq 20\%$ for water samples and $\leq 35\%$ for soil samples?
- LEVEL IV ONLY:**
- N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

| # | MS/MSD ID | Matrix | Analyte | MS %Recovery | MSD %Recovery | RPD (Limits) | Associated Samples | Qualifications |
|---|-----------|--------|---------|--------------|---------------|--------------|--------------------|------------------|
| | 718 | S | Al | | | 26 | All | J/UJA (E) |
| | | | Sb | 51 | 42 | | | (Q) |
| | | | As | | 74 | | | ↓ |
| | | | Ba | | 65 | | | ↓ |
| | | | B | | 72 | | | ↓ |
| | | | Ca | | 70 | | | ↓ |
| | | | Ca | | | 24 | | (E) |
| | | | C | | 68 | | | (Q) |
| | | | Co | | 70 | | | ↓ |
| | | | Cu | | 67 | | | ↓ |
| | | | Fe | | | 29 | | (E) |
| | | | Pb | | 74 | | | (Q) |
| | | | Li | | 59 | 27 | | (Q, E) |
| | | | Mg | | | 28 | | (E) |
| | | | Mo | | 70 | | | (Q) |
| | | | Ni | | 69 | | | ↓ |
| | | | P | | 28 | | | J/R/A (Q) PS=44% |
| | | | K | | -7 | 27 | | ↓ (QE) PS=-206 |
| | | | Ag | | 129 | | | Jdet/A (Q) |
| | | | Na | | 62 | 27 | | J/UJA (Q, E) |
| | | | Sr | | 173 | | | Jdet/A (Q) |
| | | | Sn | | 67 | | | J/UJA ↓ |

Comments: _____

LDC #: 3003704

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates

Page: 2 of 2
Reviewer: OR
2nd Reviewer: W

METHOD: Trace metals (EPA SW 846 Method 6010B/6020A/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Was a matrix spike analyzed for each matrix in this SDG?
- Y N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.
- Y N N/A Were all duplicate sample relative percent differences (RPD) $\leq 20\%$ for water samples and $\leq 35\%$ for soil samples?
- LEVEL IV ONLY:**
- Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

| # | MS/MSD ID | Matrix | Analyte | MS %Recovery | MSD %Recovery | RPD (Limits) | Associated Samples | Qualifications |
|---|-----------|--------|---------|--------------|---------------|--------------|--------------------|----------------|
| | 718 | S | ✓ | | 72 | | All | J1UJ/A (Q) |
| | | | Zn | | 63 | | ↓ | ↓ |
| | | | Zr | | 60 | 25 | ↓ | (Q, E) |
| | | | | | | | | |
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Comments: Al, Ca, Fe, Mg, Mn, Ti 74x

LDC #: 3003754

VALIDATION FINDINGS WORKSHEET
ICP Serial Dilution

Page: 1 of 1
Reviewer: OR
2nd Reviewer: [Signature]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
 N N/A If analyte concentrations were > 50X the MDL (ICP) ,or >100X the MDL (ICP/MS), was a serial dilution analyzed?
 N N/A Were ICP serial dilution percent differences (%D) ≤10%?
 N N/A Is there evidence of negative interference? If yes, professional judgement will be used to qualify the data.

LEVEL IV ONLY:

N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

| # | Diluted Sample ID | Matrix | Analyte | %D (Limits) | Associated Samples | Qualifications |
|---|-------------------|--------|---------|-------------|--------------------|----------------|
| | 4 | S | Al | 18 | All | JLJ/A (A) |
| | | | Ba | 15 | | |
| | | | Ca | 18 | | |
| | | | Cr | 12 | | |
| | | | Fe | 21 | | |
| | | | Li | 20 | | |
| | | | Mg | 19 | | |
| | | | Mn | 13 | | |
| | | | K | 20 | | |
| | | | Ti | 13 | | |
| | | | V | 13 | | |
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Comments: _____

LDC#: 30037J4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 2
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: Metals (EPA Method 6010B/7000)

| Analyte | Concentration (mg/Kg) | | RPD (≤50) | Qualifiers (Parents Only) |
|------------|-----------------------|--------------------|------------------|------------------------------|
| | 4 | 5 | | |
| Aluminum | 14200 | 16000 | 12 | |
| Arsenic | 20 1.99 | 20 2.86 | 27 36 | |
| Barium | 89.8 2 | 107 | 18 | |
| Beryllium | 0.49 0.487 | 0.591 | 19 | |
| Boron | 4.14 | 4.03 | 23 | |
| Calcium | 2240 | 2560 | 13 | |
| Chromium | 19.0 | 22.4 | 16 | |
| Cobalt | 4.41 | 5.64 | 24 | |
| Copper | 8.5 9.27 | 11.0 | 17 | |
| Iron | 18100 | 21800 | 19 | |
| Lead | 7.5 7.29 | 8.94 | 20 | |
| Lithium | 19.6 | 21.8 | 11 | |
| Magnesium | 3800 | 4390 | 14 | |
| Manganese | 275 | 337 | 20 | |
| Molybdenum | 0.782 | 0.454 | 54 53 | Jdet/A (FD) |
| Nickel | 11.1 | 13.4 | 19 | |
| Phosphorus | 338 | 422 | 22 | |
| Potassium | 3510 | 3890 | 10 | |
| Selenium | 0.164 | 0.170 | 6 4 | |

LDC#: 30037J4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 2 of 2
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: Metals (EPA Method 6010B/7000)

| Analyte | Concentration (mg/Kg) | | RPD (≤50) | Qualifiers (Parents Only) |
|-----------|-----------------------|-----------------------|--------------|------------------------------|
| | 4 | 5 | | |
| Silver | 0.0583 | 0.0607 | 4 | |
| Sodium | 75.7 | 82.4 | 8 | |
| Strontium | 25.3 | 29.9 | 17 | |
| Thallium | 0.34 0.337 | 0.32 0.319 | 5 | |
| Tin | 2.4 2.35 | 2.7 2.68 | 13 | |
| Titanium | 1100 | 1160 | 5 | |
| Vanadium | 31.3 | 38.5 | 21 | |
| Zinc | 49.7 | 60.4 | 19 | |
| Zirconium | 1.42 | 1.0 0.997 | 35 | |

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LDC #: 30037J4

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
 Reviewer: OR
 2nd Reviewer: W

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$\%R = \frac{\text{Found}}{\text{True}} \times 100$ Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration (in ug/L) of each analyte in the ICV or CCV source

| Standard ID | Type of Analysis | Element | Found (ug/L) | True (ug/L) | Recalculated | Reported | Acceptable (Y/N) |
|-------------|---------------------------------|---------|--------------|-------------|--------------|----------|------------------|
| | | | | | %R | %R | |
| ICV | ICP (Initial calibration) | Pb | 565.09 | 600 | 94.2 | 94.2 | Y |
| ↓ | ICP/MS (Initial calibration) | Se | 49.27 | 50 | 98.5 | 98.5 | ↓ |
| ↓ | CVAA (Initial calibration) | Hg | 2.47 | 2.5 | 98.8 | 98.8 | |
| CCV | ICP (Continuing calibration) | Mn | 464.56 | 500 | 92.9 | 92.9 | |
| ↓ | ICP/MS (Continuing calibration) | Sr | 51.03 | 50 | 102.1 | 102.1 | |
| ↓ | CVAA (Continuing calibration) | Hg | 0.96 | 1.0 | 96.0 | 96.0 | |
| | GFAA (Initial calibration) | | | | | | |
| | GFAA (Continuing calibration) | | | | | | |

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3003754

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: QR
2nd Reviewer: W

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
 True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
 D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$
 Where, I = Initial Sample Result (mg/L)
 SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

| Sample ID | Type of Analysis | Element | Found / S / I (units) | True / D / SDR (units) | Recalculated | Reported | Acceptable (Y/N) |
|-----------|---------------------------|---------|-----------------------|------------------------|---------------|---------------|------------------|
| | | | | | %R / RPD / %D | %R / RPD / %D | |
| ICSAB | ICP interference check | Zn | 1074.3 | 1000 | 107.4 | 107.4 | Y |
| LCS | Laboratory control sample | P | 94442 | 100000 | 94 | 94 | |
| 7 | Matrix spike | 50 | (SSR-SR) 25.164 | 49,5050 | 51 | 51 | |
| 9 | Duplicate | Zn | 49,373 | 427891 | 14 | 14 | |
| 4 | ICP serial dilution | Sr | 126.9 | 115.45 | 9 | 9 | |

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Have results been reported and calculated correctly?
- Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
- Y N N/A Are all detection limits below the CRDL?

Detected analyte results for Fe were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(\text{RD})(\text{FV})(\text{Dil})}{(\text{In. Vol.})}$$

Recalculation:

- RD = Raw data concentration
- FV = Final volume (ml)
- In. Vol. = Initial volume (ml) or weight (G)
- Dil = Dilution factor

$$\frac{100 \text{ mL } (181.03425 \text{ mg/L})}{0.993 (1.01 \text{ g})} = 18050.5 \text{ mg/kg}$$

| # | Sample ID | Analyte | Reported Concentration (mg/Kg) | Calculated Concentration (mg/Kg) | Acceptable (Y/N) |
|---|-----------|------------|--------------------------------|----------------------------------|------------------|
| | | Aluminum | 14200 | 14200 | Y |
| | | Arsenic | 2.0 | 2.0 | Y |
| | | Barium | 89.3 | 89.3 | Y |
| | | Beryllium | 0.49 | 0.49 | Y |
| | | Boron | 4.1 | 4.1 | Y |
| | | Calcium | 2240 | 2240 | Y |
| | | Chromium | 19.0 | 19.0 | Y |
| | | Cobalt | 4.4 | 4.4 | Y |
| | | Copper | 9.3 | 9.3 | Y |
| | | Iron | 18100 | 18100 | Y |
| | | Lead | 7.3 | 7.3 | Y |
| | | Lithium | 19.6 | 19.6 | Y |
| | | Magnesium | 3800 | 3800 | Y |
| | | Manganese | 275 | 275 | Y |
| | | Molybdenum | 0.78 | 0.78 | Y |
| | | Nickel | 11.1 | 11.1 | Y |
| | | Phosphorus | 338 | 338 | Y |
| | | Potassium | 3510 | 3510 | Y |
| | | Selenium | 0.16 | 0.16 | Y |
| | | Silver | 0.058 | 0.058 | Y |
| | | Sodium | 75.7 | 75.7 | Y |
| | | Strontium | 25.3 | 25.3 | Y |

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 14, 2013
LDC Report Date: August 8, 2013
Matrix: Soil/Water
Parameters: Total Petroleum Hydrocarbons as Gasoline
Validation Level: Level IV
Laboratory: Eurofins
Sample Delivery Group (SDG): PH057

Sample Identification

SL-852-SA5A-SB-4.5-5.5
TB-061413

Introduction

This data review covers one soil sample and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Gasoline.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

Sample TB-061413 was identified as a trip blank. No total petroleum hydrocarbons as gasoline contaminants were found.

Sample EB2-061213 (from SDG PH055) was identified as an equipment blank. No total petroleum hydrocarbons as gasoline contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No total petroleum hydrocarbons as gasoline contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH057 | All compounds reported below the RL. | J (all detects) | A |

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG
 PH057**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|-------------------------------------|---|-----------------|--------|------------------------------|
| PH057 | SL-852-SA5A-SB-4.5-5.5 TB-061413 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification
 Summary - SDG PH057**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification
 Summary - SDG PH057**

No Sample Data Qualified in this SDG

METHOD: GC TPH as Gasoline (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--------------------------------------|----|--|
| I. | Technical holding times | A | Sampling dates: 6/23 ¹⁴ /13 |
| II. | Initial calibration | A | % PSD ≤ 20 |
| III. | Calibration verification/ICV | A | ICV / CV ≤ 20 |
| IV. | Blanks | A | |
| V. | Surrogate recovery | A | |
| VI. | Matrix spike/Matrix spike duplicates | N | client specified |
| VII. | Laboratory control samples | A | ics10 |
| VIII. | Target compound identification | A | |
| IX. | Compound quantitation/RL/LOQ/LODs | A | |
| X. | System Performance | A | |
| XI. | Overall assessment of data | A | |
| XII. | Field duplicates | N | |
| XIII. | Field blanks | ND | TB = 2 FB = FB-061213 ⁴¹ = FB2-061213 SDG # PH055 |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

FB = FB-04113
 (SDG # PH029)

Validated Samples:

soil + water

| | | | | | |
|----|------------------------|----|-------|----|----|
| 1 | SL-852-SA5A-SB-4.5-5.5 | 11 | BLKPT | 21 | 31 |
| 2 | TB-061413 | 12 | BLKGL | 22 | 32 |
| 3 | | 13 | | 23 | 33 |
| 4 | | 14 | | 24 | 34 |
| 5 | | 15 | | 25 | 35 |
| 6 | | 16 | | 26 | 36 |
| 7 | | 17 | | 27 | 37 |
| 8 | | 18 | | 28 | 38 |
| 9 | | 19 | | 29 | 39 |
| 10 | | 20 | | 30 | 40 |

Notes: _____

Method: GC HPLC

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Cooler temperature criteria was met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| II. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent relative standard deviations (%RSD) < 20%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a curve fit used for evaluation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Did the initial calibration meet the curve fit acceptance criteria of > 0.990? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the RT windows properly established? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IV. Continuing calibration | | | | |
| Was a continuing calibration analyzed daily? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all the retention times within the acceptance windows? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a method blank analyzed for each matrix and concentration? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| VII. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the performance evaluation (PE) samples within the acceptance limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| X. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Target compounds were detected in the field duplicates. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Target compounds were detected in the field blanks. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

LDC #: 3003757

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: F7
 2nd Reviewer: A

METHOD: GC HPLC

The calibration factors (CF) and relative standard deviation (%RSD) were recalculated using the following calculations:

CF = A/C
 Average CF = sum of the CF/number of standards
 %RSD = 100 * (S/X)

Where: A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|----------|----------------------------|----------------------------|------------------|------------------|----------|--------------|
| | | | | CF (<u>532</u> std) | CF (<u>532</u> std) | Ave CF (initial) | Ave CF (initial) | %RSD | %RSD |
| 1 | 1CAL | 9/22/11 | GRO | 24480.16 | 24480.16 | 24481.79 | 24481.79 | 7.0 | 6.958 |
| | 16394F | | | | | | | | |
| | | | | | | | | | |
| 2 | 1CAL | 3/23/13 | GRO | (<u>520</u>) 60596.95 | (<u>520</u>) 60596.95 | 61516.39 | 61516.39 | 2.548 | 2.548 |
| | 11379F | | | | | | | | |
| | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30037 J7

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
 Reviewer: F7
 2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave.CF

Where: ave. CF = initial calibration average CF
 CF = continuing calibration CF
 A = Area of compound
 C = Concentration of compound

| # | Standard ID | Calibration Date | Compound | Average CF(Ical)/ CCV Conc. | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|----------|--------------------------------|------------------|------------------|----------|--------------|
| | | | | | CF/ Conc. CCV | CF/ Conc. CCV | %D | %D |
| 1 | ccv 11:18 | 6/22/13 | GRU | 530.00 | 536.75 | 536.75 | 2 | 2 |
| 2 | ccv 1900 | 6/18/13 | GRU | 220.00 | 219.35 | 219.35 | 0 | 0 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: #1

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| TFT | DB-MTB | 600 | 56.1817 | 83 | 83 | 0 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

LDC #: 3003217

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FJ

2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

Where SSC = Spiked sample concentration

SC = Sample concentration

RPD = (((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD)) * 100

SA = Spike added

LCS = Laboratory Control Sample

LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS DSJ

| Compound | Spike Added (ug/L) | | Sample Conc. (ug/L) | Spike Sample Concentration (ug/L) | | LCS | | LCSD | | LCS/LCSD | |
|------------------------------|--------------------|------|---------------------|-----------------------------------|---------|------------------|---------|------------------|---------|----------|---------|
| | LCS | LCSD | | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | 1100 | 1100 | ND | 1126.86 | 1044.11 | 102 | 102 | 95 | 95 | 8 | 8 |
| Diesel (8015) | | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3003717

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: F7
2nd Reviewer: [Signature]

METHOD: ✓ GC HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

Example:
Sample ID. _____ Compound Name _____

- A= Area or height of the compound to be measured
- Fv= Final Volume of extract
- Df= Dilution Factor
- RF= Average response factor of the compound
In the initial calibration
- Vs= Initial volume of the sample
- Ws= Initial weight of the sample
- %S= Percent Solid

Concentration = _____

NA

| # | Sample ID | Compound | Reported Concentrations () | Recalculated Results Concentrations () | Qualifications |
|---|-----------|----------|--------------------------------|--|----------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 14, 2013
LDC Report Date: August 8, 2013
Matrix: Soil
Parameters: Total Petroleum Hydrocarbons as Extractables
Validation Level: Level IV
Laboratory: Eurofins
Sample Delivery Group (SDG): PH057

Sample Identification

SL-850-SA5A-SB-0.0-0.5
SL-869-SA5A-SB-0.0-0.5
SL-870-SA5A-SB-0.0-0.5
SL-852-SA5A-SB-0.0-0.5
SL-1252-SA5A-SB-0.0-0.5
SL-852-SA5A-SB-4.5-5.5
SL-852-SA5A-SB-0.0-0.5MS
SL-852-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 8 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

Samples EB1-061213 and EB2-061213 (from SDG PH055) were identified as equipment blanks. No total petroleum hydrocarbons as extractables contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No total petroleum hydrocarbons as extractables contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

| Spike ID (Associated Samples) | Compound | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|--|---|---------------------|----------------------|-----------------|---|--------|
| SL-852-SA5A-SB-0.0-0.5MS/MSD (SL-852-SA5A-SB-0.0-0.5) | Extractable fuel hydrocarbons (C15-C20) | 147 (49-123) | 133 (49-123) | - | J (all detects) | A |
| SL-852-SA5A-SB-0.0-0.5MS/MSD (SL-852-SA5A-SB-0.0-0.5) | Extractable fuel hydrocarbons (C21-C30) | 582 (49-123) | - | 100 (≤20) | J (all detects) UJ (all non-detects) | A |

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH057 | All compounds reported below the RL. | J (all detects) | A |

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples SL-852-SA5A-SB-0.0-0.5 and SL-1252-SA5A-SB-0.0-0.5 were identified as field duplicates. No total petroleum hydrocarbons as extractables were detected in any of the samples with the following exceptions:

| Compound | Concentration (mg/Kg) | | RPD (Limits) | Flag | A or P |
|---|------------------------|-------------------------|-----------------|------|--------|
| | SL-852-SA5A-SB-0.0-0.5 | SL-1252-SA5A-SB-0.0-0.5 | | | |
| Extractable fuel hydrocarbons (C21-C30) | 8.1 | 7.6 | 6 (≤50) | - | - |

| Compound | Concentration (mg/Kg) | | RPD (Limits) | Flag | A or P |
|---|------------------------|-------------------------|-----------------|------|--------|
| | SL-852-SA5A-SB-0.0-0.5 | SL-1252-SA5A-SB-0.0-0.5 | | | |
| Extractable fuel hydrocarbons (C30-C40) | 22 | 21 | 5 (≤50) | - | - |

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary -
 SDG PH057**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|---|---|---|--------|---|
| PH057 | SL-852-SA5A-SB-0.0-0.5 | Extractable fuel hydrocarbons (C15-C20) | J (all detects) | A | Matrix spike/Matrix spike duplicate (%R) (Q) |
| PH057 | SL-852-SA5A-SB-0.0-0.5 | Extractable fuel hydrocarbons (C21-C30) | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q) |
| PH057 | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data
 Qualification Summary - SDG PH057**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification
 Summary - SDG PH057**

No Sample Data Qualified in this SDG

LDC #: 30037J8

VALIDATION COMPLETENESS WORKSHEET

SDG #: PH057

Level IV

Laboratory: Eurofins Lancaster Laboratories

Date: 7/22/13

Page: 1 of 1

Reviewer: *FB*

2nd Reviewer: *EA*

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--------------------------------------|----|---|
| I. | Technical holding times | A | Sampling dates: 6/23/13 SM |
| II. | Initial calibration | A | % PSD ≤ 20 |
| III. | Calibration verification/ICV | Δ | 100/ICV ≤ 20 |
| IV. | Blanks | A | |
| V. | Surrogate recovery | A | |
| VI. | Matrix spike/Matrix spike duplicates | SW | |
| VII. | Laboratory control samples | Δ | LCS |
| VIII. | Target compound identification | A | |
| IX. | Compound quantitation/RL/LOQ/LODs | Δ | |
| X. | System Performance | Δ | |
| XI. | Overall assessment of data | A | |
| XII. | Field duplicates | SW | D = 4 + 5 |
| XIII. | Field blanks | ND | EB = EB1-061213 SPG # PH055 EB2-061213 FB = FB-041113 (SDG # PH029) |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

SOIL

| | | | | | | |
|----|---------------------------|----|------------|----|--|----|
| 1 | SL-850-SA5A-SB-0.0-0.5 | 11 | P13LK23170 | 21 | | 31 |
| 2 | SL-869-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 |
| 3 | SL-870-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 |
| 4 | SL-852-SA5A-SB-0.0-0.5 | 14 | | 24 | | 34 |
| 5 | SL-1252-SA5A-SB-0.0-0.5 | 15 | | 25 | | 35 |
| 6 | SL-852-SA5A-SB-4.5-5.5 | 16 | | 26 | | 36 |
| 7 | SL-852-SA5A-SB-0.0-0.5MS | 17 | | 27 | | 37 |
| 8 | SL-852-SA5A-SB-0.0-0.5MSD | 18 | | 28 | | 38 |
| 9 | | 19 | | 29 | | 39 |
| 10 | | 20 | | 30 | | 40 |

Notes:

Method: GC HPLC

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Cooler temperature criteria was met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| II. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent relative standard deviations (%RSD) < 20%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a curve fit used for evaluation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Did the initial calibration meet the curve fit acceptance criteria of > 0.990? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the RT windows properly established? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| III. Continuing calibration | | | | |
| Was a continuing calibration analyzed daily? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent differences (%D) < 20% or percent recoveries 80-120%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all the retention times within the acceptance windows? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IV. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a method blank analyzed for each matrix and concentration? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| V. Surrogate spikes | | | | |
| Were all surrogate %R within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| VI. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| VII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| VIII. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the performance evaluation (PE) samples within the acceptance limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| X. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | ✓ | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | ✓ | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | ✓ | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | ✓ | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | ✓ | | | |
| Target compounds were detected in the field duplicates. | ✓ | | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | ✓ | | | |
| Target compounds were detected in the field blanks. | | / | | |

VALIDATION FINDINGS WORKSHEET Matrix Spike/Matrix Spike Duplicates

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?
- Y N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?
- Y N N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

| # | MS/MSD ID | Compound | MS %R (Limits) | MSD %R (Limits) | RPD (Limits) | Associated Samples | Qualifications |
|---|------------|----------------------|---------------------|-------------------------------|-------------------|--------------------|------------------------|
| | <u>7+8</u> | <u>EFH (C15-C20)</u> | <u>147 (49-123)</u> | <u>133 (49-123)</u> | <u>()</u> | <u>4</u> | <u>J/A det (Q)</u> |
| | | <u>EFH (C21-C30)</u> | <u>582 (49-123)</u> | <u>66 (49-123)</u> | <u>100 (20)</u> | <u>↓</u> | <u>J/MS/A (Q)</u> |
| | | <u>EFH (C30-C40)</u> | <u>264 (49-123)</u> | <u>139 (49-123)</u> | <u>()</u> | | <u>no qual parent?</u> |
| | | | <u>()</u> | <u>()</u> | <u>()</u> | | <u>4x sp Amt</u> |
| | | | <u>()</u> | <u>()</u> | <u>()</u> | | |
| | | | <u>()</u> | <u>()</u> | <u>()</u> | | |
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| | | | <u>()</u> | <u>()</u> | <u>()</u> | | |
| | | | <u>()</u> | <u>()</u> | <u>()</u> | | |

LDC #: 36037J8

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: F7
2nd reviewer: [Signature]

METHOD: GC HPLC
 Y N N/A Were field duplicate pairs identified in this SDG?
 Y N N/A Were target compounds detected in the field duplicate pairs?

| Compound | Concentration (<u>mg/kg</u>) | | %RPD Limit <u>≤ 50</u> | Qualification Parent only / All Samples |
|----------------------|--------------------------------|------------|---------------------------|--|
| | <u>4</u> | <u>5</u> | | |
| <u>EFH (C21-C30)</u> | <u>8.1</u> | <u>7.6</u> | <u>6</u> | |
| <u>EFH (C30-C40)</u> | <u>22</u> | <u>21</u> | <u>5</u> | |
| | | | | |
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| Compound | Concentration () | | %RPD Limit _____ | Qualification Parent only / All Samples |
|----------|-------------------|--|---------------------|--|
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LDC #: 36037J8

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: F7
 2nd Reviewer: [Signature]

METHOD: GC HPLC

The calibration factors (CF) and relative standard deviation (%RSD) were recalculated using the following calculations:

CF = A/C
 Average CF = sum of the CF/number of standards
 %RSD = 100 * (S/X)

Where: A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|------------|-----------------------------|-----------------------------|------------------|------------------|----------|--------------|
| | | | | CF (288 std) | CF (288 std) | Ave CF (initial) | Ave CF (initial) | %RSD | %RSD |
| 1 | ICAL | 5/3/13 | TPH And CF | 21868.1 | 21868.1 | 22209.38 | 22209.38 | 1.865 | 1.865 |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3003718

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
 Reviewer: F7
 2nd Reviewer: [Signature]

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. CF} - \text{CF}) / \text{ave. CF}$

Where: ave. CF = initial calibration average CF
 CF = continuing calibration CF
 A = Area of compound
 C = Concentration of compound

| # | Standard ID | Calibration Date | Compound | Average CF(Ical)/ CCV Conc. | Reported | Recalculated | Reported | Recalculated |
|---|-----------------|------------------|---------------|--------------------------------|------------------|------------------|----------|--------------|
| | | | | | CF/ Conc. CCV | CF/ Conc. CCV | %D | %D |
| 1 | <u>en 20:44</u> | <u>6/20/13</u> | <u>cg-cyU</u> | <u>288.01</u> | <u>286.86</u> | <u>286.86</u> | <u>0</u> | <u>0.4</u> |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: #1

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|---------------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| chlorobenzene | ZB5 | 2.0 | 1.734548 | 87 | 87 | 0 |
| o-terphenyl | ↓ | 2.0 | 1.660886 | 83 | 83 | 0 |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
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| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
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| | | | | | | |

LDC #: 3603718

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
 Reviewer: F7
 2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

$$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$$

Where

SSC = Spiked sample concentration

SC = Sample concentration

SA = Spike added

$$\text{RPD} = ((\text{SSCMS} - \text{SSCMSD}) * 2) / (\text{SSCMS} + \text{SSCMSD}) * 100$$

MS = Matrix spike

MSD = Matrix spike duplicate

MS/MSD samples: 7 + 8

| Compound | Spike Added (mg/kg) | | Sample Conc. (mg/kg) | Spike Sample Concentration (mg/kg) | | Matrix spike | | Matrix Spike Duplicate | | MS/MSD | |
|------------------------------|---------------------|------|----------------------|------------------------------------|-------|------------------|------------------------------------|------------------------|---------|----------|---------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | | |
| EFH (C30-C40) | 5.01 | 5.01 | 21.53 | 34.76 | 28.48 | 264 | 139 264 ^P | 139 | 139 | 20 | 20 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 300328

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FJ

2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

Where SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory Control Sample

SC = Sample concentration

$\text{RPD} = ((\text{SSCLCS} - \text{SSCLCSD}) * 2) / (\text{SSCLCS} + \text{SSCLCSD}) * 100$

LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 105 23170

| Compound | Spike Added (mg/kg) | | Sample Conc. (mg/kg) | Spike Sample Concentration (mg/kg) | | LCS | | LCSD | | LCS/LCSD | |
|------------------------------|---------------------|------|----------------------|------------------------------------|------|------------------|---------|------------------|---------|----------|---------|
| | LCS | LCSD | | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | | |
| EPH (C30-C40) | 5.01 | NA | ND | 4.8 | NA | 96 | 96 | NA | | | |

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3003718

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1

Reviewer: F7

2nd Reviewer: A

METHOD: GC HPLC

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration = $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

Example:

Sample ID: # 2 Compound Name C30-C40

- A= Area or height of the compound to be measured
- Fv= Final Volume of extract
- Df= Dilution Factor
- RF= Average response factor of the compound
In the initial calibration
- Vs= Initial volume of the sample
- Ws= Initial weight of the sample
- %S= Percent Solid

Concentration = $\frac{9197786 (1)}{22209.38 (30) (0.976)}$

= 14 mg/kg

| # | Sample ID | Compound | Reported Concentrations () | Recalculated Results Concentrations () | Qualifications |
|---|-----------|----------|--------------------------------|--|----------------|
| | | | | | |
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Comments: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 14, 2013
LDC Report Date: August 6, 2013
Matrix: Soil
Parameters: Dioxins/Dibenzofurans
Validation Level: Level IV
Laboratory: Eurofins
Sample Delivery Group (SDG): PH057

Sample Identification

SL-850-SA5A-SB-0.0-0.5
SL-869-SA5A-SB-0.0-0.5
SL-870-SA5A-SB-0.0-0.5
SL-852-SA5A-SB-0.0-0.5
SL-1252-SA5A-SB-0.0-0.5
SL-852-SA5A-SB-4.5-5.5
SL-852-SA5A-SB-0.0-0.5MS
SL-852-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 8 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1613B for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

PFK and static resolving power were within validation criteria.

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 35.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio was greater than or equal to 10 for each unlabeled compound and labeled compound.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within QC limits.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

| Method Blank ID | Extraction Date | Compound | Concentration | Associated Samples |
|-----------------|-----------------|---|---|--------------------------|
| 13175001 | 6/24/13 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.0415 ng/Kg 0.0611 ng/Kg 0.0308 ng/Kg 0.0519 ng/Kg 0.0471 ng/Kg 0.0996 ng/Kg 0.326 ng/Kg 0.0358 ng/Kg 0.0700 ng/Kg 0.0563 ng/Kg 0.0286 ng/Kg 0.0359 ng/Kg 0.0245 ng/Kg 0.0262 ng/Kg 0.0351 ng/Kg 0.0615 ng/Kg 0.0789 ng/Kg | All samples in SDG PH057 |

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

| Sample | Compound | Reported Concentration | Modified Final Concentration |
|------------------------|--|---|--|
| SL-850-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.0798 ng/Kg 0.152 ng/Kg 0.0846 ng/Kg 0.0683 ng/Kg 0.0916 ng/Kg 0.130 ng/Kg 0.0875 ng/Kg 0.190 ng/Kg | 0.0798U ng/Kg 0.152U ng/Kg 0.0846U ng/Kg 0.0683U ng/Kg 0.0916U ng/Kg 0.130U ng/Kg 0.0875U ng/Kg 0.190U ng/Kg |
| SL-869-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,7,8-PeCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.0618 ng/Kg 0.0382 ng/Kg 0.148 ng/Kg 0.224 ng/Kg 0.356 ng/Kg 0.0957 ng/Kg 0.0523 ng/Kg 0.0494 ng/Kg 0.102 ng/Kg 0.0313 ng/Kg 0.167 ng/Kg | 0.0618U ng/Kg 0.0382U ng/Kg 0.148U ng/Kg 0.224U ng/Kg 0.356U ng/Kg 0.0957U ng/Kg 0.0523U ng/Kg 0.0494U ng/Kg 0.102U ng/Kg 0.0313U ng/Kg 0.167U ng/Kg |
| SL-870-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.170 ng/Kg 0.0604 ng/Kg 0.248 ng/Kg 0.160 ng/Kg 0.102 ng/Kg 0.179 ng/Kg 0.165 ng/Kg | 0.170U ng/Kg 0.0604U ng/Kg 0.248U ng/Kg 0.160U ng/Kg 0.102U ng/Kg 0.179U ng/Kg 0.165U ng/Kg |

| Sample | Compound | Reported Concentration | Modified Final Concentration |
|-------------------------|--|--|--|
| SL-852-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 2,3,7,8-TCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.123 ng/Kg 0.141 ng/Kg 0.137 ng/Kg 0.209 ng/Kg 0.105 ng/Kg 0.117 ng/Kg 0.121 ng/Kg | 0.123U ng/Kg 0.141U ng/Kg 0.137U ng/Kg 0.209U ng/Kg 0.105U ng/Kg 0.117U ng/Kg 0.121U ng/Kg |
| SL-1252-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.187 ng/Kg 0.139 ng/Kg 0.0575 ng/Kg 0.300 ng/Kg 0.149 ng/Kg 0.131 ng/Kg 0.134 ng/Kg | 0.187U ng/Kg 0.139U ng/Kg 0.0575U ng/Kg 0.300U ng/Kg 0.149U ng/Kg 0.131U ng/Kg 0.134U ng/Kg |
| SL-852-SA5A-SB-4.5-5.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.130 ng/Kg 0.0581 ng/Kg 0.0916 ng/Kg 0.0984 ng/Kg 0.0310 ng/Kg 0.123 ng/Kg 0.0843 ng/Kg 0.0481 ng/Kg 0.0579 ng/Kg 0.0453 ng/Kg 0.0438 ng/Kg 0.143 ng/Kg 0.0340 ng/Kg 0.182 ng/Kg | 0.130U ng/Kg 0.0581U ng/Kg 0.0916U ng/Kg 0.0984U ng/Kg 0.0310U ng/Kg 0.123U ng/Kg 0.0843U ng/Kg 0.0481U ng/Kg 0.0579U ng/Kg 0.0453U ng/Kg 0.0438U ng/Kg 0.143U ng/Kg 0.0340U ng/Kg 0.182U ng/Kg |

Samples EB1-061213 and EB2-061213 (both from SDG PH055) were identified as equipment blanks. No polychlorinated dioxin/dibenzofuran contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|------------|---------------|--|---|--|
| EB1-061213 | 6/12/13 | 2,3,7,8-TCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.229 pg/L 0.921 pg/L 1.47 pg/L 0.548 pg/L 0.287 pg/L 0.351 pg/L 0.142 pg/L 0.337 pg/L 0.175 pg/L 0.362 pg/L 0.904 pg/L | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 |

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|------------|---------------|--|---|---|
| EB2-061213 | 6/12/13 | 1,2,3,6,7,8-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDD | 0.182 pg/L 0.479 pg/L 1.27 pg/L 0.425 pg/L 0.201 pg/L 0.265 pg/L 0.0943 pg/L 0.319 pg/L 0.198 pg/L 0.286 pg/L 0.439 pg/L 1.11 pg/L | SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 |

Sample FB-041113 (from SDG PH029) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|-----------|---------------|--|--|--------------------------|
| FB-041113 | 4/11/13 | 1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF OCDF | 0.125 pg/L 0.134 pg/L 0.402 pg/L 0.398 pg/L 0.316 pg/L 0.324 pg/L 0.221 pg/L 0.211 pg/L 0.149 pg/L 0.254 pg/L 0.840 pg/L | All samples in SDG PH057 |

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within the QC limits with the following exceptions:

| Spike ID (Associated Samples) | Compound | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|---|-----------------------------|------------------------------|-------------------|----------------------|------------------------------------|--------|
| SL-852-SA5A-SB-0.0-0.5MS/MSD (SL-852-SA5A-SB-0.0-0.5) | 1,2,3,4,6,7,8-HpCDD OCDD | 215 (40-135) 324 (40-135) | - - | 79 (≤20) 72 (≤20) | J (all detects) J (all detects) | A |

VII. Ongoing Precision Recovery (OPR)

Ongoing precision recovery samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation

All compound quantitations were within validation criteria.

The 2,3,7,8-TCDF confirmation was performed with the following exceptions:

| Sample | Compound | Finding | Criteria | Flag | A or P |
|---|--------------|--|--|------|--------|
| SL-870-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | 2,3,7,8-TCDF | 2nd column confirmation was not performed for this compound. | 2,3,7,8-TCDF must be confirmed on the 2nd column per the method. | None | P |

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH057 | All compounds reported below the RL. | J (all detects) | A |

XII. System Performance

The system performance was acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples SL-852-SA5A-SB-0.0-0.5 and SL-1252-SA5A-SB-0.0-0.5 were identified as field duplicates. No polychlorinated dioxins/dibenzofurans were detected in any of the samples with the following exceptions:

| Compound | Concentration (ng/Kg) | | RPD (Limits) | Flag | A or P |
|---------------------|------------------------|-------------------------|--------------|-----------------|--------|
| | SL-852-SA5A-SB-0.0-0.5 | SL-1252-SA5A-SB-0.0-0.5 | | | |
| 1,2,3,7,8-PeCDD | 0.123 | 0.187 | 41 (≤50) | - | - |
| 1,2,3,4,7,8-HxCDD | 0.141 | 0.139 | 1 (≤50) | - | - |
| 1,2,3,6,7,8-HxCDD | 0.539 | 0.447 | 19 (≤50) | - | - |
| 1,2,3,7,8,9-HxCDD | 0.581 | 0.514 | 12 (≤50) | - | - |
| 1,2,3,4,6,7,8-HpCDD | 8.64 | 5.88 | 38 (≤50) | - | - |
| OCDD | 131 | 88.1 | 39 (≤50) | - | - |
| 2,3,7,8-TCDF | 0.137 | 0.0575 | 82 (≤50) | J (all detects) | A |
| 1,2,3,7,8-PeCDF | 0.355 | 0.300 | 17 (≤50) | - | - |
| 2,3,4,7,8-PeCDF | 0.209 | 0.149 | 34 (≤50) | - | - |
| 1,2,3,4,7,8-HxCDF | 0.105 | 0.131 | 22 (≤50) | - | - |
| 1,2,3,6,7,8-HxCDF | 0.117 | 0.196 | 50 (≤50) | - | - |
| 2,3,4,6,7,8-HxCDF | 0.144 | 0.182 | 23 (≤50) | - | - |
| 1,2,3,7,8,9-HxCDF | 0.260 | 0.279 | 7 (≤50) | - | - |
| 1,2,3,4,6,7,8-HpCDF | 1.25 | 0.891 | 34 (≤50) | - | - |
| 1,2,3,4,7,8,9-HpCDF | 0.121 | 0.134 | 10 (≤50) | - | - |
| OCDF | 3.64 | 2.05 | 56 (≤50) | J (all detects) | A |

**Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Data Qualification Summary - SDG PH057**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|---|--------------------------------------|------------------------------------|--------|---|
| PH057 | SL-852-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HpCDD OCDD | J (all detects) J (all detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q,E) |
| PH057 | SL-870-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | 2,3,7,8-TCDF | None | P | Compound quantitation (2 nd column confirmation) |
| PH057 | SL-850-SA5A-SB-0.0-0.5 SL-869-SA5A-SB-0.0-0.5 SL-870-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 SL-852-SA5A-SB-4.5-5.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |
| PH057 | SL-852-SA5A-SB-0.0-0.5 SL-1252-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDF OCDF | J (all detects) J (all detects) | A | Field duplicates (RPD) (FD) |

**Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG PH057**

| SDG | Sample | Analyte | Modified Final Concentration | A or P | Code |
|-------|------------------------|--|--|--------|------|
| PH057 | SL-850-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.0798U ng/Kg 0.152U ng/Kg 0.0846U ng/Kg 0.0683U ng/Kg 0.0916U ng/Kg 0.130U ng/Kg 0.0875U ng/Kg 0.190U ng/Kg | A | B |
| PH057 | SL-869-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,7,8-PeCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.0618U ng/Kg 0.0382U ng/Kg 0.148U ng/Kg 0.224U ng/Kg 0.356U ng/Kg 0.0957U ng/Kg 0.0523U ng/Kg 0.0494U ng/Kg 0.102U ng/Kg 0.0313U ng/Kg 0.167U ng/Kg | A | B |
| PH057 | SL-870-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.170U ng/Kg 0.0604U ng/Kg 0.248U ng/Kg 0.160U ng/Kg 0.102U ng/Kg 0.179U ng/Kg 0.165U ng/Kg | A | B |

| SDG | Sample | Analyte | Modified Final Concentration | A or P | Code |
|-------|-------------------------|--|--|--------|------|
| PH057 | SL-852-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 2,3,7,8-TCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.123U ng/Kg 0.141U ng/Kg 0.137U ng/Kg 0.209U ng/Kg 0.105U ng/Kg 0.117U ng/Kg 0.121U ng/Kg | A | B |
| PH057 | SL-1252-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.187U ng/Kg 0.139U ng/Kg 0.0575U ng/Kg 0.300U ng/Kg 0.149U ng/Kg 0.131U ng/Kg 0.134U ng/Kg | A | B |
| PH057 | SL-852-SA5A-SB-4.5-5.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.130U ng/Kg 0.0581U ng/Kg 0.0916U ng/Kg 0.0984U ng/Kg 0.0310U ng/Kg 0.123U ng/Kg 0.0843U ng/Kg 0.0481U ng/Kg 0.0579U ng/Kg 0.0453U ng/Kg 0.0438U ng/Kg 0.143U ng/Kg 0.0340U ng/Kg 0.182U ng/Kg | A | B |

**Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG PH057**

No Sample Data Qualified in this SDG

LDC #: 30037J21

VALIDATION COMPLETENESS WORKSHEET

Date: 7-17-13

SDG #: PH057

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: CM

2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|-------------------------|
| I. | Technical holding times | A | Sampling dates: 6/14/13 |
| II. | HRGC/HRMS Instrument performance check | A | |
| III. | Initial calibration | A | ≤ 20/35 |
| IV. | Continuing Calibration | A | QC limits |
| V. | Blanks | SW | |
| VI. | Matrix spike/Matrix spike duplicates | SW | 7/8 |
| VII. | Laboratory control samples | A | OPR |
| VIII. | Regional quality assurance and quality control | N | |
| IX. | Internal standards | A | |
| X. | Target compound identifications | A | |
| XI. | Compound quantitation/RL/LOQ/LODs | SW | |
| XII. | System performance | A | |
| XIII. | Overall assessment of data | A | |
| XIV. | Field duplicates | SW | D=4+5 |
| XV. | Field blanks | SW | see below |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Soil

| | | | | | | | |
|----|---------------------------|----|--|----|----------|----|--|
| 1 | SL-850-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-869-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | SL-870-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 | |
| 4 | SL-852-SA5A-SB-0.0-0.5 | 14 | | 24 | | 34 | |
| 5 | SL-1252-SA5A-SB-0.0-0.5 | 15 | | 25 | | 35 | |
| 6 | SL-852-SA5A-SB-4.5-5.5 | 16 | | 26 | | 36 | |
| 7 | SL-852-SA5A-SB-0.0-0.5MS | 17 | | 27 | | 37 | |
| 8 | SL-852-SA5A-SB-0.0-0.5MSD | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | 13175001 | 40 | |

Notes: EB = EB1-061213 (PH055)
 EB = EB2-061213 (PH055)
 FB = FB-041113 (PH029)

Method: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. GC/MS Instrument performance check | | | | |
| Was PFK exact mass 380.9760 verified? | / | | | |
| Were the retention time windows established for all homologues? | X | | ⊖ | |
| Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers < 25% ? | / | | | |
| Is the static resolving power at least 10,000 (10% valley definition)? | / | | | |
| Was the mass resolution adequately check with PFK? | / | | | |
| Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified? | | | / | |
| III. Initial calibration | | | | |
| Was the initial calibration performed at 5 concentration levels? | / | | | |
| Were all percent relative standard deviations (%RSD) ≤ 20% for unlabeled compounds and < 35% for labeled compounds ? | / | | | |
| Did all calibration standards meet the Ion Abundance Ratio criteria? | / | | | |
| Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard > 10? | / | | | |
| IV. Continuing calibration | | | | |
| Was a routine calibration performed at the beginning and end of each 12 hour period? | / | | | |
| Were all the concentrations for the unlabeled compounds and labeled compounds within the QC limits (Method 1613B, Table 6)? | / | | | |
| Did all routine calibration standards meet the Ion Abundance Ratio criteria? | / | | | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was a method blank performed for each matrix and concentration? | / | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet? | / | | | |
| VI. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | / | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | | / | | |
| VII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |
| Was an LCS analyzed per extraction batch? | / | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | / | | | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| VIII. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | / | | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| IX. Internal standards | | | | |
| Were internal standard recoveries within the 25-150% criteria? | / | | | |
| Was the minimum S/N ratio of all internal standard peaks > 10? | / | | | |
| X. Target compound identification | | | | |
| For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard? | / | | | |
| For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration? | | | / | |
| For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution? | | | / | |
| Did compound spectra contain all characteristic ions listed in the table attached? | / | | | |
| Was the Ion Abundance Ratio for the two quantitation ions within criteria? | | / | | |
| Was the signal to noise ratio for each target compound and labeled standard \geq 2.5? | / | | | |
| Does the maximum intensity of each specified characteristic ion coincide within \pm 2 seconds (includes labeled standards)? | / | | | |
| For PCDF identification, was any signal ($S/N \geq 2.5$, at \pm seconds RT) detected in the corresponding PCDPE channel? | | / | | |
| Was an acceptable lock mass recorded and monitored? | / | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound? | / | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target compounds were detected in the field duplicates. | / | | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | / | | | |

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

| | | | | |
|----------------------|------------------------|------------------------|------------------------|----------------|
| A. 2,3,7,8-TCDD | F. 1,2,3,4,6,7,8-HpCDD | K. 1,2,3,4,7,8-HxCDF | P. 1,2,3,4,7,8,9-HpCDF | U. Total HpCDD |
| B. 1,2,3,7,8-PeCDD | G. OCDD | L. 1,2,3,6,7,8-HxCDF | Q. OCDF | V. Total TCDF |
| C. 1,2,3,4,7,8-HxCDD | H. 2,3,7,8-TCDF | M. 2,3,4,6,7,8-HxCDF | R. Total TCDD | W. Total PeCDF |
| D. 1,2,3,6,7,8-HxCDD | I. 1,2,3,7,8-PeCDF | N. 1,2,3,7,8,9-HxCDF | S. Total PeCDD | X. Total HxCDF |
| E. 1,2,3,7,8,9-HxCDD | J. 2,3,4,7,8-PeCDF | O. 1,2,3,4,6,7,8-HpCDF | T. Total HxCDD | Y. Total HpCDF |

Notes: _____

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N N/A Were all samples associated with a method blank?
- N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?
- N N/A Was the method blank contaminated?

Blank extraction date: 06/24/13 Blank analysis date: 06/26/13 Associated samples: All Qual U (B)

Conc. units: ng/kg

| Compound | Blank ID | Sample Identification | | | | | | | |
|----------|----------|-----------------------|---------|---------|---------|--------|---------|---------|--|
| | | 5X | 1 | 2 | 3 | 4 | 5 | 6 | |
| | 13175001 | | | | | | | | |
| A | 0.0415 | 0.208 | | | | | | | |
| B | 0.0611 | 0.306 | 0.0798* | 0.0618* | 0.170* | 0.123* | 0.187* | 0.130* | |
| C | 0.0308 | 0.154 | 0.152* | 0.0382 | | 0.141* | 0.139 | 0.0581 | |
| D | 0.0519 | 0.260 | | 0.148* | | | | 0.0916* | |
| E | 0.0471 | 0.236 | | 0.224* | | | | 0.0984* | |
| F | 0.0996 | 0.498 | | 0.356* | | | | | |
| G | 0.326 | 1.63 | | | | | | | |
| H | 0.0358 | 0.179 | | | 0.0604* | 0.137 | 0.0575* | 0.0310* | |
| I | 0.0700 | 0.350 | 0.0846* | 0.0957* | 0.248 | | 0.300* | 0.123 | |
| J | 0.0563 | 0.282 | 0.0683* | | 0.160* | 0.209* | 0.149* | 0.0843 | |
| K | 0.0286 | 0.143 | 0.0916 | | 0.102 | 0.105* | 0.131 | 0.0481* | |
| L | 0.0359 | 0.180 | 0.130 | 0.0523* | 0.179 | 0.117* | | 0.0579* | |
| N | 0.0245 | 0.123 | | | | | | 0.0453* | |
| M | 0.0262 | 0.131 | 0.088 | 0.0494* | | | | 0.0438* | |
| O | 0.0351 | 0.176 | | 0.102 | | | | 0.143 | |
| P | 0.0615 | 0.308 | 0.190 | 0.0313* | 0.165 | 0.121 | 0.134 | 0.0340* | |
| Q | 0.0789 | 0.395 | | 0.167* | | | | 0.182 | |
| | | | | | | | | | |

*EMPC

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins (EPA Method 1613B)

Blank units: pg/L **Associated sample units:** ng/kg

Sampling date: 06/12/13

Field blank type: (circle one) Field Blank / Rinsate / Other: EB **Associated Samples:** ¹⁻³ ~~All~~ >5x

| Compound | Blank ID | Sample Identification | | | | | | | |
|----------|------------|-----------------------|--|--|--|--|--|--|--|
| | EB1-061213 | 5X | | | | | | | |
| A | 0.229* | 1.15 | | | | | | | |
| F | 0.921* | 4.61 | | | | | | | |
| G | 1.47 | 7.35 | | | | | | | |
| I | 0.548* | 2.74 | | | | | | | |
| J | 0.287* | 1.44 | | | | | | | |
| K | 0.351 | 1.76 | | | | | | | |
| L | 0.142* | 0.710 | | | | | | | |
| N | 0.337* | 1.69 | | | | | | | |
| M | 0.175* | 0.875 | | | | | | | |
| P | 0.362* | 1.81 | | | | | | | |
| Q | 0.904 | 4.52 | | | | | | | |
| | | | | | | | | | |
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* EMPC

EB1-061213 (PH055)

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins (EPA Method 1613B)

Blank units: pg/L **Associated sample units:** ng/kg

Sampling date: 06/12/13

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 4-6 ~~All~~ >5x

| Compound | Blank ID | Sample Identification | | | | | | | |
|----------|------------|-----------------------|--|--|--|--|--|--|--|
| | EB2-061213 | 5X | | | | | | | |
| D | 0.182* | 0.910 | | | | | | | |
| F | 0.479* | 2.40 | | | | | | | |
| G | 1.27* | 6.35 | | | | | | | |
| I | 0.425* | 2.13 | | | | | | | |
| J | 0.201* | 1.01 | | | | | | | |
| K | 0.265* | 1.33 | | | | | | | |
| L | 0.0943* | 0.472 | | | | | | | |
| N | 0.319 | 1.60 | | | | | | | |
| M | 0.198* | 0.990 | | | | | | | |
| O | 0.286* | 1.43 | | | | | | | |
| P | 0.439* | 2.20 | | | | | | | |
| G | 1.11* | 5.55 | | | | | | | |
| | | | | | | | | | |

* EMPC

EB2-061213 (PH055)

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins (EPA Method 1613B)

Blank units: pg/L **Associated sample units:** ng/kg

Sampling date: 04/11/13

Field blank type: (circle one) Field Blank / Rinsate / Other: FB **Associated Samples:** All >5x

| Compound | Blank ID | Sample Identification | | | | | | | |
|----------|-----------|-----------------------|--|--|--|--|--|--|--|
| | FB-041113 | 5X | | | | | | | |
| C | 0.125 | 0.625 | | | | | | | |
| E | 0.134* | 0.67 | | | | | | | |
| F | 0.402* | 2.01 | | | | | | | |
| I | 0.398* | 1.99 | | | | | | | |
| J | 0.316* | 1.58 | | | | | | | |
| K | 0.324 | 1.62 | | | | | | | |
| L | 0.221 | 1.105 | | | | | | | |
| N | 0.211* | 1.055 | | | | | | | |
| M | 0.149 | 0.745 | | | | | | | |
| O | 0.254* | 1.27 | | | | | | | |
| Q | 0.840* | 4.2 | | | | | | | |
| | | | | | | | | | |
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* EMPC

FB-041113 (PH029)

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET Matrix Spike/Matrix Spike Duplicates

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

Code: Q

| # | Date | MS/MSD ID | Compound | MS %R (Limits) | MSD %R (Limits) | RPD (Limits) | Associated Samples | Qualifications |
|---|----------|-----------|----------|----------------|-----------------|--------------|--------------------|----------------|
| | 06/26/13 | 7/8 | F | 215 (40-135) | () | 79 (20) | 4 | Jdets/A (F) |
| | | | G | 324 (40-135) | () | 72 (20) | | Jdets/A (G) |
| | | | | () | () | () | | |
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VALIDATION FINDINGS WORKSHEET Compound Quantitation and Reported CRQLs

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N N/A Were the correct internal standard (IS), quantitation ions and relative response factors (RRF) used to quantitate the compound?
- N N/A Compound quantitation and CRQLs were adjusted to reflect all sample dilutions and dry weight factors (if necessary).

| # | Date | Compound | Finding | Associated Samples | Qualifications |
|---|------|----------|------------------------------|--------------------|----------------|
| | | H | no 2,3,7,8-TCDF confirmation | 3, 4, 5, 6, | None / P |
| | | | | | |
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Comments: See sample calculation verification worksheet for recalculations

LDC# 30037J21

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: Th
2nd Reviewer: E

METHOD: HRGC/HRMS Dioxins/Furans (EPA Method 1613B)

N NA
 Y N NA

Were field duplicate pairs identified in this SDG?
Were target analytes detected in the field duplicate pairs?

| Compound | Concentration (ng/kg) | | RPD (≤50%) | Qualifications (Parent Only) |
|----------|---------------------------|----------------------------|---------------|---------------------------------|
| | 4 | 5 | | |
| B | 0.123* | 0.187* | 41 | -- |
| C | 0.141* | 0.139 | 1 | -- |
| D | 0.540 0.539 | 0.447 | 19 | -- |
| E | 0.581 | 0.643* 0.514 | 12 | -- |
| F | 8.64 | 5.87 5.88 | 38 | -- |
| G | 131 | 88.1 | 39 | -- |
| H | 0.137 | 0.0575* | 82 | Jdets/A (FD) |
| I | 0.355* | 0.300* | 17 | -- |
| J | 0.209* | 0.149* | 34 | -- |
| K | 0.105* | 0.131 | 22 | -- |
| L | 0.117* | 0.196* | 50 | -- |
| M | 0.144* | 0.182 | 23 | -- |
| N | 0.260* | 0.278* 0.279 | 7 | -- |
| O | 1.25 | 0.891 | 34 | -- |
| P | 0.121 | 0.134 | 10 | -- |
| Q | 3.65 3.64 | 2.05 | 56 | Jdets/A (FD) |
| | | | | |

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$
 average RRF = sum of the RRFs/number of standards
 %RSD = 100 * (S/X)

A_x = Area of compound,
 C_x = Concentration of compound,
 S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
 C_{is} = Concentration of internal standard
 X = Mean of the RRFs

| # | Standard ID | Calibration Date | Compound (Reference Internal Standard) | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|---|-----------------------|-----------------------|---------------|---------------|----------|--------------|
| | | | | Average RRF (initial) | Average RRF (initial) | RRF (CS3 std) | RRF (CS3 std) | %RSD | %RSD |
| 1 | ICAL | 6-19-13 | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | 1.0556 | 1.056 | 1.028 | 1.028 | 7.30 | 7.3 |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | 1.1957 | 1.196 | 1.107 | 1.107 | 10.82 | 10.8 |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | 0.9548 | 0.955 | 0.954 | 0.954 | 1.24 | 1.2 |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | 1.0602 | 1.061 | 1.034 | 1.034 | 8.10 | 8.1 |
| | | | OCDF (¹³ C-OCDF) | 0.9620 | 0.962 | 0.959 | 0.959 | 4.62 | 4.6 |
| 2 | | | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | | | | | | |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | | | | | | |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | | | | | | |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | | | | | | |
| | | | OCDF (¹³ C-OCDF) | | | | | | |
| 3 | | | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | | | | | | |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | | | | | | |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | | | | | | |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | | | | | | |
| | | | OCDF (¹³ C-OCDF) | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3003752

VALIDATION FINDINGS WORKSHEET
Routine Calibration Results Verification

Page: 1 of 1
 Reviewer: *[Signature]*
 2nd Reviewer: *[Signature]*

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
 RRF = (A_x)(C_{is})/(A_{is})(C_x)

Where: ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 A_x = Area of compound, A_{is} = Area of associated internal standard
 C_x = Concentration of compound, C_{is} = Concentration of internal standard

| # | Standard ID | Calibration Date | Compound (Reference Internal Standard) | Spiked Conc (ng/mL) | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|---|---------------------|--------------|--------------|----------|--------------|
| | | | | | Conc (ng/mL) | Conc (ng/mL) | %R | %R |
| 1 | CS3CCO2 | 6-26-13 | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | 10 | 9.450 | 9.45 | 94 | 94.5 |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | 10 | 9.460 | 9.46 | 95 | 95 |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | 50 | 49.250 | 49.25 | 98 | 98.5 |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | 50 | 47.800 | 47.80 | 96 | 96 |
| | | | OCDF (¹³ C-OCDF) | 100 | 91.750 | 91.75 | 92 | 92 |
| 2 | | | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | 10 | | | | |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | 10 | | | | |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | 50 | | | | |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | 50 | | | | |
| | | | OCDF (¹³ C-OCDF) | 100 | | | | |
| 3 | | | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | 10 | | | | |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | 10 | | | | |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | 50 | | | | |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | 50 | | | | |
| | | | OCDF (¹³ C-OCDF) | 100 | | | | |

Comments: Refer to Routine Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSR - SR)/SA

Where: SSR = Spiked sample result, SR = Sample result
 SA = Spike added

RPD = |MSR - MSDR| * 2 / (MSR + MSDR)

MSR = Matrix spike percent recovery MSDR = Matrix spike duplicate percent recovery

MS/MSD samples: 7/8

| Compound | Spike Added (ng/kg) | | Sample Concentration (ng/kg) | Spiked Sample Concentration (ng/kg) | | Matrix Spike | | Matrix Spike Duplicate | | Reported | Recalculated |
|---------------------|---------------------|------|------------------------------|-------------------------------------|------|------------------|---------|------------------------|---------|----------|--------------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | RPD |
| | | | | | | Reported | Recalc. | Reported | Recalc. | | |
| 2,3,7,8-TCDD | 20.1 | 19.6 | ND | 18.9 | 18.3 | 94 | 94 | 93 | 93 | 4 | 3.2 |
| 1,2,3,7,8-PeCDD | 101 | 98 | 0.123 | 96.1 | 92.2 | 95 | 95 | 94 | 94 | 4 | 4 |
| 1,2,3,4,7,8-HxCDD | 101 | 98 | 0.141 | 97.3 | 88.9 | 97 | 96 | 91 | 90.5 | 9 | 9 |
| 1,2,3,4,7,8,9-HpCDF | 101 | 98 | 0.121 | 86.9 | 85.6 | 86 | 86 | 87 | 87 | 2 | 1.5 |
| OCDF | 201 | 196 | 3.65 | 175 | 173 | 85 | 85 | 86 | 86 | 1 | 1 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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Comments: Refer to Matrix Spike/Matrix Spike Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

Y N N/A
 Y N N/A

Were all reported results recalculated and verified for all level IV samples?
 Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$$

- A_x = Area of the characteristic ion (EICP) for the compound to be measured
- A_{is} = Area of the characteristic ion (EICP) for the specific internal standard
- I_s = Amount of internal standard added in nanograms (ng)
- V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).
- RRF = Relative Response Factor (average) from the initial calibration
- Df = Dilution Factor.
- %S = Percent solids, applicable to soil and solid matrices only.

Example:

Sample I.D. 6, G:

$$\text{Conc.} = \frac{(20765 + 18184)(4000)(1)}{(822212 + 729926)(1.0246)(10.14)(0.913)} = 10.6 \text{ ng/Kg}$$

| # | Sample ID | Compound | Reported Concentration () | Calculated Concentration () | Qualification |
|---|-----------|----------|-------------------------------|---------------------------------|---------------|
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LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L, Carlsbad, CA 92009 Bus: 760/634-0437 Fax: 760/634-0439

CDM
555 17th Street, Suite 1100
Denver, CO 80202
ATTN: Mrs. Cherie Zakowski

August 16, 2013

SUBJECT: Santa Susana Field Laboratory, Data Validation

Dear Mrs. Zakowski,

Enclosed is the final validation report for the fractions listed below. These SDGs were received on July 18, 2013.

LDC project# 30074:

| <u>SDG #</u> | <u>Fraction</u> |
|-----------------------|--|
| PH054, PH055 PH056 | Semivolatiles (EPA SW 846 Method 8270D-SIM) Chlorinated Pesticides (EPA SW 846 Method 8081A) PCBs (EPA SW 846 Method 8082) Metals (EPA SW 846 Method 6010C/6020A/7471B/7470A) TPH-G (EPA SW 846 Method 8015M) TPH-E (EPA SW 846 Method 8015M) Formaldehyde (EPA SW 846 Method 8315A) Perchlorate (EPA SW 846 Method 6850) Dioxins/Dibenzofurans (EPA Method 1613B) Hexavalent Chromium (EPA SW 846 Method 7199) |

The following deliverables are submitted under this report:

- Attachment I Sample ID Cross Reference and Data Review Level
- Attachment II Overall Data Qualification Summary
- Enclosure I Level III ADR Outliers (including manual review outliers)
- Enclosure II Level IV Validation Reports

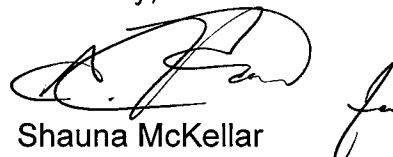
The data validation was performed in accordance to the Quality Assurance Project Plan for Santa Susana Field Laboratory, RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4), USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005), and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures

- Initial Calibration (Level IV only)
- Continuing Calibration (Level IV only)
- Blanks
- Surrogates
- Matrix Spike/Matrix Spike Duplicates
- Laboratory Duplicates
- Laboratory Control Samples
- Internal Standards (Level IV only)
- ICP Serial Dilution (Manual Review)
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,



Shauna McKellar
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 11-Jun-2013 | TB-061113 | 7089822 | TB | 5030B | 8015M | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-0.0-0.5 | 7089820 | N | 3050B | 6010C | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-0.0-0.5 | 7089820 | N | 3050B | 6020A | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-0.0-0.5 | 7089820 | N | 3060A | 7199 | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-0.0-0.5 | 7089820 | N | 3546 | 8015M | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-0.0-0.5 | 7089820 | N | 3546 | 8082A | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-0.0-0.5 | 7089820 | N | 3546 | 8270D SIM | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-0.0-0.5 | 7089820 | N | METHOD | 1613B | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-0.0-0.5 | 7089820 | N | METHOD | 7471B | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-0.0-0.5 | 7089820 | N | METHOD | 8315A | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-5.0-6.0 | 7089821 | N | 3050B | 6010C | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-5.0-6.0 | 7089821 | N | 3050B | 6020A | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-5.0-6.0 | 7089821 | N | 3060A | 7199 | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-5.0-6.0 | 7089821 | N | 3546 | 8015M | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-5.0-6.0 | 7089821 | N | 3546 | 8082A | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-5.0-6.0 | 7089821 | N | 3546 | 8270D SIM | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-5.0-6.0 | 7089821 | N | 5035A | 8015M | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-5.0-6.0 | 7089821 | N | METHOD | 1613B | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-5.0-6.0 | 7089821 | N | METHOD | 7471B | IV |
| 11-Jun-2013 | SL-789-SA5A-SB-5.0-6.0 | 7089821 | N | METHOD | 8315A | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5 | 7089812 | N | 3050B | 6010C | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5 | 7089812 | N | 3050B | 6020A | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5 | 7089812 | N | 3060A | 7199 | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5 | 7089812 | N | 3546 | 8015M | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5 | 7089812 | N | 3546 | 8082A | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5 | 7089812 | N | 3546 | 8270D SIM | IV |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5 | 7089812 | N | METHOD | 1613B | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5 | 7089812 | N | METHOD | 7471B | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5 | 7089812 | N | METHOD | 8315A | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MS | 7089813 | MS | 3050B | 6010C | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MS | 7089813 | MS | 3050B | 6020A | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MS | 7089813 | MS | 3546 | 8015M | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MS | 7089813 | MS | 3546 | 8082A | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MS | 7089813 | MS | 3546 | 8270D SIM | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MS | 7089813 | MS | METHOD | 1613B | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MS | 7089813 | MS | METHOD | 7471B | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MS | 7089813 | MS | METHOD | 8315A | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MSD | 7089814 | MSD | 3050B | 6010C | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MSD | 7089814 | MSD | 3050B | 6020A | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MSD | 7089814 | MSD | 3546 | 8015M | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MSD | 7089814 | MSD | 3546 | 8082A | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MSD | 7089814 | MSD | 3546 | 8270D SIM | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MSD | 7089814 | MSD | METHOD | 1613B | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MSD | 7089814 | MSD | METHOD | 7471B | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5MSD | 7089814 | MSD | METHOD | 8315A | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5DUP | 7089818 | DUP | 3050B | 6010C | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5DUP | 7089818 | DUP | 3050B | 6020A | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5DUP | 7089818 | DUP | 3060A | 7199 | IV |
| 11-Jun-2013 | SL-783-SA5A-SB-0.0-0.5DUP | 7089818 | DUP | METHOD | 7471B | IV |
| 11-Jun-2013 | SL-1183-SA5A-SB-0.0-0.5 | 7089819 | FD | 3050B | 6010C | IV |
| 11-Jun-2013 | SL-1183-SA5A-SB-0.0-0.5 | 7089819 | FD | 3050B | 6020A | IV |
| 11-Jun-2013 | SL-1183-SA5A-SB-0.0-0.5 | 7089819 | FD | 3060A | 7199 | IV |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|-------------------------|---------------|-------------|-------------|-------------------|--------------|
| 11-Jun-2013 | SL-1183-SA5A-SB-0.0-0.5 | 7089819 | FD | 3546 | 8015M | IV |
| 11-Jun-2013 | SL-1183-SA5A-SB-0.0-0.5 | 7089819 | FD | 3546 | 8082A | IV |
| 11-Jun-2013 | SL-1183-SA5A-SB-0.0-0.5 | 7089819 | FD | 3546 | 8270D SIM | IV |
| 11-Jun-2013 | SL-1183-SA5A-SB-0.0-0.5 | 7089819 | FD | METHOD | 1613B | IV |
| 11-Jun-2013 | SL-1183-SA5A-SB-0.0-0.5 | 7089819 | FD | METHOD | 7471B | IV |
| 11-Jun-2013 | SL-1183-SA5A-SB-0.0-0.5 | 7089819 | FD | METHOD | 8315A | IV |
| 11-Jun-2013 | SL-787-SA5A-SB-0.0-0.5 | 7089825 | N | 3050B | 6010C | IV |
| 11-Jun-2013 | SL-787-SA5A-SB-0.0-0.5 | 7089825 | N | 3050B | 6020A | IV |
| 11-Jun-2013 | SL-787-SA5A-SB-0.0-0.5 | 7089825 | N | 3546 | 8015M | IV |
| 11-Jun-2013 | SL-787-SA5A-SB-0.0-0.5 | 7089825 | N | 3546 | 8270D SIM | IV |
| 11-Jun-2013 | SL-787-SA5A-SB-0.0-0.5 | 7089825 | N | METHOD | 1613B | IV |
| 11-Jun-2013 | SL-787-SA5A-SB-0.0-0.5 | 7089825 | N | METHOD | 7471B | IV |
| 11-Jun-2013 | SL-786-SA5A-SB-0.0-0.5 | 7089824 | N | 3050B | 6010C | IV |
| 11-Jun-2013 | SL-786-SA5A-SB-0.0-0.5 | 7089824 | N | 3050B | 6020A | IV |
| 11-Jun-2013 | SL-786-SA5A-SB-0.0-0.5 | 7089824 | N | 3546 | 8015M | IV |
| 11-Jun-2013 | SL-786-SA5A-SB-0.0-0.5 | 7089824 | N | 3546 | 8270D SIM | IV |
| 11-Jun-2013 | SL-786-SA5A-SB-0.0-0.5 | 7089824 | N | METHOD | 1613B | IV |
| 11-Jun-2013 | SL-786-SA5A-SB-0.0-0.5 | 7089824 | N | METHOD | 7471B | IV |
| 11-Jun-2013 | SL-785-SA5A-SB-0.0-0.5 | 7089823 | N | 3050B | 6010C | IV |
| 11-Jun-2013 | SL-785-SA5A-SB-0.0-0.5 | 7089823 | N | 3050B | 6020A | IV |
| 11-Jun-2013 | SL-785-SA5A-SB-0.0-0.5 | 7089823 | N | 3546 | 8015M | IV |
| 11-Jun-2013 | SL-785-SA5A-SB-0.0-0.5 | 7089823 | N | 3546 | 8270D SIM | IV |
| 11-Jun-2013 | SL-785-SA5A-SB-0.0-0.5 | 7089823 | N | METHOD | 1613B | IV |
| 11-Jun-2013 | SL-785-SA5A-SB-0.0-0.5 | 7089823 | N | METHOD | 7471B | IV |
| 11-Jun-2013 | SL-788-SA5A-SB-0.0-0.5 | 7089826 | N | 3050B | 6010C | IV |
| 11-Jun-2013 | SL-788-SA5A-SB-0.0-0.5 | 7089826 | N | 3050B | 6020A | IV |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 11-Jun-2013 | SL-788-SA5A-SB-0.0-0.5 | 7089826 | N | 3546 | 8015M | IV |
| 11-Jun-2013 | SL-788-SA5A-SB-0.0-0.5 | 7089826 | N | 3546 | 8082A | IV |
| 11-Jun-2013 | SL-788-SA5A-SB-0.0-0.5 | 7089826 | N | 3546 | 8270D SIM | IV |
| 11-Jun-2013 | SL-788-SA5A-SB-0.0-0.5 | 7089826 | N | METHOD | 1613B | IV |
| 11-Jun-2013 | SL-788-SA5A-SB-0.0-0.5 | 7089826 | N | METHOD | 7471B | IV |

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

| | | | |
|---|--------------------------------------|-------------------------------|--------------------|
| Sample ID: SL-1183-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 10:15:00 | Analysis Type: REA/TOT | Dilution: 1 |
|---|--------------------------------------|-------------------------------|--------------------|

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| COPPER | 12.4 | | 0.186 | MDL | 2.07 | PQL | mg/Kg | J | Q, FD |

| | | | |
|---|--------------------------------------|-------------------------------|--------------------|
| Sample ID: SL-1183-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 10:15:00 | Analysis Type: RES/TOT | Dilution: 1 |
|---|--------------------------------------|-------------------------------|--------------------|

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.13 | U | 0.517 | MDL | 4.13 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.792 | J | 0.0692 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| BORON | 4.22 | J | 0.857 | MDL | 10.3 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.639 | J | 0.0341 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| CHROMIUM | 19.3 | | 0.0909 | MDL | 3.10 | PQL | mg/Kg | J | Q, E |
| COBALT | 10.6 | | 0.0930 | MDL | 1.03 | PQL | mg/Kg | J | FD |
| MOLYBDENUM | 0.442 | J | 0.176 | MDL | 2.07 | PQL | mg/Kg | UJ | FD, B, F |
| PHOSPHORUS | 429 | | 0.527 | MDL | 10.3 | PQL | mg/Kg | J | Q |
| TIN | 3.32 | J | 0.227 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 1.41 | J | 0.857 | MDL | 5.17 | PQL | mg/Kg | J | Z |

| | | | |
|--|--------------------------------------|-------------------------------|--------------------|
| Sample ID: SL-783-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 10:00:00 | Analysis Type: RES/TOT | Dilution: 1 |
|--|--------------------------------------|-------------------------------|--------------------|

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.05 | U | 0.506 | MDL | 4.05 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.75 | J | 0.334 | MDL | 4.05 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.581 | J | 0.0678 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 4.93 | J | 0.840 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.712 | J | 0.0334 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| CHROMIUM | 22.9 | | 0.0891 | MDL | 3.04 | PQL | mg/Kg | J | Q, E |
| COBALT | 5.77 | | 0.0911 | MDL | 1.01 | PQL | mg/Kg | J | FD |
| COPPER | 0.571 | J | 0.182 | MDL | 2.02 | PQL | mg/Kg | J | Z, Q, FD |
| MOLYBDENUM | 1.19 | J | 0.172 | MDL | 2.02 | PQL | mg/Kg | UJ | FD, B, F |
| PHOSPHORUS | 394 | | 0.516 | MDL | 10.1 | PQL | mg/Kg | J | Q |
| TIN | 2.68 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 2.13 | J | 0.840 | MDL | 5.06 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-785-SA5A-SB-0.0-0.5 Collected: 6/11/2013 2:05:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| COPPER | 9.95 | | 0.182 | MDL | 2.03 | PQL | mg/Kg | J | Q |

Sample ID: SL-785-SA5A-SB-0.0-0.5 Collected: 6/11/2013 2:05:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.05 | U | 0.507 | MDL | 4.05 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.41 | J | 0.334 | MDL | 4.05 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.578 | J | 0.0679 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 5.43 | J | 0.841 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.607 | J | 0.0334 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| CHROMIUM | 17.3 | | 0.0892 | MDL | 3.04 | PQL | mg/Kg | J | Q, E |
| MOLYBDENUM | 0.396 | J | 0.172 | MDL | 2.03 | PQL | mg/Kg | U | B, F |
| PHOSPHORUS | 358 | | 0.517 | MDL | 10.1 | PQL | mg/Kg | J | Q |
| SODIUM | 99.9 | J | 16.9 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 2.42 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 2.04 | J | 0.841 | MDL | 5.07 | PQL | mg/Kg | J | Z |

Sample ID: SL-786-SA5A-SB-0.0-0.5 Collected: 6/11/2013 1:20:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| COPPER | 9.61 | | 0.178 | MDL | 1.98 | PQL | mg/Kg | J | Q |

Sample ID: SL-786-SA5A-SB-0.0-0.5 Collected: 6/11/2013 1:20:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 3.96 | U | 0.495 | MDL | 3.96 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 2.82 | J | 0.327 | MDL | 3.96 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.507 | J | 0.0663 | MDL | 0.990 | PQL | mg/Kg | J | Z |
| BORON | 4.66 | J | 0.822 | MDL | 9.90 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.660 | J | 0.0327 | MDL | 0.990 | PQL | mg/Kg | J | Z |
| CHROMIUM | 18.7 | | 0.0871 | MDL | 2.97 | PQL | mg/Kg | J | Q, E |
| MOLYBDENUM | 0.313 | J | 0.168 | MDL | 1.98 | PQL | mg/Kg | U | B, F |
| PHOSPHORUS | 464 | | 0.505 | MDL | 9.90 | PQL | mg/Kg | J | Q |
| SODIUM | 88.0 | J | 16.5 | MDL | 99.0 | PQL | mg/Kg | J | Z |
| TIN | 2.50 | J | 0.218 | MDL | 9.90 | PQL | mg/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

| Sample ID: SL-786-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 1:20:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| Zirconium | 1.23 | J | 0.822 | MDL | 4.95 | PQL | mg/Kg | J | Z |

| Sample ID: SL-787-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 12:30:00 | Analysis Type: REA/TOT | Dilution: 1 | | | | | | |
|--|--------------------------------------|-------------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| COPPER | 8.70 | | 0.185 | MDL | 2.06 | PQL | mg/Kg | J | Q |

| Sample ID: SL-787-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 12:30:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|--|--------------------------------------|-------------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.12 | U | 0.515 | MDL | 4.12 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.97 | J | 0.340 | MDL | 4.12 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.681 | J | 0.0690 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| BORON | 5.37 | J | 0.855 | MDL | 10.3 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.582 | J | 0.0340 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| CHROMIUM | 19.3 | | 0.0906 | MDL | 3.09 | PQL | mg/Kg | J | Q, E |
| MOLYBDENUM | 0.349 | J | 0.175 | MDL | 2.06 | PQL | mg/Kg | U | B, F |
| PHOSPHORUS | 310 | | 0.525 | MDL | 10.3 | PQL | mg/Kg | J | Q |
| SODIUM | 101 | J | 17.2 | MDL | 103 | PQL | mg/Kg | J | Z |
| TIN | 2.48 | J | 0.227 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 2.09 | J | 0.855 | MDL | 5.15 | PQL | mg/Kg | J | Z |

| Sample ID: SL-788-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 2:50:00 | Analysis Type: REA/TOT | Dilution: 1 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| COPPER | 9.01 | | 0.174 | MDL | 1.94 | PQL | mg/Kg | J | Q |

| Sample ID: SL-788-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 2:50:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 3.88 | U | 0.485 | MDL | 3.88 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.52 | J | 0.320 | MDL | 3.88 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.560 | J | 0.0649 | MDL | 0.969 | PQL | mg/Kg | J | Z |
| BORON | 6.80 | J | 0.804 | MDL | 9.69 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.582 | J | 0.0320 | MDL | 0.969 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

| Sample ID: SL-788-SA5A-SB-0.0-0.5 | | Collected: 6/11/2013 2:50:00 | | Analysis Type: RES/TOT | | Dilution: 1 | | | |
|--|------------|-------------------------------------|--------|-------------------------------|------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| CHROMIUM | 16.6 | | 0.0853 | MDL | 2.91 | PQL | mg/Kg | J | Q, E |
| MOLYBDENUM | 0.355 | J | 0.165 | MDL | 1.94 | PQL | mg/Kg | U | B, F |
| PHOSPHORUS | 571 | | 0.494 | MDL | 9.69 | PQL | mg/Kg | J | Q |
| SODIUM | 84.6 | J | 16.2 | MDL | 96.9 | PQL | mg/Kg | J | Z |
| TIN | 2.55 | J | 0.213 | MDL | 9.69 | PQL | mg/Kg | U | B |
| Zirconium | 1.75 | J | 0.804 | MDL | 4.85 | PQL | mg/Kg | J | Z |

| Sample ID: SL-789-SA5A-SB-0.0-0.5 | | Collected: 6/11/2013 9:00:00 | | Analysis Type: REA/TOT | | Dilution: 1 | | | |
|--|------------|-------------------------------------|-------|-------------------------------|------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| COPPER | 9.36 | | 0.180 | MDL | 2.00 | PQL | mg/Kg | J | Q |

| Sample ID: SL-789-SA5A-SB-0.0-0.5 | | Collected: 6/11/2013 9:00:00 | | Analysis Type: RES/TOT | | Dilution: 1 | | | |
|--|------------|-------------------------------------|--------|-------------------------------|------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.01 | U | 0.501 | MDL | 4.01 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.87 | J | 0.331 | MDL | 4.01 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.606 | J | 0.0671 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 5.38 | J | 0.832 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.625 | J | 0.0331 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| CHROMIUM | 19.4 | | 0.0882 | MDL | 3.01 | PQL | mg/Kg | J | Q, E |
| MOLYBDENUM | 0.534 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | B, F |
| PHOSPHORUS | 461 | | 0.511 | MDL | 10.0 | PQL | mg/Kg | J | Q |
| TIN | 2.51 | J | 0.220 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 2.07 | J | 0.832 | MDL | 5.01 | PQL | mg/Kg | J | Z |

| Sample ID: SL-789-SA5A-SB-5.0-6.0 | | Collected: 6/11/2013 9:30:00 | | Analysis Type: REA/TOT | | Dilution: 1 | | | |
|--|------------|-------------------------------------|-------|-------------------------------|------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| COPPER | 6.45 | | 0.188 | MDL | 2.09 | PQL | mg/Kg | J | Q |

| Sample ID: SL-789-SA5A-SB-5.0-6.0 | | Collected: 6/11/2013 9:30:00 | | Analysis Type: RES/TOT | | Dilution: 1 | | | |
|--|------------|-------------------------------------|-------|-------------------------------|------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.17 | U | 0.521 | MDL | 4.17 | PQL | mg/Kg | UJ | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-789-SA5A-SB-5.0-6.0 Collected: 6/11/2013 9:30:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ARSENIC | 3.70 | J | 0.344 | MDL | 4.17 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.671 | J | 0.0699 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| BORON | 5.01 | J | 0.866 | MDL | 10.4 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.540 | J | 0.0344 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| CHROMIUM | 22.1 | | 0.0918 | MDL | 3.13 | PQL | mg/Kg | J | Q, E |
| MOLYBDENUM | 0.245 | J | 0.177 | MDL | 2.09 | PQL | mg/Kg | U | B, F |
| PHOSPHORUS | 126 | | 0.532 | MDL | 10.4 | PQL | mg/Kg | J | Q |
| TIN | 2.79 | J | 0.229 | MDL | 10.4 | PQL | mg/Kg | U | B |
| Zirconium | 1.62 | J | 0.866 | MDL | 5.21 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-1183-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:15:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.177 | J | 0.103 | MDL | 0.413 | PQL | mg/Kg | J | Z, Q, FD |

Sample ID: SL-1183-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:15:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.207 | U | 0.0207 | MDL | 0.207 | PQL | mg/Kg | UJ | FD |
| STRONTIUM | 22.4 | | 0.0351 | MDL | 0.413 | PQL | mg/Kg | J | Q |
| THALLIUM | 0.283 | | 0.0310 | MDL | 0.207 | PQL | mg/Kg | J | Q |

Sample ID: SL-783-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:00:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.405 | U | 0.101 | MDL | 0.405 | PQL | mg/Kg | UJ | FD |

Sample ID: SL-783-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:00:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0599 | J | 0.0202 | MDL | 0.202 | PQL | mg/Kg | J | Z, Q, FD |
| STRONTIUM | 19.0 | | 0.0344 | MDL | 0.405 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-783-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:00:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| THALLIUM | 0.252 | | 0.0304 | MDL | 0.202 | PQL | mg/Kg | J | Q |

Sample ID: SL-785-SA5A-SB-0.0-0.5 Collected: 6/11/2013 2:05:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.181 | J | 0.101 | MDL | 0.405 | PQL | mg/Kg | J | Z, Q |

Sample ID: SL-785-SA5A-SB-0.0-0.5 Collected: 6/11/2013 2:05:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0534 | J | 0.0203 | MDL | 0.203 | PQL | mg/Kg | J | Z, Q |
| STRONTIUM | 31.1 | | 0.0344 | MDL | 0.405 | PQL | mg/Kg | J | Q |
| THALLIUM | 0.335 | | 0.0304 | MDL | 0.203 | PQL | mg/Kg | J | Q |

Sample ID: SL-786-SA5A-SB-0.0-0.5 Collected: 6/11/2013 1:20:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.131 | J | 0.0990 | MDL | 0.396 | PQL | mg/Kg | J | Z, Q |

Sample ID: SL-786-SA5A-SB-0.0-0.5 Collected: 6/11/2013 1:20:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0451 | J | 0.0198 | MDL | 0.198 | PQL | mg/Kg | J | Z, Q |
| STRONTIUM | 19.8 | | 0.0337 | MDL | 0.396 | PQL | mg/Kg | J | Q |
| THALLIUM | 0.256 | | 0.0297 | MDL | 0.198 | PQL | mg/Kg | J | Q |

Sample ID: SL-787-SA5A-SB-0.0-0.5 Collected: 6/11/2013 12:30:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.169 | J | 0.103 | MDL | 0.412 | PQL | mg/Kg | J | Z, Q |

Sample ID: SL-787-SA5A-SB-0.0-0.5 Collected: 6/11/2013 12:30:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0504 | J | 0.0206 | MDL | 0.206 | PQL | mg/Kg | J | Z, Q |
| STRONTIUM | 32.8 | | 0.0350 | MDL | 0.412 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS

Method: 6020A

Matrix: SO

Sample ID: SL-787-SA5A-SB-0.0-0.5

Collected: 6/11/2013 12:30:00

Analysis Type: RES/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| THALLIUM | 0.406 | | 0.0309 | MDL | 0.206 | PQL | mg/Kg | J | Q |

Sample ID: SL-788-SA5A-SB-0.0-0.5

Collected: 6/11/2013 2:50:00

Analysis Type: REA/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.192 | J | 0.0969 | MDL | 0.388 | PQL | mg/Kg | J | Z, Q |

Sample ID: SL-788-SA5A-SB-0.0-0.5

Collected: 6/11/2013 2:50:00

Analysis Type: RES/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0873 | J | 0.0194 | MDL | 0.194 | PQL | mg/Kg | J | Z, Q |
| STRONTIUM | 34.5 | | 0.0330 | MDL | 0.388 | PQL | mg/Kg | J | Q |
| THALLIUM | 0.331 | | 0.0291 | MDL | 0.194 | PQL | mg/Kg | J | Q |

Sample ID: SL-789-SA5A-SB-0.0-0.5

Collected: 6/11/2013 9:00:00

Analysis Type: REA/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.168 | J | 0.100 | MDL | 0.401 | PQL | mg/Kg | J | Z, Q |

Sample ID: SL-789-SA5A-SB-0.0-0.5

Collected: 6/11/2013 9:00:00

Analysis Type: RES/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0866 | J | 0.0200 | MDL | 0.200 | PQL | mg/Kg | UJ | Q, F |
| STRONTIUM | 37.0 | | 0.0341 | MDL | 0.401 | PQL | mg/Kg | J | Q |
| THALLIUM | 0.436 | | 0.0301 | MDL | 0.200 | PQL | mg/Kg | J | Q |

Sample ID: SL-789-SA5A-SB-5.0-6.0

Collected: 6/11/2013 9:30:00

Analysis Type: RES/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0830 | J | 0.0209 | MDL | 0.209 | PQL | mg/Kg | UJ | Q, F |
| STRONTIUM | 25.4 | | 0.0355 | MDL | 0.417 | PQL | mg/Kg | J | Q |
| THALLIUM | 0.241 | | 0.0313 | MDL | 0.209 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 7199 | Matrix: SO |

| Sample ID: SL-1183-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 10:15:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|---|--------------------------------------|-------------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| HEXAVALENT CHROMIUM | 0.27 | J | 0.14 | MDL | 0.41 | PQL | mg/Kg | J | Z, E, FD |

| Sample ID: SL-783-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 10:00:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|--|--------------------------------------|-------------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| HEXAVALENT CHROMIUM | 0.49 | | 0.14 | MDL | 0.41 | PQL | mg/Kg | J | E, FD |

| Sample ID: SL-789-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 9:00:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| HEXAVALENT CHROMIUM | 0.54 | | 0.14 | MDL | 0.40 | PQL | mg/Kg | J | E |

| Sample ID: SL-789-SA5A-SB-5.0-6.0 | Collected: 6/11/2013 9:30:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| HEXAVALENT CHROMIUM | 0.49 | | 0.15 | MDL | 0.43 | PQL | mg/Kg | J | E |

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 7471B | Matrix: SO |

| Sample ID: SL-1183-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 10:15:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|---|--------------------------------------|-------------------------------|--------------------|---------|--------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MERCURY | 0.0171 | U | 0.0103 | MDL | 0.0171 | PQL | mg/Kg | UJ | FD |

| Sample ID: SL-783-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 10:00:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|--|--------------------------------------|-------------------------------|--------------------|---------|--------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MERCURY | 0.0214 | | 0.010 | MDL | 0.0166 | PQL | mg/Kg | J | FD |

| Sample ID: SL-785-SA5A-SB-0.0-0.5 | Collected: 6/11/2013 2:05:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|--------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MERCURY | 0.0115 | J | 0.0100 | MDL | 0.0167 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase.3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 7471B | Matrix: SO |

Sample ID: SL-788-SA5A-SB-0.0-0.5 Collected: 6/11/2013 2:50:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0131 | J | 0.0097 | MDL | 0.0162 | PQL | mg/Kg | J | Z |

Sample ID: SL-789-SA5A-SB-0.0-0.5 Collected: 6/11/2013 9:00:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0120 | J | 0.010 | MDL | 0.0166 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|--------------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-1183-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 5.97 | B | 0.0419 | MDL | 5.17 | PQL | ng/Kg | J | FD |
| 1,2,3,4,6,7,8-HPCDF | 0.578 | JB | 0.0147 | MDL | 5.17 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8,9-HPCDF | 0.209 | JBQ | 0.0240 | MDL | 5.17 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 0.196 | JBQ | 0.0371 | MDL | 5.17 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDF | 0.134 | JBQ | 0.0208 | MDL | 5.17 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HxCDD | 0.373 | JB | 0.0380 | MDL | 5.17 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,6,7,8-HxCDF | 0.156 | JBQ | 0.0195 | MDL | 5.17 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8,9-HxCDD | 0.354 | JBQ | 0.0363 | MDL | 5.17 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8,9-HxCDF | 0.210 | JB | 0.0201 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.138 | JBQ | 0.0330 | MDL | 5.17 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDF | 0.146 | JBQ | 0.0196 | MDL | 5.17 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,6,7,8-HxCDF | 0.175 | JBQ | 0.0184 | MDL | 5.17 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,7,8-PECDF | 0.123 | JBQ | 0.0200 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0482 | JBQ | 0.0278 | MDL | 1.03 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDF | 0.0352 | JBQ | 0.0273 | MDL | 1.03 | PQL | ng/Kg | UJ | B, FD |
| OCDD | 58.8 | B | 0.0384 | MDL | 10.3 | PQL | ng/Kg | J | FD |
| OCDF | 1.14 | JB | 0.0344 | MDL | 10.3 | PQL | ng/Kg | J | Z, FD |

Sample ID: SL-783-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 50.4 | B | 0.111 | MDL | 5.08 | PQL | ng/Kg | J | FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-783-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 3.98 | JB | 0.0280 | MDL | 5.08 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8,9-HPCDF | 0.413 | JB | 0.0396 | MDL | 5.08 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 0.711 | JB | 0.0619 | MDL | 5.08 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8-HXCDF | 0.294 | JB | 0.0299 | MDL | 5.08 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HxCDD | 1.80 | JB | 0.0697 | MDL | 5.08 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,6,7,8-HXCDF | 0.305 | JBQ | 0.0306 | MDL | 5.08 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8,9-HxCDD | 1.74 | JB | 0.0628 | MDL | 5.08 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HXCDF | 0.244 | JB | 0.0288 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.514 | JB | 0.0571 | MDL | 5.08 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDF | 0.351 | JBQ | 0.0304 | MDL | 5.08 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,6,7,8-HXCDF | 0.324 | JB | 0.0273 | MDL | 5.08 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,7,8-PECDF | 0.177 | JBQ | 0.0301 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 1.02 | U | 0.0384 | MDL | 1.02 | PQL | ng/Kg | UJ | FD |
| 2,3,7,8-TCDF | 0.0889 | JBQ | 0.0455 | MDL | 1.02 | PQL | ng/Kg | UJ | B, FD |
| OCDD | 1170 | B | 0.0692 | MDL | 10.2 | PQL | ng/Kg | J | FD |
| OCDF | 12.4 | B | 0.0357 | MDL | 10.2 | PQL | ng/Kg | J | FD |

Sample ID: SL-785-SA5A-SB-0.0-0.5 Collected: 6/11/2013 2:05:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 3.68 | JB | 0.0197 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.280 | JBQ | 0.0293 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.710 | JBQ | 0.0623 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.298 | JBQ | 0.0305 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 2.17 | JB | 0.0721 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.226 | JB | 0.0303 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 2.02 | JB | 0.0686 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.307 | JBQ | 0.0289 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.563 | JB | 0.0530 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.278 | JBQ | 0.0282 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.253 | JB | 0.0272 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.174 | JBQ | 0.0280 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0501 | JBQ | 0.0361 | MDL | 0.992 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0508 | JBQ | 0.0455 | MDL | 0.992 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|------|----------------|-------|
| Method Category: | SVOA | Method: | 1613B |
| | | Matrix: | SO |

Sample ID: SL-786-SA5A-SB-0.0-0.5 Collected: 6/11/2013 1:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 3.69 | JB | 0.0212 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.404 | JB | 0.0364 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.884 | JB | 0.0785 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.461 | JB | 0.0389 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 2.18 | JB | 0.0803 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.348 | JBQ | 0.0343 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 2.22 | JB | 0.0739 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.424 | JBQ | 0.0460 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.624 | JB | 0.0610 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.698 | JB | 0.0340 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.325 | JB | 0.0347 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.367 | JB | 0.0360 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0778 | JB | 0.0437 | MDL | 1.02 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.193 | JB | 0.0618 | MDL | 1.02 | PQL | ng/Kg | J | Z |

Sample ID: SL-787-SA5A-SB-0.0-0.5 Collected: 6/11/2013 12:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.919 | JB | 0.0459 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 4.03 | JB | 0.0669 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 1.42 | JB | 0.0325 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.569 | JBQ | 0.0298 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.541 | JBQ | 0.0321 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 2.66 | JB | 0.0851 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.574 | JB | 0.0313 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.891 | JB | 0.0250 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.354 | JB | 0.0291 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.226 | JB | 0.0444 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.142 | JB | 0.0395 | MDL | 1.02 | PQL | ng/Kg | U | B |
| OCDD | 9790 | BE | 0.0976 | MDL | 10.2 | PQL | ng/Kg | J | *XI |

Sample ID: SL-788-SA5A-SB-0.0-0.5 Collected: 6/11/2013 2:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 2.87 | JB | 0.0184 | MDL | 5.00 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|------|----------------|-------|
| Method Category: | SVOA | Method: | 1613B |
| | | Matrix: | SO |

Sample ID: SL-788-SA5A-SB-0.0-0.5

Collected: 6/11/2013 2:50:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.262 | JBQ | 0.0320 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.611 | JB | 0.0483 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.324 | JB | 0.0341 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 1.82 | JB | 0.0585 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.258 | JB | 0.0311 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 1.59 | JB | 0.0602 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.291 | JB | 0.0344 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.526 | JB | 0.0579 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.440 | JB | 0.0321 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.283 | JB | 0.0267 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.389 | JBQ | 0.0322 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.130 | JB | 0.0387 | MDL | 1.00 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.185 | JB | 0.0522 | MDL | 1.00 | PQL | ng/Kg | J | Z |
| OCDF | 8.47 | JB | 0.0328 | MDL | 10.0 | PQL | ng/Kg | J | Z |

Sample ID: SL-789-SA5A-SB-0.0-0.5

Collected: 6/11/2013 9:00:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 3.18 | JB | 0.0200 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.222 | JBQ | 0.0297 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.556 | JBQ | 0.0465 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.252 | JBQ | 0.0285 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 1.22 | JB | 0.0508 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.177 | JB | 0.0259 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 1.28 | JB | 0.0488 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.215 | JB | 0.0326 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.366 | JB | 0.0427 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.293 | JBQ | 0.0245 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.246 | JB | 0.0227 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.219 | JB | 0.0253 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0904 | JB | 0.0381 | MDL | 1.01 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-789-SA5A-SB-5.0-6.0 Collected: 6/11/2013 9:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 1.90 | JB | 0.0450 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.278 | JB | 0.0114 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0569 | JBQ | 0.0181 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0770 | JB | 0.0261 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0958 | JBQ | 0.0195 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.112 | JBQ | 0.0304 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0894 | JBQ | 0.0189 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.144 | JB | 0.0301 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.106 | JB | 0.0201 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.144 | JBQ | 0.0480 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.124 | JB | 0.0253 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0770 | JB | 0.0165 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0792 | JBQ | 0.0252 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0456 | JBQ | 0.0412 | MDL | 1.02 | PQL | ng/Kg | U | B |
| OCDF | 0.629 | JB | 0.0343 | MDL | 10.2 | PQL | ng/Kg | U | B |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 8015M | Matrix: SO |

Sample ID: SL-1183-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 5.2 | U | 2.1 | MDL | 5.2 | PQL | mg/Kg | UJ | FD |
| EFH (C30-C40) | 10 | U | 4.1 | MDL | 10 | PQL | mg/Kg | UJ | FD |

Sample ID: SL-783-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 11 | | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Q, Q, Q, FD |
| EFH (C30-C40) | 25 | | 4.1 | MDL | 10 | PQL | mg/Kg | J | FD |

Sample ID: SL-787-SA5A-SB-0.0-0.5 Collected: 6/11/2013 12:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 2.6 | J | 2.1 | MDL | 5.1 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 8015M | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-787-SA5A-SB-0.0-0.5 Collected: 6/11/2013 12:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| EFH (C30-C40) | 7.0 | J | 4.1 | MDL | 10 | PQL | mg/Kg | J | Z |

Sample ID: SL-789-SA5A-SB-5.0-6.0 Collected: 6/11/2013 9:30:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 2.1 | J | 2.1 | MDL | 5.3 | PQL | mg/Kg | J | Z |

| | | | | | |
|-------------------------|------|----------------|-----------|----------------|----|
| Method Category: | SVOA | Method: | 8270D SIM | Matrix: | SO |
|-------------------------|------|----------------|-----------|----------------|----|

Sample ID: SL-1183-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:15:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.8 | | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BIS(2-ETHYLHEXYL)PHTHALATE | 9.6 | J | 6.2 | MDL | 19 | PQL | ug/Kg | J | Z |
| CHRYSENE | 1.1 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| Di-n-octylphthalate | 7.0 | J | 6.2 | MDL | 19 | PQL | ug/Kg | J | Z, FD |
| FLUORANTHENE | 1.2 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| PHENANTHRENE | 0.79 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| PYRENE | 1.1 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |

Sample ID: SL-783-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | I |
| BENZO(B)FLUORANTHENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD, I |
| BENZO(E)PYRENE | 17 | U | 3.4 | MDL | 17 | PQL | ug/Kg | UJ | I |
| BENZO(G,H,I)PERYLENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | I |
| BENZO(K)FLUORANTHENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | I |
| BIS(2-ETHYLHEXYL)PHTHALATE | 14 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | Z |
| CHRYSENE | 1.7 | U | 0.34 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| DIBENZO(A,H)ANTHRACENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | I |
| Diethylphthalate | 18 | U | 6.1 | MDL | 18 | PQL | ug/Kg | UJ | Q |
| Di-n-octylphthalate | 94 | | 6.1 | MDL | 18 | PQL | ug/Kg | J | Q, Q, FD, I |
| FLUORANTHENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-783-SA5A-SB-0.0-0.5 Collected: 6/11/2013 10:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| INDENO(1,2,3-CD)PYRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | I |
| PHENANTHRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| PYRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |

Sample ID: SL-785-SA5A-SB-0.0-0.5 Collected: 6/11/2013 2:05:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 0.52 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-786-SA5A-SB-0.0-0.5 Collected: 6/11/2013 1:20:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 0.54 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)ANTHRACENE | 0.80 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 1.0 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 0.74 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 0.76 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 9.5 | J | 6.2 | MDL | 19 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 7.9 | J | 6.2 | MDL | 19 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 1.6 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-787-SA5A-SB-0.0-0.5 Collected: 6/11/2013 12:30:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ACENAPHTHYLENE | 0.49 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| ANTHRACENE | 0.85 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)ANTHRACENE | 0.80 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 0.91 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 1.1 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 8.8 | J | 6.2 | MDL | 19 | PQL | ug/Kg | J | Z |

Sample ID: SL-788-SA5A-SB-0.0-0.5 Collected: 6/11/2013 2:50:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)ANTHRACENE | 1.4 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-----------|-------------------|
| Method Category: | SVOA | |
| Method: | 8270D SIM | Matrix: SO |

Sample ID: SL-788-SA5A-SB-0.0-0.5 Collected: 6/11/2013 2:50:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 1.4 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 0.75 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 1.0 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| Butylbenzylphthalate | 12 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |
| INDENO(1,2,3-CD)PYRENE | 0.71 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 0.92 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-789-SA5A-SB-0.0-0.5 Collected: 6/11/2013 9:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 0.92 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 10 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | Z |
| Butylbenzylphthalate | 6.5 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 6.9 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | Z |

Sample ID: SL-789-SA5A-SB-5.0-6.0 Collected: 6/11/2013 9:30:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)ANTHRACENE | 1.7 | J | 0.71 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 1.2 | J | 0.71 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 0.81 | J | 0.71 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 8.3 | J | 6.4 | MDL | 19 | PQL | ug/Kg | U | F |
| Di-n-octylphthalate | 7.3 | J | 6.4 | MDL | 19 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 1.3 | J | 0.71 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| PYRENE | 1.2 | J | 0.71 | MDL | 1.8 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---------------------------------|
| *XI | Exceeded Calibration Range |
| B | Calibration Blank Contamination |
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Equipment Blank Contamination |
| F | Field Blank Contamination |
| FD | Field Duplicate Precision |
| I | Internal Standard Estimation |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Enclosure I

Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

PH054

Method Blank Outlier Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | |
|----------------|--------------|
| Method: | 1613B |
| Matrix: | SO |

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|---------------------|--------------|-------------------------|
| BLK1700B370559 | 6/21/2013 5:59:00 AM | 1,2,3,4,6,7,8-HPCDD | 0.148 ng/Kg | SL-1183-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,6,7,8-HPCDF | 0.108 ng/Kg | SL-783-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,7,8,9-HPCDF | 0.131 ng/Kg | SL-785-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,7,8-HxCDD | 0.0858 ng/Kg | SL-786-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,7,8-HxCDF | 0.0903 ng/Kg | SL-787-SA5A-SB-0.0-0.5 |
| | | 1,2,3,6,7,8-HxCDD | 0.0555 ng/Kg | SL-788-SA5A-SB-0.0-0.5 |
| | | 1,2,3,6,7,8-HxCDF | 0.0923 ng/Kg | SL-789-SA5A-SB-0.0-0.5 |
| | | 1,2,3,7,8,9-HxCDD | 0.138 ng/Kg | SL-789-SA5A-SB-5.0-6.0 |
| | | 1,2,3,7,8,9-HxCDF | 0.161 ng/Kg | |
| | | 1,2,3,7,8-PECDD | 0.144 ng/Kg | |
| | | 1,2,3,7,8-PECDF | 0.101 ng/Kg | |
| | | 2,3,4,6,7,8-HxCDF | 0.0711 ng/Kg | |
| | | 2,3,4,7,8-PECDF | 0.0778 ng/Kg | |
| | | 2,3,7,8-TCDD | 0.0347 ng/Kg | |
| | | 2,3,7,8-TCDF | 0.0327 ng/Kg | |
| | | OCDD | 0.396 ng/Kg | |
| | | OCDF | 0.215 ng/Kg | |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|---------------------|-----------------|-----------------------|
| SL-1183-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.209 ng/Kg | 0.209U ng/Kg |
| SL-1183-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.196 ng/Kg | 0.196U ng/Kg |
| SL-1183-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDF | 0.134 ng/Kg | 0.134U ng/Kg |
| SL-1183-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HxCDF | 0.156 ng/Kg | 0.156U ng/Kg |
| SL-1183-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HxCDD | 0.354 ng/Kg | 0.354U ng/Kg |
| SL-1183-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HxCDF | 0.210 ng/Kg | 0.210U ng/Kg |
| SL-1183-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.138 ng/Kg | 0.138U ng/Kg |
| SL-1183-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.146 ng/Kg | 0.146U ng/Kg |
| SL-1183-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HxCDF | 0.175 ng/Kg | 0.175U ng/Kg |
| SL-1183-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.123 ng/Kg | 0.123U ng/Kg |
| SL-1183-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0482 ng/Kg | 0.0482U ng/Kg |
| SL-1183-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.0352 ng/Kg | 0.0352U ng/Kg |
| SL-783-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.413 ng/Kg | 0.413U ng/Kg |
| SL-783-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDF | 0.294 ng/Kg | 0.294U ng/Kg |
| SL-783-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HxCDF | 0.305 ng/Kg | 0.305U ng/Kg |
| SL-783-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HxCDF | 0.244 ng/Kg | 0.244U ng/Kg |
| SL-783-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.514 ng/Kg | 0.514U ng/Kg |
| SL-783-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.351 ng/Kg | 0.351U ng/Kg |
| SL-783-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HxCDF | 0.324 ng/Kg | 0.324U ng/Kg |
| SL-783-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.177 ng/Kg | 0.177U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-783-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.0889 ng/Kg | 0.0889U ng/Kg |
| SL-785-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.280 ng/Kg | 0.280U ng/Kg |
| SL-785-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.298 ng/Kg | 0.298U ng/Kg |
| SL-785-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.226 ng/Kg | 0.226U ng/Kg |
| SL-785-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.307 ng/Kg | 0.307U ng/Kg |
| SL-785-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.563 ng/Kg | 0.563U ng/Kg |
| SL-785-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.278 ng/Kg | 0.278U ng/Kg |
| SL-785-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.253 ng/Kg | 0.253U ng/Kg |
| SL-785-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.174 ng/Kg | 0.174U ng/Kg |
| SL-785-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0501 ng/Kg | 0.0501U ng/Kg |
| SL-785-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.0508 ng/Kg | 0.0508U ng/Kg |
| SL-786-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.404 ng/Kg | 0.404U ng/Kg |
| SL-786-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.348 ng/Kg | 0.348U ng/Kg |
| SL-786-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.424 ng/Kg | 0.424U ng/Kg |
| SL-786-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.624 ng/Kg | 0.624U ng/Kg |
| SL-786-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.325 ng/Kg | 0.325U ng/Kg |
| SL-786-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.367 ng/Kg | 0.367U ng/Kg |
| SL-786-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0778 ng/Kg | 0.0778U ng/Kg |
| SL-787-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.541 ng/Kg | 0.541U ng/Kg |
| SL-787-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.354 ng/Kg | 0.354U ng/Kg |
| SL-787-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.142 ng/Kg | 0.142U ng/Kg |
| SL-788-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.262 ng/Kg | 0.262U ng/Kg |
| SL-788-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.324 ng/Kg | 0.324U ng/Kg |
| SL-788-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.258 ng/Kg | 0.258U ng/Kg |
| SL-788-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.291 ng/Kg | 0.291U ng/Kg |
| SL-788-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.526 ng/Kg | 0.526U ng/Kg |
| SL-788-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.440 ng/Kg | 0.440U ng/Kg |
| SL-788-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.283 ng/Kg | 0.283U ng/Kg |
| SL-788-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.389 ng/Kg | 0.389U ng/Kg |
| SL-788-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.130 ng/Kg | 0.130U ng/Kg |
| SL-789-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.222 ng/Kg | 0.222U ng/Kg |
| SL-789-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.252 ng/Kg | 0.252U ng/Kg |
| SL-789-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.177 ng/Kg | 0.177U ng/Kg |
| SL-789-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.215 ng/Kg | 0.215U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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ADR version 1.7.0.207

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Method Blank Outlier Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-789-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.366 ng/Kg | 0.366U ng/Kg |
| SL-789-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.293 ng/Kg | 0.293U ng/Kg |
| SL-789-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.246 ng/Kg | 0.246U ng/Kg |
| SL-789-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.219 ng/Kg | 0.219U ng/Kg |
| SL-789-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.0904 ng/Kg | 0.0904U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.278 ng/Kg | 0.278U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0569 ng/Kg | 0.0569U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 1,2,3,4,7,8-HxCDD | 0.0770 ng/Kg | 0.0770U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0958 ng/Kg | 0.0958U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 1,2,3,6,7,8-HxCDD | 0.112 ng/Kg | 0.112U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0894 ng/Kg | 0.0894U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 1,2,3,7,8,9-HxCDD | 0.144 ng/Kg | 0.144U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 1,2,3,7,8,9-HXCDF | 0.106 ng/Kg | 0.106U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 1,2,3,7,8-PECDD | 0.144 ng/Kg | 0.144U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 1,2,3,7,8-PECDF | 0.124 ng/Kg | 0.124U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0770 ng/Kg | 0.0770U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 2,3,4,7,8-PECDF | 0.0792 ng/Kg | 0.0792U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | 2,3,7,8-TCDD | 0.0456 ng/Kg | 0.0456U ng/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES) | OCDF | 0.629 ng/Kg | 0.629U ng/Kg |

Method: 6010C

Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|--|--|---|
| P16937AB222218 | 6/19/2013 10:18:00 PM | CADMIUM CALCIUM LITHIUM PHOSPHORUS TIN | 0.0330 mg/Kg 11.9 mg/Kg 0.59 mg/Kg 1.07 mg/Kg 1.45 mg/Kg | SL-1183-SA5A-SB-0.0-0.5 SL-783-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|---------|-----------------|-----------------------|
| SL-1183-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 3.32 mg/Kg | 3.32U mg/Kg |

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Method Blank Outlier Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|---------|-----------------|-----------------------|
| SL-783-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.68 mg/Kg | 2.68U mg/Kg |
| SL-785-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.42 mg/Kg | 2.42U mg/Kg |
| SL-786-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.50 mg/Kg | 2.50U mg/Kg |
| SL-787-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.48 mg/Kg | 2.48U mg/Kg |
| SL-788-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.55 mg/Kg | 2.55U mg/Kg |
| SL-789-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.51 mg/Kg | 2.51U mg/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES/TOT) | TIN | 2.79 mg/Kg | 2.79U mg/Kg |

Method: 6020A
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|-----------|--------------|---|
| P16937AB220838A | 6/21/2013 8:38:00 AM | STRONTIUM | 0.0981 mg/Kg | SL-1183-SA5A-SB-0.0-0.5 SL-783-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 |

Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| Equipment Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|---------------------------|----------------------|-----------|--------------|------------------------|
| EB2-061213(REA2/TOT) | 6/12/2013 3:30:00 PM | SILVER | 0.00062 mg/L | SL-789-SA5A-SB-0.0-0.5 |
| | | STRONTIUM | 0.00053 mg/L | SL-789-SA5A-SB-5.0-6.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|---------|-----------------|-----------------------|
| SL-789-SA5A-SB-0.0-0.5(RES/TOT) | SILVER | 0.0866 mg/Kg | 0.0866U mg/Kg |
| SL-789-SA5A-SB-5.0-6.0(RES/TOT) | SILVER | 0.0830 mg/Kg | 0.0830U mg/Kg |

Method: 8270D SIM
Matrix: SO

| Equipment Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|---------------------------|----------------------|----------------------------|------------|------------------------|
| EB2-061213(RES) | 6/12/2013 3:30:00 PM | BIS(2-ETHYLHEXYL)PHTHALATE | 0.98 ug/L | SL-789-SA5A-SB-0.0-0.5 |
| | | Diethylphthalate | 0.13 ug/L | SL-789-SA5A-SB-5.0-6.0 |
| | | Di-n-butylphthalate | 0.13 ug/L | |
| | | NAPHTHALENE | 0.054 ug/L | |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|----------------------------|-----------------|-----------------------|
| SL-789-SA5A-SB-5.0-6.0(RES) | BIS(2-ETHYLHEXYL)PHTHALATE | 8.3 ug/Kg | 19U ug/Kg |

Field Blank Outlier Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|----------------------|----------------------------|---|
| FB-041113(REA2/TOT) | 4/11/2013 3:00:00 PM | COPPER MOLYBDENUM | 0.0036 mg/L 0.0036 mg/L | SL-1183-SA5A-SB-0.0-0.5 SL-783-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|------------|-----------------|-----------------------|
| SL-1183-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.442 mg/Kg | 0.442U mg/Kg |
| SL-783-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 1.19 mg/Kg | 1.19U mg/Kg |
| SL-785-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.396 mg/Kg | 0.396U mg/Kg |
| SL-786-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.313 mg/Kg | 0.313U mg/Kg |
| SL-787-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.349 mg/Kg | 0.349U mg/Kg |
| SL-788-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.355 mg/Kg | 0.355U mg/Kg |
| SL-789-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.534 mg/Kg | 0.534U mg/Kg |
| SL-789-SA5A-SB-5.0-6.0(REA/TOT) | MOLYBDENUM | 0.245 mg/Kg | 0.245U mg/Kg |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8015M
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------|----------|-----------|--------------|-----------------|-----------------------|---------------------------------------|
| SL-783-SA5A-SB-0.0-0.5MS SL-783-SA5A-SB-0.0-0.5MSD (SL-783-SA5A-SB-0.0-0.5) | EFH (C15-C20) | 152 | 156 | 49.00-123.00 | - | EFH (C15-C20) | J (all detects) |
| SL-783-SA5A-SB-0.0-0.5MS SL-783-SA5A-SB-0.0-0.5MSD (SL-783-SA5A-SB-0.0-0.5) | EFH (C30-C40) | -47 | 342 | 49.00-123.00 | 62 (20.00) | EFH (C30-C40) | No Qual, >4x |
| SL-783-SA5A-SB-0.0-0.5MS SL-783-SA5A-SB-0.0-0.5MSD (SL-783-SA5A-SB-0.0-0.5) | EFH (C21-C30) | 46 | 162 | 49.00-123.00 | 33 (20.00) | EFH (C21-C30) | J(all detects) UJ(all non-detects) |

Method: 1613B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|----------|----------|-----------|--------------|-----------------|-----------------------|--------------|
| SL-783-SA5A-SB-0.0-0.5MS SL-783-SA5A-SB-0.0-0.5MSD (SL-783-SA5A-SB-0.0-0.5) | OCDD | -442 | -404 | 40.00-135.00 | 28 (20.00) | OCDD | No Qual, >4x |

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------------|----------|-----------|--------------|-----------------|-----------------------|---------------------------------------|
| SL-783-SA5A-SB-0.0-0.5MS SL-783-SA5A-SB-0.0-0.5MSD (SL-783-SA5A-SB-0.0-0.5) | Di-n-octylphthalate | 329 | - | 52.00-162.00 | 46 (30.00) | Di-n-octylphthalate | J(all detects) |
| SL-783-SA5A-SB-0.0-0.5MS SL-783-SA5A-SB-0.0-0.5MSD (SL-783-SA5A-SB-0.0-0.5) | Diethylphthalate | 75 | 66 | 76.00-127.00 | - | Diethylphthalate | J(all detects) UJ(all non-detects) |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|--|----------------------------------|--------------------------------|--|-------------------------------------|--|--|
| SL-783-SA5A-SB-0.0-0.5MS (TOT) SL-783-SA5A-SB-0.0-0.5MSD (TOT) (SL-1183-SA5A-SB-0.0-0.5 SL-783-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0) | ALUMINIUM TITANIUM | 957 188 | 1462 217 | 75.00-125.00 75.00-125.00 | - - | ALUMINIUM TITANIUM | No Qual, >4x |
| SL-783-SA5A-SB-0.0-0.5MS (TOT) SL-783-SA5A-SB-0.0-0.5MSD (TOT) (SL-1183-SA5A-SB-0.0-0.5 SL-783-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0) | IRON MANGANESE | -1192 20 | -534 64 | 75.00-125.00 75.00-125.00 | - - | IRON MANGANESE | No Qual, >4x |
| SL-783-SA5A-SB-0.0-0.5MS (TOT) SL-783-SA5A-SB-0.0-0.5MSD (TOT) (SL-1183-SA5A-SB-0.0-0.5 SL-783-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0) | ANTIMONY CALCIUM CHROMIUM COPPER MAGNESIUM PHOSPHORUS | 44 - 175 61 69 54 | 41 37 - 73 - 60 | 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 | - - 36 (20.00) - - - | ANTIMONY CALCIUM CHROMIUM COPPER MAGNESIUM PHOSPHORUS | J(all detects) UJ(all non-detects) Ca, Mg, No Qual, >4x |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|-----------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-783-SA5A-SB-0.0-0.5MS (TOT) | SILVER | 142 | 139 | 75.00-125.00 | - | SILVER | J(all detects) |
| SL-783-SA5A-SB-0.0-0.5MSD (TOT) | STRONTIUM | 270 | 235 | 75.00-125.00 | - | STRONTIUM | |
| (SL-1183-SA5A-SB-0.0-0.5 | THALLIUM | 168 | 157 | 75.00-125.00 | - | THALLIUM | |
| SL-783-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-785-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-786-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-787-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-788-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-789-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-789-SA5A-SB-5.0-6.0) | | | | | | | |
| SL-783-SA5A-SB-0.0-0.5MS (TOT) | SELENIUM | 139 | 135 | 75.00-125.00 | - | SELENIUM | J(all detects) |
| SL-783-SA5A-SB-0.0-0.5MSD (TOT) | | | | | | | |
| (SL-1183-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-783-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-785-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-786-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-787-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-788-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-789-SA5A-SB-0.0-0.5 | | | | | | | |
| SL-789-SA5A-SB-5.0-6.0) | | | | | | | |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|------------|------------|-----------|------------------------------|
| SL-783-SA5A-SB-0.0-0.5DUP (TOT) | COPPER | 34 | 20.00 | No Qual, OK by Difference |
| (SL-1183-SA5A-SB-0.0-0.5 | MOLYBDENUM | 67 | 20.00 | |
| SL-783-SA5A-SB-0.0-0.5 | | | | |
| SL-785-SA5A-SB-0.0-0.5 | | | | |
| SL-786-SA5A-SB-0.0-0.5 | | | | |
| SL-787-SA5A-SB-0.0-0.5 | | | | |
| SL-788-SA5A-SB-0.0-0.5 | | | | |
| SL-789-SA5A-SB-0.0-0.5 | | | | |
| SL-789-SA5A-SB-5.0-6.0) | | | | |

Method: 6020A
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|----------|------------|-----------|------------------------------|
| SL-783-SA5A-SB-0.0-0.5DUP (TOT) | SELENIUM | 200 | 20.00 | No Qual, OK by Difference |
| (SL-1183-SA5A-SB-0.0-0.5 | | | | |
| SL-783-SA5A-SB-0.0-0.5 | | | | |
| SL-785-SA5A-SB-0.0-0.5 | | | | |
| SL-786-SA5A-SB-0.0-0.5 | | | | |
| SL-787-SA5A-SB-0.0-0.5 | | | | |
| SL-788-SA5A-SB-0.0-0.5 | | | | |
| SL-789-SA5A-SB-0.0-0.5 | | | | |
| SL-789-SA5A-SB-5.0-6.0) | | | | |

Method: 7199
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|---------------------|------------|-----------|---------------------------------------|
| SL-783-SA5A-SB-0.0-0.5DUP (TOT) | HEXAVALENT CHROMIUM | 128 | 20.00 | J(all detects) UJ(all non-detects) |
| (SL-1183-SA5A-SB-0.0-0.5 | | | | |
| SL-783-SA5A-SB-0.0-0.5 | | | | |
| SL-789-SA5A-SB-0.0-0.5 | | | | |
| SL-789-SA5A-SB-5.0-6.0) | | | | |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 7471B

Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|---|---------|---------------|--------------|------------------------------|
| SL-783-SA5A-SB-0.0-0.5DUP (TOT) (SL-1183-SA5A-SB-0.0-0.5 SL-783-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0) | MERCURY | 26 | 20.00 | No Qual, OK by Difference |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 160.3M
Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-783-SA5A-SB-0.0-0.5 | SL-1183-SA5A-SB-0.0-0.5 | | | |
| MOISTURE | 2.2 | 3.2 | 37 | | No Qualifiers Applied |

Method: 1613B
Matrix: SO

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-783-SA5A-SB-0.0-0.5 | SL-1183-SA5A-SB-0.0-0.5 | | | |
| 1,2,3,7,8,9-HXCDF | 0.244 | 0.210 | 15 | 50.00 | No Qualifiers Applied |
| 2,3,4,7,8-PECDF | 0.177 | 0.123 | 36 | 50.00 | |
| 1,2,3,4,6,7,8-HPCDD | 50.4 | 5.97 | 158 | 50.00 | J(all detects) UJ(all non-detects) |
| 1,2,3,4,6,7,8-HPCDF | 3.98 | 0.578 | 149 | 50.00 | |
| 1,2,3,4,7,8,9-HPCDF | 0.413 | 0.209 | 66 | 50.00 | |
| 1,2,3,4,7,8-HxCDD | 0.711 | 0.196 | 114 | 50.00 | |
| 1,2,3,4,7,8-HXCDF | 0.294 | 0.134 | 75 | 50.00 | |
| 1,2,3,6,7,8-HXCDD | 1.80 | 0.373 | 131 | 50.00 | |
| 1,2,3,6,7,8-HXCDF | 0.305 | 0.156 | 65 | 50.00 | |
| 1,2,3,7,8,9-HXCDD | 1.74 | 0.354 | 132 | 50.00 | |
| 1,2,3,7,8-PECDD | 0.514 | 0.138 | 115 | 50.00 | |
| 1,2,3,7,8-PECDF | 0.351 | 0.146 | 82 | 50.00 | |
| 2,3,4,6,7,8-HXCDF | 0.324 | 0.175 | 60 | 50.00 | |
| 2,3,7,8-TCDD | 1.02 U | 0.0482 | 200 | 50.00 | |
| 2,3,7,8-TCDF | 0.0889 | 0.0352 | 87 | 50.00 | |
| OCDD | 1170 | 58.8 | 181 | 50.00 | |
| OCDF | 12.4 | 1.14 | 166 | 50.00 | |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-783-SA5A-SB-0.0-0.5 (TOT) | SL-1183-SA5A-SB-0.0-0.5 (TOT) | | | |
| ALUMINUM | 15400 | 16300 | 6 | 50.00 | No Qualifiers Applied |
| ARSENIC | 3.75 | 5.67 | 41 | 50.00 | |
| BARIUM | 97.7 | 94.4 | 3 | 50.00 | |
| BERYLLIUM | 0.581 | 0.792 | 31 | 50.00 | |
| BORON | 4.93 | 4.22 | 16 | 50.00 | |
| CADMIUM | 0.712 | 0.639 | 11 | 50.00 | |
| CALCIUM | 2740 | 2480 | 10 | 50.00 | |
| CHROMIUM | 22.9 | 19.3 | 17 | 50.00 | |
| IRON | 21200 | 27800 | 27 | 50.00 | |
| LEAD | 11.0 | 8.30 | 28 | 50.00 | |
| LITHIUM | 22.5 | 26.9 | 18 | 50.00 | |
| MAGNESIUM | 4000 | 5120 | 25 | 50.00 | |
| MANGANESE | 312 | 357 | 13 | 50.00 | |
| NICKEL | 13.9 | 12.2 | 13 | 50.00 | |
| PHOSPHORUS | 394 | 429 | 9 | 50.00 | |
| POTASSIUM | 3360 | 3470 | 3 | 50.00 | |
| SODIUM | 109 | 112 | 3 | 50.00 | |
| TIN | 2.68 | 3.32 | 21 | 50.00 | |
| TITANIUM | 1070 | 1150 | 7 | 50.00 | |
| VANADIUM | 34.5 | 38.0 | 10 | 50.00 | |
| ZINC | 64.4 | 66.9 | 4 | 50.00 | |
| Zirconium | 2.13 | 1.41 | 41 | 50.00 | |
| COBALT | 5.77 | 10.6 | 59 | 50.00 | |
| COPPER | 0.571 | 12.4 | 182 | 50.00 | |
| MOLYBDENUM | 1.19 | 0.442 | 92 | 50.00 | |

Method: 6020A
Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-783-SA5A-SB-0.0-0.5 (TOT) | SL-1183-SA5A-SB-0.0-0.5 (TOT) | | | |
| STRONTIUM | 19.0 | 22.4 | 16 | 50.00 | No Qualifiers Applied |
| THALLIUM | 0.252 | 0.283 | 12 | 50.00 | |
| SELENIUM | 0.405 U | 0.177 | 200 | 50.00 | J(all detects) |
| SILVER | 0.0599 | 0.207 U | 200 | 50.00 | UJ(all non-detects) |

Method: 7199
Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------------|------------------------------|-------------------------------|------------|-----------|----------------|
| | SL-783-SA5A-SB-0.0-0.5 (TOT) | SL-1183-SA5A-SB-0.0-0.5 (TOT) | | | |
| HEXAVALENT CHROMIUM | 0.49 | 0.27 | 58 | 50.00 | J(all detects) |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Field Duplicate RPD Report

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 7471B
Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------|------------------------------|-------------------------------|------------|-----------|---------------------------------------|
| | SL-783-SA5A-SB-0.0-0.5 (TOT) | SL-1183-SA5A-SB-0.0-0.5 (TOT) | | | |
| MERCURY | 0.0214 | 0.0171 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |

Method: 8015M
Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------|------------------------|-------------------------|------------|-----------|---------------------|
| | SL-783-SA5A-SB-0.0-0.5 | SL-1183-SA5A-SB-0.0-0.5 | | | |
| EFH (C21-C30) | 11 | 5.2 U | 200 | 50.00 | J(all detects) |
| EFH (C30-C40) | 25 | 10 U | 200 | 50.00 | UJ(all non-detects) |

Method: 8270D SIM
Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-783-SA5A-SB-0.0-0.5 | SL-1183-SA5A-SB-0.0-0.5 | | | |
| BIS(2-ETHYLHEXYL)PHTHALATE | 14 | 9.6 | 37 | 50.00 | No Qualifiers Applied |
| BENZO(B)FLUORANTHENE | 1.7 U | 1.8 | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| CHRYSENE | 1.7 U | 1.1 | 200 | 50.00 | |
| Di-n-octylphthalate | 94 | 7.0 | 172 | 50.00 | |
| FLUORANTHENE | 1.7 U | 1.2 | 200 | 50.00 | |
| PHENANTHRENE | 1.7 U | 0.79 | 200 | 50.00 | |
| PYRENE | 1.7 U | 1.1 | 200 | 50.00 | |

Method: 9045M
Matrix: SO

| Analyte | Concentration (pH unit) | | Sample RPD | eQAPP RPD | Flag |
|---------|-------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-783-SA5A-SB-0.0-0.5 | SL-1183-SA5A-SB-0.0-0.5 | | | |
| PH | 6.88 | 7.68 | 11 | | No Qualifiers Applied |

Reporting Limit Outliers

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1183-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 0.578 | 5.17 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.209 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.196 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.134 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 0.373 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.156 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.354 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.210 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.138 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.146 | 5.17 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.175 | 5.17 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.123 | 5.17 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0482 | 1.03 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0352 | 1.03 | PQL | ng/Kg | |
| OCDF | JB | 1.14 | 10.3 | PQL | ng/Kg | | |
| SL-783-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 3.98 | 5.08 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.413 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.711 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.294 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 1.80 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.305 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 1.74 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.244 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.514 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.351 | 5.08 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.324 | 5.08 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.177 | 5.08 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0889 | 1.02 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-785-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 3.68 | 4.96 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.280 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.710 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.298 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 2.17 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.226 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 2.02 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.307 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.563 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.278 | 4.96 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.253 | 4.96 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.174 | 4.96 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0501 | 0.992 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0508 | 0.992 | PQL | ng/Kg | |
| SL-786-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 3.69 | 5.09 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.404 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.884 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.461 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 2.18 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.348 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 2.22 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.424 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.624 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.698 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.325 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.367 | 5.09 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JB | 0.0778 | 1.02 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.193 | 1.02 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-787-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 0.919 | 5.08 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | JB | 4.03 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 1.42 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.569 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.541 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 2.66 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.574 | 5.08 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.891 | 5.08 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.354 | 5.08 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JB | 0.226 | 1.02 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.142 | 1.02 | PQL | ng/Kg | |
| SL-788-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 2.87 | 5.00 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.262 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.611 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.324 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 1.82 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.258 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 1.59 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.291 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.526 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.440 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.283 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.389 | 5.00 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JB | 0.130 | 1.00 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.185 | 1.00 | PQL | ng/Kg | |
| | OCDF | JB | 8.47 | 10.0 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-789-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 3.18 | 5.04 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.222 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.556 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.252 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 1.22 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.177 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 1.28 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.215 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.366 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.293 | 5.04 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.246 | 5.04 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.219 | 5.04 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.0904 | 1.01 | PQL | ng/Kg | |
| SL-789-SA5A-SB-5.0-6.0 | 1,2,3,4,6,7,8-HPCDD | JB | 1.90 | 5.10 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.278 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0569 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.0770 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0958 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.112 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0894 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.144 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.106 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.144 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.124 | 5.10 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0770 | 5.10 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0792 | 5.10 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0456 | 1.02 | PQL | ng/Kg | |
| | OCDF | JB | 0.629 | 10.2 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1183-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.792 | 1.03 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.22 | 10.3 | PQL | mg/Kg | |
| | CADMIUM | J | 0.639 | 1.03 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.442 | 2.07 | PQL | mg/Kg | |
| | TIN | J | 3.32 | 10.3 | PQL | mg/Kg | |
| | Zirconium | J | 1.41 | 5.17 | PQL | mg/Kg | |
| SL-783-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.75 | 4.05 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.581 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 4.93 | 10.1 | PQL | mg/Kg | |
| | CADMIUM | J | 0.712 | 1.01 | PQL | mg/Kg | |
| | COPPER | J | 0.571 | 2.02 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 1.19 | 2.02 | PQL | mg/Kg | |
| | TIN | J | 2.68 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 2.13 | 5.06 | PQL | mg/Kg | |
| SL-785-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.41 | 4.05 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.578 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 5.43 | 10.1 | PQL | mg/Kg | |
| | CADMIUM | J | 0.607 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.396 | 2.03 | PQL | mg/Kg | |
| | SODIUM | J | 99.9 | 101 | PQL | mg/Kg | |
| | TIN | J | 2.42 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 2.04 | 5.07 | PQL | mg/Kg | |
| SL-786-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.82 | 3.96 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.507 | 0.990 | PQL | mg/Kg | |
| | BORON | J | 4.66 | 9.90 | PQL | mg/Kg | |
| | CADMIUM | J | 0.660 | 0.990 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.313 | 1.98 | PQL | mg/Kg | |
| | SODIUM | J | 88.0 | 99.0 | PQL | mg/Kg | |
| | TIN | J | 2.50 | 9.90 | PQL | mg/Kg | |
| | Zirconium | J | 1.23 | 4.95 | PQL | mg/Kg | |
| SL-787-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.97 | 4.12 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.681 | 1.03 | PQL | mg/Kg | |
| | BORON | J | 5.37 | 10.3 | PQL | mg/Kg | |
| | CADMIUM | J | 0.582 | 1.03 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.349 | 2.06 | PQL | mg/Kg | |
| | SODIUM | J | 101 | 103 | PQL | mg/Kg | |
| | TIN | J | 2.48 | 10.3 | PQL | mg/Kg | |
| | Zirconium | J | 2.09 | 5.15 | PQL | mg/Kg | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Reporting Limit Outliers

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-788-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.52 | 3.88 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.560 | 0.969 | PQL | mg/Kg | |
| | BORON | J | 6.80 | 9.69 | PQL | mg/Kg | |
| | CADMIUM | J | 0.582 | 0.969 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.355 | 1.94 | PQL | mg/Kg | |
| | SODIUM | J | 84.6 | 96.9 | PQL | mg/Kg | |
| | TIN | J | 2.55 | 9.69 | PQL | mg/Kg | |
| | Zirconium | J | 1.75 | 4.85 | PQL | mg/Kg | |
| SL-789-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.87 | 4.01 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.606 | 1.00 | PQL | mg/Kg | |
| | BORON | J | 5.38 | 10.0 | PQL | mg/Kg | |
| | CADMIUM | J | 0.625 | 1.00 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.534 | 2.00 | PQL | mg/Kg | |
| | TIN | J | 2.51 | 10.0 | PQL | mg/Kg | |
| | Zirconium | J | 2.07 | 5.01 | PQL | mg/Kg | |
| | SL-789-SA5A-SB-5.0-6.0 | ARSENIC | J | 3.70 | 4.17 | PQL | |
| BERYLLIUM | | J | 0.671 | 1.04 | PQL | mg/Kg | |
| BORON | | J | 5.01 | 10.4 | PQL | mg/Kg | |
| CADMIUM | | J | 0.540 | 1.04 | PQL | mg/Kg | |
| MOLYBDENUM | | J | 0.245 | 2.09 | PQL | mg/Kg | |
| TIN | | J | 2.79 | 10.4 | PQL | mg/Kg | |
| Zirconium | | J | 1.62 | 5.21 | PQL | mg/Kg | |

Method: 6020A

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1183-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.177 | 0.413 | PQL | mg/Kg | J (all detects) |
| SL-783-SA5A-SB-0.0-0.5 | SILVER | J | 0.0599 | 0.202 | PQL | mg/Kg | J (all detects) |
| SL-785-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.181 | 0.405 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0534 | 0.203 | PQL | mg/Kg | |
| SL-786-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.131 | 0.396 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0451 | 0.198 | PQL | mg/Kg | |
| SL-787-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.169 | 0.412 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0504 | 0.206 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-788-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.192 | 0.388 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0873 | 0.194 | PQL | mg/Kg | |
| SL-789-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.168 | 0.401 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0866 | 0.200 | PQL | mg/Kg | |
| SL-789-SA5A-SB-5.0-6.0 | SILVER | J | 0.0830 | 0.209 | PQL | mg/Kg | J (all detects) |

Method: 7199
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1183-SA5A-SB-0.0-0.5 | HEXAVALENT CHROMIUM | J | 0.27 | 0.41 | PQL | mg/Kg | J (all detects) |

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-785-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0115 | 0.0167 | PQL | mg/Kg | J (all detects) |
| SL-788-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0131 | 0.0162 | PQL | mg/Kg | J (all detects) |
| SL-789-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0120 | 0.0166 | PQL | mg/Kg | J (all detects) |

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-787-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 2.6 | 5.1 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 7.0 | 10 | PQL | mg/Kg | |
| SL-789-SA5A-SB-5.0-6.0 | EFH (C21-C30) | J | 2.1 | 5.3 | PQL | mg/Kg | J (all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1183-SA5A-SB-0.0-0.5 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 9.6 | 19 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| | Di-n-octylphthalate | J | 7.0 | 19 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.79 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| SL-783-SA5A-SB-0.0-0.5 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 14 | 18 | PQL | ug/Kg | J (all detects) |
| SL-785-SA5A-SB-0.0-0.5 | ANTHRACENE | J | 0.52 | 1.7 | PQL | ug/Kg | J (all detects) |
| SL-786-SA5A-SB-0.0-0.5 | ANTHRACENE | J | 0.54 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)ANTHRACENE | J | 0.80 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 1.0 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 0.74 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 0.76 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 9.5 | 19 | PQL | ug/Kg | |
| | Di-n-octylphthalate | J | 7.9 | 19 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.6 | 1.7 | PQL | ug/Kg | |
| SL-787-SA5A-SB-0.0-0.5 | ACENAPHTHYLENE | J | 0.49 | 1.7 | PQL | ug/Kg | J (all detects) |
| | ANTHRACENE | J | 0.85 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)ANTHRACENE | J | 0.80 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 0.91 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| | Di-n-octylphthalate | J | 8.8 | 19 | PQL | ug/Kg | |
| SL-788-SA5A-SB-0.0-0.5 | BENZO(A)ANTHRACENE | J | 1.4 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)PYRENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 0.75 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 1.0 | 1.7 | PQL | ug/Kg | |
| | Butylbenzylphthalate | J | 12 | 18 | PQL | ug/Kg | |
| | INDENO(1,2,3-CD)PYRENE | J | 0.71 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.92 | 1.7 | PQL | ug/Kg | |
| SL-789-SA5A-SB-0.0-0.5 | ANTHRACENE | J | 0.92 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 10 | 18 | PQL | ug/Kg | |
| | Butylbenzylphthalate | J | 6.5 | 18 | PQL | ug/Kg | |
| | Di-n-octylphthalate | J | 6.9 | 18 | PQL | ug/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH054

Laboratory: LL

EDD Filename: PrepPH054_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-789-SA5A-SB-5.0-6.0 | BENZO(A)ANTHRACENE | J | 1.7 | 1.8 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)PYRENE | J | 1.2 | 1.8 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 0.81 | 1.8 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 8.3 | 19 | PQL | ug/Kg | |
| | Di-n-octylphthalate | J | 7.3 | 19 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.3 | 1.8 | PQL | ug/Kg | |
| | PYRENE | J | 1.2 | 1.8 | PQL | ug/Kg | |

Enclosure II

Level IV Validation Reports

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 11, 2013
LDC Report Date: August 5, 2013
Matrix: Soil
Parameters: Semivolatiles
Validation Level: Level IV
Laboratory: Eurofins
Sample Delivery Group (SDG): PH054

Sample Identification

SL-783-SA5A-SB-0.0-0.5
SL-1183-SA5A-SB-0.0-0.5
SL-789-SA5A-SB-0.0-0.5
SL-789-SA5A-SB-5.0-6.0
SL-785-SA5A-SB-0.0-0.5
SL-786-SA5A-SB-0.0-0.5
SL-787-SA5A-SB-0.0-0.5
SL-788-SA5A-SB-0.0-0.5
SL-783-SA5A-SB-0.0-0.5MS
SL-783-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 10 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270D using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 .

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 25.0% all compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method.

Samples EB1-061213 and EB2-061213 (both from SDG PH055) were identified as equipment blanks. No semivolatile contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|------------|---------------|--|---|---|
| EB1-061213 | 6/12/13 | Benzo(g,h,i)perylene Di-n-butylphthalate Diethylphthalate Bis(2-ethylhexyl)phthalate Naphthalene | 0.014 ug/L 0.11 ug/L 0.12 ug/L 0.11 ug/L 0.056 ug/L | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 |
| EB2-061213 | 6/12/13 | Di-n-butylphthalate Diethylphthalate Bis(2-ethylhexyl)phthalate Naphthalene | 0.13 ug/L 0.13 ug/L 0.98 ug/L 0.054 ug/L | SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 |

Sample FB-041113 (from SDG PH029) was identified as a field blank. No semivolatile contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|-----------|---------------|--|---|--------------------------|
| FB-041113 | 4/11/13 | Di-n-butylphthalate Diethylphthalate Bis(2-ethylhexyl)phthalate 1-Methylnaphthalene 2-Methylnaphthalene Naphthalene | 0.17 ug/L 0.18 ug/L 0.082 ug/L 0.019 ug/L 0.024 ug/L 0.17 ug/L | All samples in SDG PH054 |

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

| Sample | Compound | Reported Concentration | Modified Final Concentration |
|------------------------|----------------------------|------------------------|------------------------------|
| SL-789-SA5A-SB-5.0-6.0 | Bis(2-ethylhexyl)phthalate | 8.3 ug/Kg | 19U ug/Kg |

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

| Spike ID (Associated Samples) | Compound | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|--|---------------------|---------------------|----------------------|-----------------|---|--------|
| SL-783-SA5A-SB-0.0-0.5MS/MSD (SL-783-SA5A-SB-0.0-0.5) | Diethylphthalate | 75 (76-127) | 66 (76-127) | - | J (all detects) UJ (all non-detects) | A |
| SL-783-SA5A-SB-0.0-0.5MS/MSD (SL-783-SA5A-SB-0.0-0.5) | Di-n-octylphthalate | 329 (52-162) | - | 46 (≤30) | J (all detects) | A |

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

| Sample | Internal Standards | Area (Limits) | Compound | Flag | A or P |
|------------------------|--------------------|------------------------|---|---|--------|
| SL-783-SA5A-SB-0.0-0.5 | Perylene-d12 | 152524 (218155-872618) | Di-n-octylphthalate Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene Benzo(e)pyrene | J (all detects) UJ (all non-detects) | A |

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation

All compound quantitation were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH054 | All compounds reported below the RL. | J (all detects) | A |

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SL-783-SA5A-SB-0.0-0.5 and SL-1183-SA5A-SB-0.0-0.5 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

| Compound | Concentration (ug/Kg) | | RPD (Limits) | Flag | A or P |
|----------------------------|-------------------------|-------------------------|--------------|---|--------|
| | SL -783-SA5A-SB-0.0-0.5 | SL-1183-SA5A-SB-0.0-0.5 | | | |
| Bis(2-ethylhexyl)phthalate | 14 | 9.6 | 37 (≤50) | - | - |
| Di-n-octylphthalate | 94 | 7.0 | 172 (≤50) | J (all detects) | A |
| Benzo(b)fluoranthene | 1.7U | 1.8 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Chrysene | 1.7U | 1.1 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Fluoranthene | 1.7U | 1.2 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Phenanthrene | 1.7U | 0.79 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Pyrene | 1.7U | 1.1 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |

**Santa Susana Field Laboratory
Semivolatiles - Data Qualification Summary - SDG PH054**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|---|---|---|--------|---|
| PH054 | SL-783-SA5A-SB-0.0-0.5 | Diethylphthalate | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R) (Q) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 | Di-n-octylphthalate | J (all detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 | Di-n-octylphthalate Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene Benzo(e)pyrene | J (all detects) UJ (all non-detects) | A | Internal Standard (area) (I) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 | Di-n-octylphthalate | J (all detects) | A | Field Duplicates (RPD) (FD) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 | Benzo(b)fluoranthene Chrysene Fluoranthene Phenanthrene Pyrene | J (all detects) UJ (all non-detects) | A | Field Duplicates (RPD) (FD) |

**Santa Susana Field Laboratory
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG PH054**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Semivolatiles - Field Blank Data Qualification Summary - SDG PH054**

| SDG | Sample | Compound | Modified Final Concentration | A or P | Code |
|-------|------------------------|----------------------------|------------------------------|--------|------|
| PH054 | SL-789-SA5A-SB-5.0-6.0 | Bis(2-ethylhexyl)phthalate | 19U ug/Kg | A | F |

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270^D-SIM)

Semivolatiles

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--|
| I. | Technical holding times | A | Sampling dates: 6/11/13 |
| II. | GC/MS Instrument performance check | A | |
| III. | Initial calibration | A | RSD ≤ 30%, r ² |
| IV. | Continuing calibration/ICV | A | 1CV/1CV = 25% |
| V. | Blanks | A | |
| VI. | Surrogate spikes | A | |
| VII. | Matrix spike/Matrix spike duplicates | SW | |
| VIII. | Laboratory control samples | A | LCC |
| IX. | Regional Quality Assurance and Quality Control | N | |
| X. | Internal standards | SW | |
| XI. | Target compound identification | A | |
| XII. | Compound quantitation/RL/LOQ/LODs | A | |
| XIII. | Tentatively identified compounds (TICs) | N | |
| XIV. | System performance | A | |
| XV. | Overall assessment of data | A | |
| XVI. | Field duplicates | SW | FD = 1 + 2 |
| XVII. | Field blanks | SW | EB = EB1-061213 } C06 # PH055 EB = EB2-061213 |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank
 FB = FB-041113
 (C06 # PH029)

Validated Samples: Soil

| | | | | | |
|----|-----------------------------------|----|----|----|----------------|
| 1 | SL-783-SA5A-SB-0.0-0.5 | 11 | 21 | 31 | 13168JL0026-MC |
| 2 | SL-1183-SA5A-SB-0.0-0.5 | 12 | 22 | 32 | |
| 3 | SL-789-SA5A-SB-0.0-0.5 | 13 | 23 | 33 | |
| 4 | SL-789-SA5A-SB-0.0-0.5 5.0-6.0 | 14 | 24 | 34 | |
| 5 | SL-785-SA5A-SB-0.0-0.5 | 15 | 25 | 35 | |
| 6 | SL-786-SA5A-SB-0.0-0.5 | 16 | 26 | 36 | |
| 7 | SL-787-SA5A-SB-0.0-0.5 | 17 | 27 | 37 | |
| 8 | SL-788-SA5A-SB-0.0-0.5 | 18 | 28 | 38 | |
| 9 | SL-783-SA5A-SB-0.0-0.5MS | 19 | 29 | 39 | |
| 10 | SL-783-SA5A-SB-0.0-0.5MSD | 20 | 30 | 40 | |

Method: Semivolatiles (EPA SW 846 Method 8270C)

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. GC/MS Instrument performance check | | | | |
| Were the DFTPP performance results reviewed and found to be within the specified criteria? | / | | | |
| Were all samples analyzed within the 12 hour clock criteria? | | | | |
| III. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | / | | | |
| Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs? | / | | | |
| Was a curve fit used for evaluation? | / | | | |
| Did the initial calibration meet the curve fit acceptance criteria of > 0.990? | / | | | |
| Were all percent relative standard deviations (%RSD) $\leq 30\%$ and relative response factors (RRF) > 0.05? | / | | | |
| IV. Continuing calibration | | | | |
| Was a continuing calibration standard analyzed at least once every 12 hours for each instrument? | / | | | |
| Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs? | / | | | |
| Were all percent differences (%D) $\leq 25\%$ and relative response factors (RRF) ≥ 0.05 ? | / | | | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was a method blank analyzed for each matrix and concentration? | / | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | | / | | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within QC limits? | / | | | |
| If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R? | | | / | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | | | / | |
| VII. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | / | | | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | / | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | / | / | | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| Was an LCS analyzed per extraction batch? | / | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | / | | | |
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | / | | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| X. Internal standards | | | | |
| Were internal standard area counts within -50% or +100% of the associated calibration standard? | / | | | |
| Were retention times within + 30 seconds from the associated calibration standard? | / | | | |
| XI. Target compound identification | | | | |
| Were relative retention times (RRT's) within + 0.06 RRT units of the standard? | / | | | |
| Did compound spectra meet specified EPA "Functional Guidelines" criteria? | / | | | |
| Were chromatogram peaks verified and accounted for? | / | | | |
| XII. Compound quantitation/CRQLs | | | | |
| Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound? | / | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XIII. Tentatively identified compounds (TICs) | | | | |
| Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum? | | | / | |
| Were relative intensities of the major ions within $\pm 20\%$ between the sample and the reference spectra? | | | / | |
| Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)? | | / | | |
| XIV. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XV. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XVI. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target compounds were detected in the field duplicates. | / | | | |
| XVII. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | / | | | |

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

| | | | | |
|---------------------------------|------------------------------|---------------------------------|----------------------------------|---------------------------------|
| A. Phenol | T. 4-Chloroaniline | MM. 4-Chlorophenyl-phenyl ether | FFF. Di-n-octylphthalate | YYY. 2,3,5-Trimethylnaphthalene |
| B. Bis (2-chloroethyl) ether | U. Hexachlorobutadiene | NN. Fluorene | GGG. Benzo(b)fluoranthene | ZZZ. Perylene |
| C. 2-Chlorophenol | V. 4-Chloro-3-methylphenol | OO. 4-Nitroaniline | HHH. Benzo(k)fluoranthene | AAAA. Dibenzothiophene |
| D. 1,3-Dichlorobenzene | W. 2-Methylnaphthalene | PP. 4,6-Dinitro-2-methylphenol | III. Benzo(a)pyrene | BBBB. Benzo(a)fluoranthene |
| E. 1,4-Dichlorobenzene | X. Hexachlorocyclopentadiene | QQ. N-Nitrosodiphenylamine | JJJ. Indeno(1,2,3-cd)pyrene | CCCC. Benzo(b)fluorene |
| F. 1,2-Dichlorobenzene | Y. 2,4,6-Trichlorophenol | RR. 4-Bromophenyl-phenylether | KKK. Dibenz(a,h)anthracene | DDDD. cis/trans-Decalin |
| G. 2-Methylphenol | Z. 2,4,5-Trichlorophenol | SS. Hexachlorobenzene | LLL. Benzo(g,h,i)perylene | EEEE. Biphenyl |
| H. 2,2'-Oxybis(1-chloropropane) | AA. 2-Chloronaphthalene | TT. Pentachlorophenol | MMM. Bis(2-Chloroisopropyl)ether | FFFF. Retene |
| I. 4-Methylphenol | BB. 2-Nitroaniline | UU. Phenanthrene | NNN. Aniline | GGGG. C30-Hopane |
| J. N-Nitroso-di-n-propylamine | CC. Dimethylphthalate | VV. Anthracene | OOO. N-Nitrosodimethylamine | HHHH. 1-Methylphenanthrene |
| K. Hexachloroethane | DD. Acenaphthylene | WW. Carbazole | PPP. Benzoic Acid | IIII. 1,4-Dioxane |
| L. Nitrobenzene | EE. 2,6-Dinitrotoluene | XX. Di-n-butylphthalate | QQQ. Benzyl alcohol | JJJJ. Acetophenone |
| M. Isophorone | FF. 3-Nitroaniline | YY. Fluoranthene | RRR. Pyridine | KKKK. Atrazine |
| N. 2-Nitrophenol | GG. Acenaphthene | ZZ. Pyrene | SSS. Benzidine | LLLL. Benzaldehyde |
| O. 2,4-Dimethylphenol | HH. 2,4-Dinitrophenol | AAA. Butylbenzylphthalate | TTT. 1-Methylnaphthalene | MMMM. Caprolactam |
| P. Bis(2-chloroethoxy)methane | II. 4-Nitrophenol | BBB. 3,3'-Dichlorobenzidine | UUU. Benzo(b)thiophene | NNNN. Benzo(e)pyrene |
| Q. 2,4-Dichlorophenol | JJ. Dibenzofuran | CCC. Benzo(a)anthracene | VVV. Benzonaphthothiophene | OOOO. |
| R. 1,2,4-Trichlorobenzene | KK. 2,4-Dinitrotoluene | DDD. Chrysene | WWW. Benzo(e)pyrene | PPPP. |
| S. Naphthalene | LL. Diethylphthalate | EEE. Bis(2-ethylhexyl)phthalate | XXX. 2,6-Dimethylnaphthalene | QQQQ. |

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

N / N/A Were field blanks identified in this SDG?
 N / N/A Were target compounds detected in the field blanks?

EB = EB1-061213 (SDG # P17055)

Code: F

Blank units: ug/L Associated sample units: ug/L

Sampling date: 6/12/13

Field blank type: (circle one) Field Blank / Rinsate / Other EB Associated Samples: 1-2, 5-8 (ND + 75x, 10x)

| Compound | Blank ID | | Sample Identification | | | | | | |
|------------|--------------|---------------|-----------------------|--|--|--|--|--|--|
| | <u>EB</u> | <u>5x/10x</u> | | | | | | | |
| <u>LL</u> | <u>0.014</u> | <u>0.07</u> | | | | | | | |
| <u>XX</u> | <u>0.11</u> | <u>1.1</u> | | | | | | | |
| <u>LL</u> | <u>0.12</u> | <u>1.2</u> | | | | | | | |
| <u>EEE</u> | <u>0.11</u> | <u>1.1</u> | | | | | | | |
| <u>S</u> | <u>0.056</u> | <u>0.28</u> | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Blank units: ug/L Associated sample units: ug/L

EB = EB2-061213 (P17055)

Code: F

Sampling date: 6/12/13

Field blank type: (circle one) Field Blank / Rinsate / Other EB Associated Samples: 3-4

| Compound | Blank ID | | Sample Identification | | | | | | |
|------------|--------------|---------------|-----------------------|----------------|--|--|--|--|--|
| | <u>EB</u> | <u>5x/10x</u> | | <u>4</u> | | | | | |
| <u>XX</u> | <u>0.13</u> | <u>1.3</u> | | | | | | | |
| <u>LL</u> | <u>0.13</u> | <u>1.3</u> | | | | | | | |
| <u>EEE</u> | <u>0.98</u> | <u>9.8</u> | | <u>8.3/19u</u> | | | | | |
| <u>S</u> | <u>0.054</u> | <u>0.27</u> | | | | | | | |
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CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Sampling date: 4/11/13

Field blank type: (circle one) Field Blank / Rinsate / Other:

Associated Samples: A1 (ND + 75x, 10x)

FB = FB-04113 (SDG# PH029)

GLIF

| Compound | Blank ID | | Sample Identification | | | | | | | |
|----------|----------|---------|-----------------------|--|--|--|--|--|--|--|
| | FB | 5x, 10x | | | | | | | | |
| XX | 0.17 | 1.7 | | | | | | | | |
| LL | 0.18 | 1.8 | | | | | | | | |
| LEE | 0.082 | 0.82 | | | | | | | | |
| TTT | 0.019 | 0.095 | | | | | | | | |
| W | 0.024 | 0.12 | | | | | | | | |
| S | 0.17 | 0.85 | | | | | | | | |

Blank units: _____ **Associated sample units:** _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Other: _____

Associated Samples: _____

| Compound | Blank ID | | Sample Identification | | | | | | | |
|----------|----------|--|-----------------------|--|--|--|--|--|--|--|
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CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

| # | Date | MS/MSD ID | Compound | MS %R (Limits) | MSD %R (Limits) | RPD (Limits) | Associated Samples | Lab: <u>Q</u> Qualifications |
|---|------|-------------|------------|---------------------|--------------------|----------------|--------------------|---------------------------------|
| | | <u>9/10</u> | <u>LL</u> | <u>75 (76-127)</u> | <u>66 (76-127)</u> | <u>()</u> | <u>1</u> | <u>JLWJA</u> |
| | | | <u>FFF</u> | <u>329 (52-162)</u> | <u>()</u> | <u>46 (30)</u> | | <u>Jdt/a</u> |
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VALIDATION FINDINGS WORKSHEET
Internal Standards

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N/A Were all internal standard area counts within -50 to +100 of the associated calibration standard?

N/A Were the retention times of the internal standards within +/- 30 seconds of the retention times of the associated calibration standard?

| # | Date | Sample ID | Internal Standard | Area (Limits) | RT (Limits) | Code: I Qualifications |
|---|------|-----------|-------------------|--------------------------|-------------|----------------------------|
| | | 1 | PR7 | 152524 (218155 - 872618) | | JLW/A Corral - see list |
| | | 9 | PR7 | 164557 (↓) | | No qual - MS |
| | | 10 | PR9 | 152301 (↓) | | No qual - MS |
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(DCB) = 1,4-Dichlorobenzene-d4
(NPT) = Naphthalene-d8
(ANT) = Acenaphthene-d10

(PHN) = Phenanthrene-d10
(CRY) = Chrysene-d12
(PRY) = Perylene-d12

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC MS Semivolatiles (EPA SW 846 Method 8270D-SIM)

- Y N NA Were field duplicate pairs identified in this SDG?
- Y N NA Were target analytes detected in the field duplicate pairs?

| Compound | Concentration (ug/L) | | RPD (≤50%) | Qualifications (Parent Only) |
|----------|----------------------|------|---------------------|---------------------------------|
| | 1 | 2 | | |
| EEE | 14 | 9.6 | 37 | |
| FFF | 94 | 7.0 | 172 | ^{det sm} J/J/A |
| GGG | 1.7U | 1.8 | 8 200 sm | J/U/J/A sm |
| DDD | 1.7U | 1.1 | 48 200 | ↓ |
| YY | 1.7U | 1.2 | 34 200 | ↓ |
| UU | 1.7U | 0.79 | 76 200 | J/U/J/A |
| ZZ | 1.7U | 1.1 | 46 200 | ↓ |

LDC #: 30074A2b

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 3
 Reviewer BR
 2nd Reviewer _____

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

 A_x = Area of Compound C_x = Concentration of compound,

S= Standard deviation of the RRFs,

 A_{is} = Area of associated internal standard C_{is} = Concentration of internal standard

X = Mean of the RRFs

| # | Standard ID | Calibration Date | Compound (IS) | Reported RRF (1 std) | Recalculated RRF (1 std) | Reported Average RRF (Initial) | Recalculated Average RRF (Initial) | Reported %RSD | Recalculated %RSD |
|---|-------------|------------------|------------------------------|----------------------|--------------------------|--------------------------------|------------------------------------|---------------|-------------------|
| 1 | HP10623 | 6/20/2013 | N-Nitrosodimethylamine (IS1) | 0.892 | 0.892 | 0.924 | 0.924 | 9 | 9 |
| | | | Naphthalene (IS2) | 1.047 | 1.047 | 1.085 | 1.085 | 6 | 6 |
| | | | Fluorene (IS3) | 1.397 | 1.397 | 1.455 | 1.455 | 12 | 12 |
| | | | Anthracene (IS4) | 1.207 | 1.207 | 1.229 | 1.229 | 18 | 18 |
| | | | Chrysene (IS5) | 1.403 | 1.403 | 1.414 | 1.414 | 6 | 6 |
| | | | Benzo(a)pyrene (IS6) | 1.251 | 1.251 | 1.243 | 1.244 | 11 | 11 |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074A2b

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 23
 of 23
 Reviewer BR
 2nd Reviewer _____

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of Compound

C_x = Concentration of compound,

S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

X = Mean of the RRFs

| # | Standard ID | Calibration Date | Compound (IS) | Reported RRF (100 std) | Recalculated RRF (100 std) | Reported Average RRF (Initial) | Recalculated Average RRF (Initial) | Reported %RSD | Recalculated %RSD |
|---|-------------|------------------|------------------------------|------------------------|----------------------------|--------------------------------|------------------------------------|---------------|-------------------|
| 1 | HP10623 | 6/20/2013 | N-Nitrosodimethylamine (IS1) | 0.831 | 0.831 | 0.839 | 0.839 | 3 | 3 |
| | | | Naphthalene (IS2) | 1.049 | 1.049 | 1.046 | 1.046 | 3 | 3 |
| | | | Fluorene (IS3) | 1.427 | 1.427 | 1.396 | 1.396 | 3 | 3 |
| | | | Anthracene (IS4) | 1.281 | 1.281 | 1.239 | 1.239 | 4 | 4 |
| | | | Chrysene (IS5) | 1.295 | 1.295 | 1.296 | 1.296 | 2 | 2 |
| | | | Benzo(a)pyrene (IS6) | 1.184 | 1.184 | 1.167 | 1.168 | 3 | 3 |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

| Calibration Date | Instrument | Compound | Standard | (Y) Response Ratio | (X) Concentration Ratio |
|------------------|-------------------|----------------------------|----------|-----------------------|----------------------------|
| 6/20/2013 | GP10623 DB-5MS | Bis(2-ethylhexyl)phthalate | 1 | 0.045409819 | 0.05 |
| | | | 2 | 0.142006195 | 0.2 |
| | | | 3 | 0.400236403 | 0.5 |
| | | | 4 | 1.108325137 | 1.0 |
| | | | 5 | 6.386426981 | 5.0 |
| | | | 6 | 13.21433623 | 10 |

CF
 0.9082
 0.7100
 0.8005
 1.1083
 1.2773
 1.3214
 Ave 1.0210

| Regression Output | Calculated | Reported |
|--|----------------------------|-----------|
| Constant | c = -1.699023E-01 | 0.1284894 |
| Std Err of Y Est | | |
| R Squared | r ² = 0.9996380 | 0.9996380 |
| Degrees of Freedom | | |
| X Coefficient(s) | m = 1.33231 | 1.33279 |
| Std Err of Coef. | | |
| Correlation Coefficient | 1.000 | |
| Coefficient of Determination (r ²) | 1.000 | 1.000 |

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$$

Where:

ave. RRF = initial calibration average RRF

RRF = continuing calibration RRF

Ax = Area of compound

Cx = Concentration of compound

Ais = Area of associated internal standard

Cis = Concentration of internal standard

| # | Standard ID | Calibration Date | Compound (IS) | Average RRF (Initial RRF) | Reported (CC RRF) | Recalculated (CC RRF) | Reported %D | Recalculated %D |
|---|-------------|------------------|------------------------------|---------------------------|-------------------|-----------------------|-------------|-----------------|
| 1 | cf0721 | 06/21/13 | N-Nitrosodimethylamine (IS1) | 0.924 | 0.908 | 0.908 | 2 | 2 |
| | | | Naphthalene (IS2) | 1.085 | 1.045 | 1.045 | 4 | 4 |
| | | | Fluorene (IS3) | 1.455 | 1.397 | 1.397 | 4 | 4 |
| | | | Anthracene (IS4) | 1.229 | 1.171 | 1.171 | 5 | 5 |
| | | | Chrysene (IS5) | 1.414 | 1.318 | 1.318 | 7 | 7 |
| | | | Benzo(a)pyrene (IS6) | 1.243 | 1.183 | 1.183 | 5 | 5 |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$$

Where:

ave. RRF = initial calibration average RRF

RRF = continuing calibration RRF

Ax = Area of compound

Cx = Concentration of compound

Ais = Area of associated internal standard

Cis = Concentration of internal standard

| # | Standard ID | Calibration Date | Compound (IS) | Average RRF (Initial RRF) | Reported (CC RRF) | Recalculated (CC RRF) | Reported %D | Recalculated %D |
|---|-------------|------------------|------------------------------|---------------------------|-------------------|-----------------------|-------------|-----------------|
| 1 | cf0761 | 06/22/13 | N-Nitrosodimethylamine (IS1) | 0.924 | 0.868 | 0.868 | 6 | 6 |
| | | | Naphthalene (IS2) | 1.085 | 1.036 | 1.036 | 5 | 5 |
| | | | Fluorene (IS3) | 1.455 | 1.399 | 1.399 | 4 | 4 |
| | | | Anthracene (IS4) | 1.229 | 1.231 | 1.231 | 0 | 0 |
| | | | Chrysene (IS5) | 1.414 | 1.300 | 1.300 | 8 | 8 |
| | | | Benzo(a)pyrene (IS6) | 1.243 | 1.192 | 1.192 | 4 | 4 |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$$

Where:

ave. RRF = initial calibration average RRF

RRF = continuing calibration RRF

Ax = Area of compound

Cx = Concentration of compound

Ais = Area of associated internal standard

Cis = Concentration of internal standard

| # | Standard ID | Calibration Date | Compound (IS) | Average RRF (Initial RRF) | Reported (CC RRF) | Recalculated (CC RRF) | Reported %D | Recalculated %D |
|---|-------------|------------------|------------------------------|---------------------------|-------------------|-----------------------|-------------|-----------------|
| 1 | cf0881a | 06/25/13 | N-Nitrosodimethylamine (IS1) | 0.839 | 0.836 | 0.836 | 0 | 0 |
| | | | Naphthalene (IS2) | 1.046 | 1.040 | 1.040 | 1 | 1 |
| | | | Fluorene (IS3) | 1.396 | 1.403 | 1.403 | 1 | 1 |
| | | | Anthracene (IS4) | 1.239 | 1.248 | 1.248 | 1 | 1 |
| | | | Chrysene (IS5) | 1.296 | 1.282 | 1.282 | 1 | 1 |
| | | | Benzo(a)pyrene (IS6) | 1.167 | 1.169 | 1.169 | 0 | 0 |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: 1

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|------------------------|--------------------------|-----------------|---------------------------|-------------------------------|--------------------|
| Nitrobenzene-d5 | Fluoranthene-d10 1.000 | 0.768 | 77 | 77 | 0 |
| 2-Fluorobiphenyl | benzo(a)pyrene-d12 ↓ | 0.847 | 85 | 85 | 0 |
| Terphenyl-d14 | 1-methylanthracene-d10 ↓ | 0.842 | 84 | 84 | 0 |
| Phenol-d5 | | | | | |
| 2-Fluorophenol | | | | | |
| 2,4,6-Tribromophenol | | | | | |
| 2-Chlorophenol-d4 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | |

Sample ID:

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|------------------------|------------------|-----------------|---------------------------|-------------------------------|--------------------|
| Nitrobenzene-d5 | | | | | |
| 2-Fluorobiphenyl | | | | | |
| Terphenyl-d14 | | | | | |
| Phenol-d5 | | | | | |
| 2-Fluorophenol | | | | | |
| 2,4,6-Tribromophenol | | | | | |
| 2-Chlorophenol-d4 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | |

Sample ID:

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|------------------------|------------------|-----------------|---------------------------|-------------------------------|--------------------|
| Nitrobenzene-d5 | | | | | |
| 2-Fluorobiphenyl | | | | | |
| Terphenyl-d14 | | | | | |
| Phenol-d5 | | | | | |
| 2-Fluorophenol | | | | | |
| 2,4,6-Tribromophenol | | | | | |
| 2-Chlorophenol-d4 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | |

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270^b)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

RPD = |MSC - MSC| * 2 / (MSC + MSDC)

MSC = Matrix spike concentration

MSDC = Matrix spike duplicate concentration

MS/MSD samples: 9/10

| Compound | Spike Added (ug/kg) | | Sample Concentration (ug/kg) | Spiked Sample Concentration (ug/kg) | | Matrix Spike | | Matrix Spike Duplicate | | MS/MSD | |
|----------------------------|------------------------|-------|---------------------------------|--|-------|------------------|---------|------------------------|---------|----------|--------------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalculated |
| Phenol | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | | | | | | | | | | | |
| Acenaphthene | 33.33 | 33.33 | 0 | 27.45 | 27.27 | 82 | 82 | 82 | 82 | 1 | 0.7 |
| Pentachlorophenol | | | | | | | | | | | |
| Pyrene | 33.33 | 33.33 | 0 | 31 | 30.01 | 93 | 93 | 90 | 90 | 3 | 3.3 |
| | | | | | | | | | | | |
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Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270^D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA)

Where: SSC = Spike concentration
SA = Spike added

RPD = |LCSC - LCSDC| * 2 / (LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 13168SL6025^B LCS = 168LCLCS

| Compound | Spike Added (ug/g) | | Spike Concentration (ug/L) | | LCS | | LCSD | | LCS/LCSD | |
|----------------------------|--------------------|------|----------------------------|------|------------------|---------|------------------|---------|----------|--------------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalculated |
| Phenol | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | | | | | | | | | | |
| 4-Chloro-3-methylphenol | | | | | | | | | | |
| Acenaphthene | 33.33 | | 31.21 | | 94 | 94 | | | | |
| Pentachlorophenol | | | | | | | | | | |
| Pyrene | 33.33 | | 32.12 | | 96 | 96 | | | | |
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Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A
N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(V_i)(DF)(2.0)}{(A_s)(RRF)(V_o)(V_t)(\%S)}$$

- A_x = Area of the characteristic ion (EICP) for the compound to be measured
- A_s = Area of the characteristic ion (EICP) for the specific internal standard
- I_s = Amount of internal standard added in nanograms (ng)
- V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).
- V_i = Volume of extract injected in microliters (ul)
- V_t = Volume of the concentrated extract in microliters (ul)
- Df = Dilution Factor.
- %S = Percent solids, applicable to soil and solid matrices only.
- 2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 1 EEE

EEE = 14 Ng
kg

Conc. = $\frac{(96240)(1)(1)(1)(1)(1)}{(25920)(1)(1)(1)(1)}$

= $\frac{0.371294863 + 0.01699023}{1.33231}$

= $\frac{(0.406201638)(1)(1)(1000)}{(1)(30)}$

= 13.54032129 Ng/kg

| # | Sample ID | Compound | Reported Concentration () | Calculated Concentration () | Qualification |
|---|-----------|----------|-------------------------------|---------------------------------|---------------|
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Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 11, 2013
LDC Report Date: August 5, 2013
Matrix: Soil
Parameters: Polychlorinated Biphenyls
Validation Level: Level IV
Laboratory: Eurofins
Sample Delivery Group (SDG): PH054

Sample Identification

SL-783-SA5A-SB-0.0-0.5
SL-1183-SA5A-SB-0.0-0.5
SL-789-SA5A-SB-0.0-0.5
SL-789-SA5A-SB-5.0-6.0
SL-788-SA5A-SB-0.0-0.5
SL-783-SA5A-SB-0.0-0.5MS
SL-783-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 7 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082A for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

| Date | Standard | Column | Compound | %D | Associated Samples | Affected Compound | Flag | A or P |
|---------|----------|------------|--------------|----|--------------------------|-------------------|---|--------|
| 6/16/13 | PCTP34P | ZBmulti-R2 | Aroclor-5460 | 28 | All samples in SDG PH054 | Aroclor-5460 | J (all detects) UJ (all non-detects) | A |

The percent difference (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Samples EB1-061213 and EB2-061213 (both from SDG PH055) were identified as equipment blanks. No polychlorinated biphenyl contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No polychlorinated biphenyl contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|---------------|
| All samples in SDG PH054 | All compounds reported below the RL. | J (all detects) | A |

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

Samples SL-783-SA5A-SB-0.0-0.5 and SL-1183-SA5A-SB-0.0-0.5 were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

**Santa Susana Field Laboratory
Polychlorinated Biphenyls - Data Qualification Summary - SDG PH054**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|---|--------------------------------------|---|--------|---------------------------------|
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 SL-788-SA5A-SB-0.0-0.5 | Aroclor-5460 | J (all detects) UJ (all non-detects) | A | Continuing calibration (%D) (C) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 SL-788-SA5A-SB-0.0-0.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |

**Santa Susana Field Laboratory
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG PH054**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG PH054**

No Sample Data Qualified in this SDG

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|------|------------------------------|
| I. | Technical holding times | A | Sampling dates: 6/11/13 |
| II. | GC/ECD Instrument Performance Check | N | |
| III. | Initial calibration | A | RSD ≤ 20% |
| IV. | Continuing calibration/ICV | SW A | ICV/CCV ≤ 20% |
| V. | Blanks | A | |
| VI. | Surrogate spikes | A | |
| VII. | Matrix spike/Matrix spike duplicates | A | |
| VIII. | Laboratory control samples | A | LCS/P |
| IX. | Regional quality assurance and quality control | N | |
| X. | Florisil cartridge check | N | |
| XI. | GPC Calibration | N | |
| XII. | Target compound identification | A | |
| XIII. | Compound quantitation/RL/LOQ/LODs | A | |
| XIV. | Overall assessment of data | A | |
| XV. | Field duplicates | ND | FD = 1 + 2 |
| XVI. | Field blanks | ND | EB = EB1-061213 (SDG #PH055) |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

FB = FB-041113
(SDG #PH029)

Validated Samples: Soil

| | | | | | |
|----|---------------------------|----|----|----|---------------|
| 1 | SL-783-SA5A-SB-0.0-0.5 | 11 | 21 | 31 | 13144007A-BLK |
| 2 | SL-1183-SA5A-SB-0.0-0.5 | 12 | 22 | 32 | PBLK/7164 |
| 3 | SL-789-SA5A-SB-0.0-0.5 | 13 | 23 | 33 | |
| 4 | SL-789-SA5A-SB-0.0-0.5 | 14 | 24 | 34 | |
| 5 | SL-788-SA5A-SB-0.0-0.5 | 15 | 25 | 35 | |
| 6 | SL-783-SA5A-SB-0.0-0.5MS | 16 | 26 | 36 | |
| 7 | SL-783-SA5A-SB-0.0-0.5MSD | 17 | 27 | 37 | |
| 8 | | 18 | 28 | 38 | |
| 9 | | 19 | 29 | 39 | |
| 10 | | 20 | 30 | 40 | |

Notes:

Method: Pesticides/PCBs (EPA SW 846 Method 8081/8082)

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. GC/ECD Instrument performance check | | | | |
| Was the instrument performance found to be acceptable? | | | / | |
| III. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | / | | | |
| Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) \leq 20%? | / | | | |
| Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used? | | / | / | |
| Did the initial calibration meet the curve fit acceptance criteria? | | | / | |
| Were the RT windows properly established? | / | | | |
| Were the required standard concentrations analyzed in the initial calibration? | / | | | |
| IV. Continuing calibration | | | | |
| What type of continuing calibration calculation was performed? <u>X</u> %D or %R | / | | | |
| Were Evaluation mix standards analyzed prior to the initial calibration and sample analysis? | | | / | |
| Were endrin and 4,4'-DDT breakdowns \leq 15%.0 for individual breakdown in the Evaluation mix standards? | | | / | |
| Was a continuing calibration analyzed daily? | / | / | | |
| Were all percent differences (%D) \leq 20%.0 or percent recoveries 80-120%? | / | / | | |
| Were all the retention times within the acceptance windows? | / | | | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was a method blank analyzed for each matrix and concentration? | / | | | |
| Were extract cleanup blanks analyzed with every batch requiring clean-up? | | | / | |
| Was there contamination in the method blanks or clean-up blanks? If yes, please see the Blanks validation completeness worksheet. | | / | | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within the QC limits? | / | | | |
| If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R? | | | / | |

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | | | <input checked="" type="checkbox"/> | |
| VII. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | <input checked="" type="checkbox"/> | | | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | <input checked="" type="checkbox"/> | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | <input checked="" type="checkbox"/> | | | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | <input checked="" type="checkbox"/> | | | |
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | | | |
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | <input checked="" type="checkbox"/> | | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | <input checked="" type="checkbox"/> | |
| X. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | <input checked="" type="checkbox"/> | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions, dry weight factors, and clean-up activities applicable to level IV validation? | <input checked="" type="checkbox"/> | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | <input checked="" type="checkbox"/> | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | <input checked="" type="checkbox"/> | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | <input checked="" type="checkbox"/> | | | |
| Target compounds were detected in the field duplicates. | | <input checked="" type="checkbox"/> | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | <input checked="" type="checkbox"/> | | | |
| Target compounds were detected in the field blanks. | | <input checked="" type="checkbox"/> | | |

VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

| | | | | |
|-----------------------|-----------------------|--------------------|-----------------------|---------------------------|
| A. alpha-BHC | I. Dieldrin | Q. Endrin ketone | Y. Aroclor-1242 | GG. Chlordane |
| B. beta-BHC | J. 4,4'-DDE | R. Endrin aldehyde | Z. Aroclor-1248 | HH. Chlordane (Technical) |
| C. delta-BHC | K. Endrin | S. alpha-Chlordane | AA. Aroclor-1254 | II. Aroclor 1262 |
| D. gamma-BHC | L. Endosulfan II | T. gamma-Chlordane | BB. Aroclor-1260 | JJ. Aroclor 1268 |
| E. Heptachlor | M. 4,4'-DDD | U. Toxaphene | CC. 2,4'-DDD | KK. Oxychlordane |
| F. Aldrin | N. Endosulfan sulfate | V. Aroclor-1016 | DD. 2,4'-DDE | LL. trans-Nonachlor |
| G. Heptachlor epoxide | O. 4,4'-DDT | W. Aroclor-1221 | EE. 2,4'-DDT | MM. cis-Nonachlor |
| H. Endosulfan I | P. Methoxychlor | X. Aroclor-1232 | FF. Hexachlorobenzene | NN. <i>Aroclor 5460</i> |

Notes: _____

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Please see qualifications below for all questions answered "N" Not applicable questions are identified as "N/A".

- Y N N/A Were Evaluation mix standards run before initial calibration and before samples?
- Y N N/A Were Endrin & 4,4'-DDT breakdowns acceptable in the Evaluation Mix standard ($\leq 15.0\%$ for individual breakdowns)?
- Y N N/A Was at least one standard run daily to verify the working curve?
- Y N N/A Did the continuing calibration standards meet the percent difference (%D) of $\leq 20.0\%$?

Level IV/D Only
 Y N N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

| # | Date | Standard ID | Column | Compound | %D (Limit ≤ 20.0) | RT (Limits) | Associated Samples | Lab-C Qualifications |
|---|---------|-------------|----------------|-----------------|----------------------------|----------------|--------------------|----------------------------|
| | 6/16/13 | CV-PCFP34P | 2Bmulti- R2 | Aroclor 5460 | 28 | () | A-11 | JWS/A (Aroclor 5460) |
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LDC#: 30074A3b

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 2
Reviewer: BR
2nd Reviewer: _____

METHOD: GC PCBs (EPA SW 846 Method 8082A)

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$CF = A/C$

average CF = sum of the CF/number of standards

$\%RSD = 100 * (S/X)$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported CF (500 std) | Recalculated CF (500 std) | Reported Average CF (Initial) | Recalculated Average CF (Initial) | Reported %RSD | Recalculated %RSD |
|---|----------------|------------------|------------------------|---------------------------|-------------------------------|----------------------------------|--------------------------------------|---------------|-------------------|
| 1 | ICAL 17342A | 6/9/2013 | PCB1260-1 (ZB-MultiR1) | 13055 | 13055 | 14384 | 14384 | 13 | 13 |
| | | | PCB1260-1 (ZB-MultiR2) | 26998 | 26998 | 30763 | 30763 | 12 | 12 |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC#: 30074A3b

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 2 of 2
Reviewer: BR
2nd Reviewer: _____

METHOD: GC PCBs (EPA SW 846 Method 8082A)

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$CF = A/C$

average CF = sum of the CF/number of standards

$\%RSD = 100 * (S/X)$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported CF (500 std) | Recalculated CF (500 std) | Reported Average CF (Initial) | Recalculated Average CF (Initial) | Reported %RSD | Recalculated %RSD |
|---|-------------|------------------|------------------------|---------------------------|-------------------------------|----------------------------------|--------------------------------------|---------------|-------------------|
| 1 | ICAL | 6/9/2013 | PCB1254-1 (ZB-MultiR1) | 9314 | 9314 | 10115 | 10115 | 11 | 11 |
| | | | PCB1254-1 (ZB-MultiR2) | 33635 | 33635 | 36023 | 36023 | 8 | 8 |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation

METHOD: GC PCBs (EPA SW 846 Method 8082)

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = $100 * (N - C)/N$

Where: N = Initial Calibration Factor or Nominal Amount
 C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

| # | Standard ID | Calibration Date | Compound | Conc | Reported Conc (CCV) | Recalculated Conc (CCV) | Reported % D | Recalculated %D |
|---|-------------|------------------|----------------------|------|---------------------|-------------------------|--------------|-----------------|
| 1 | SH03003A | 8/3/2012 | PCB1260 (ZB-MultiR1) | 200 | 201.44 | 201.45 | 1 | 1 |
| | | | PCB1260 (ZB-MultiR2) | 200 | 194.11 | 194.11 | 3 | 3 |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

| Surrogate | Column | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|----------------------|--------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| Tetrachloro-m-xylene | | | | | | |
| Tetrachloro-m-xylene | ZBMR1 | 10.1 | 11.32737 | 112 | 112 | 0 |
| Decachlorobiphenyl | ZBMR2 | 10.2 | 11.559732 | 114 | 114 | 0 |
| Decachlorobiphenyl | | | | | | |

Sample ID: _____

| Surrogate | Column | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|----------------------|--------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| Tetrachloro-m-xylene | | | | | | |
| Tetrachloro-m-xylene | | | | | | |
| Decachlorobiphenyl | | | | | | |
| Decachlorobiphenyl | | | | | | |

Sample ID: _____

| Surrogate | Column | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|----------------------|--------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| Tetrachloro-m-xylene | | | | | | |
| Tetrachloro-m-xylene | | | | | | |
| Decachlorobiphenyl | | | | | | |
| Decachlorobiphenyl | | | | | | |

Sample ID: _____

| Surrogate | Column | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|----------------------|--------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| Tetrachloro-m-xylene | | | | | | |
| Tetrachloro-m-xylene | | | | | | |
| Decachlorobiphenyl | | | | | | |
| Decachlorobiphenyl | | | | | | |

Notes: _____

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC-SC)/SA

Where: SSC = Spiked sample concentration
 SA = Spike added

SC = Concentration

RPD = |MS - MSD| * 2 / (MS + MSD)

MS = Matrix spike percent recovery

MSD = Matrix spike duplicate percent recovery

MS/MSD samples: 6/7

| Compound | Spike Added (ug/kg) | | Sample Concentration (ug/kg) | Spiked Sample Concentration (ug/kg) | | Matrix Spike Percent Recovery | | Matrix Spike Duplicate Percent Recovery | | MS/MSD RPD | |
|--------------|---------------------|-----|------------------------------|-------------------------------------|--------|-------------------------------|---------|---|---------|------------|--------------|
| | MS | MSD | | MS | MSD | Reported | Recalc. | Reported | Recalc. | Reported | Recalculated |
| | | | | | | | | | | | |
| gamma-BHC | | | | | | | | | | | |
| 4,4'-DDT | | | | | | | | | | | |
| Aroclor 1260 | 167 | 167 | 0 | 187.39 | 170.41 | 112 | 112 | 102 | 102 | 9 | 9.5 |
| | | | | | | | | | | | |
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Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074A2L

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
 Reviewer: BR
 2nd Reviewer: _____

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{ Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

Where: SSC = Spiked sample concentration
 SA = Spike added

SC = Concentration

$\text{RPD} = | \text{LCS} - \text{LCSD} | * 2 / (\text{LCS} + \text{LCSD})$

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCS 17164

| Compound | Spike Added | | Spiked Sample Concentration | | LCS | | LCSD | | LCS/LCSD | |
|--------------|-------------|------|-----------------------------|------|------------------|---------|------------------|---------|----------|---------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| gamma-BHC | | | | | | | | | | |
| 4,4'-DDT | | | | | | | | | | |
| Aroclor 1260 | 167 | - | 188.47 | - | 113 | 113 | - | - | - | - |
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Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC Pesticides/PCBs (EPA SW 846 Method 8081/8082)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$1254-1 = \frac{(1123094)(10)}{(10115)(30)} = 37.01084198$$

$$1254-2 = 34.400923$$

$$1254-3 = 41.15258$$

$$-4 = 42.584013$$

$$-5 = 51.411796$$

$$-6 = 63.930869$$

Average = 45.08183716 $\mu\text{g}/\text{kg}$

Example:

Sample I.D. 5 PCB 1254

Conc. = 45 $\mu\text{g}/\text{kg}$

$$= \frac{45.08183716}{0.992}$$

$$= 45.44540036 \mu\text{g}/\text{kg}$$

| # | Sample ID | Compound | Reported Concentration () | Calculated Concentration () | Qualification |
|---|-----------|----------|-------------------------------|---------------------------------|---------------|
| | | | | | |
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Note: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: June 11, 2013

LDC Report Date: August 12, 2013

Matrix: Soil

Parameters: Metals

Validation Level: Level IV

Laboratory: Eurofins

Sample Delivery Group (SDG): PH054

Sample Identification

SL-783-SA5A-SB-0.0-0.5
SL-1183-SA5A-SB-0.0-0.5
SL-789-SA5A-SB-5.0-6.0
SL-789-SA5A-SB-0.0-0.5
SL-785-SA5A-SB-0.0-0.5
SL-786-SA5A-SB-0.0-0.5
SL-787-SA5A-SB-0.0-0.5
SL-788-SA5A-SB-0.0-0.5
SL-783-SA5A-SB-0.0-0.5MS
SL-783-SA5A-SB-0.0-0.5MSD
SL-783-SA5A-SB-0.0-0.5DUP

Introduction

This data review covers 11 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010C, 6020A, and 7471A for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, and Zirconium.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (January 2010).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Calibration

The initial and continuing calibrations were performed at the required frequency.

The calibration standards criteria were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the initial, continuing and preparation blanks with the following exceptions:

| Method Blank ID | Analyte | Maximum Concentration | Associated Samples |
|-----------------|---|---|--|
| PB (prep blank) | Cadmium Calcium Lithium Phosphorus Tin Strontium | 0.033 mg/Kg 11.937 mg/Kg 0.585 mg/Kg 1.070 mg/Kg 1.449 mg/Kg 0.098 mg/Kg | All samples in SDG PH054 |
| ICB/CCB | Iron Molybdenum Titanium Vanadium | 42.1 ug/L 1.7 ug/L 2.2 ug/L 1.0 ug/L | All samples in SDG PH054 |
| ICB/CCB | Lithium Magnesium Phosphorus | 5.1 ug/L 23.7 ug/L 2.7 ug/L | SL-789-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 |
| ICB/CCB | Lead | 10.0 ug/L | SL-783-SA5A-SB-0.0-0.5 |

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

| Sample | Analyte | Reported Concentration | Modified Final Concentration |
|-------------------------|-------------------|-------------------------|------------------------------|
| SL-783-SA5A-SB-0.0-0.5 | Molybdenum Tin | 1.2 mg/Kg 2.7 mg/Kg | 1.2U mg/Kg 2.7U mg/Kg |
| SL-1183-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.44 mg/Kg 3.3 mg/Kg | 0.44U mg/Kg 3.3U mg/Kg |
| SL-789-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.53 mg/Kg 2.5 mg/Kg | 0.53U mg/Kg 2.5U mg/Kg |
| SL-789-SA5A-SB-5.0-6.0 | Molybdenum Tin | 0.25 mg/Kg 2.8 mg/Kg | 0.25U mg/Kg 2.8U mg/Kg |
| SL-785-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.40 mg/Kg 2.4 mg/Kg | 0.40U mg/Kg 2.4U mg/Kg |
| SL-786-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.31 mg/Kg 2.5 mg/Kg | 0.31U mg/Kg 2.5U mg/Kg |
| SL-787-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.35 mg/Kg 2.5 mg/Kg | 0.35U mg/Kg 2.5U mg/Kg |
| SL-788-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.35 mg/Kg 2.6 mg/Kg | 0.35U mg/Kg 2.6U mg/Kg |

Samples EB1-061213 and EB2-061213 (both from SDG PH055) were identified as equipment blanks. No metal contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Analyte | Concentration | Associated Samples |
|------------|---------------|-------------------------------|--|---|
| EB1-061213 | 6/12/13 | Barium | 0.00037 mg/L | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 |
| EB2-061213 | 6/12/13 | Barium Silver Strontium | 0.00045 mg/L 0.00062 mg/L 0.00053 mg/L | SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 |

Sample FB-041113 (from SDG PH029) was identified as a field blank. No metal contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Analyte | Concentration | Associated Samples |
|-----------|---------------|----------------------|----------------------------|--------------------------|
| FB-041113 | 4/11/13 | Copper Molybdenum | 0.0036 mg/L 0.0036 mg/L | All samples in SDG PH054 |

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

| Sample | Analyte | Reported Concentration | Modified Final Concentration |
|-------------------------|----------------------|---------------------------|------------------------------|
| SL-850-SA5A-SB-0.0-0.5 | Molybdenum | 1.2 mg/Kg | 1.2U mg/Kg |
| SL-1183-SA5A-SB-0.0-0.5 | Molybdenum | 0.44 mg/Kg | 0.44U mg/Kg |
| SL-789-SA5A-SB-0.0-0.5 | Silver Molybdenum | 0.087 mg/Kg 0.53 mg/Kg | 0.087U mg/Kg 0.53U mg/Kg |
| SL-789-SA5A-SB-5.0-6.0 | Silver Molybdenum | 0.083 mg/Kg 0.25 mg/Kg | 0.083U mg/Kg 0.25U mg/Kg |
| SL-785-SA5A-SB-0.0-0.5 | Molybdenum | 0.40 mg/Kg | 0.40U mg/Kg |
| SL-786-SA5A-SB-0.0-0.5 | Molybdenum | 0.31 mg/Kg | 0.31U mg/Kg |
| SL-787-SA5A-SB-0.0-0.5 | Molybdenum | 0.35 mg/Kg | 0.35U mg/Kg |
| SL-788-SA5A-SB-0.0-0.5 | Molybdenum | 0.35 mg/Kg | 0.35U mg/Kg |

V. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

| Spike ID (Associated Samples) | Analyte | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|--|--|--|---|---------------------------------|--|--------|
| SL-783-SA5A-SB-0.0-0.5MS/MSD (All samples in SDG PH054) | Antimony Chromium Copper Phosphorus | 44 (75-125) 175 (75-125) 61 (75-125) 54 (75-125) | 41 (75-125) - 73 (75-125) 60 (75-125) | - 36 (≤ 20) - - | J (all detects) UJ (all non-detects) | A |
| SL-852-SA5A-SB-0.0-0.5MS/MSD (All samples in SDG PH054) | Selenium Silver Strontium Thallium | 139 (75-125) 142 (75-125) 270 (75-125) 168 (75-125) | 135 (75-125) 139 (75-125) 235(75-125) 157 (75-125) | - - - - | J (all detects) J (all detects) J (all detects) J (all detects) | A |

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards

All internal standard percent recoveries (%R) were within QC limits.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XII. Sample Result Verification

All sample result verifications were acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples SL-783-SA5A-SB-0.0-0.5 and SL-1183-SA5A-SB-0.0-0.5 were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

| Analyte | Concentration (ug/L) | | RPD (Limits) | Flag | A or P |
|------------|------------------------|-------------------------|--------------|---|--------|
| | SL-783-SA5A-SB-0.0-0.5 | SL-1183-SA5A-SB-0.0-0.5 | | | |
| Aluminum | 15400 | 16300 | 6 (≤50) | - | - |
| Arsenic | 3.75 | 5.67 | 41 (≤50) | - | - |
| Barium | 97.7 | 94.4 | 3 (≤50) | - | - |
| Beryllium | 0.581 | 0.792 | 31 (≤50) | - | - |
| Boron | 4.93 | 4.22 | 16 (≤50) | - | - |
| Cadmium | 0.712 | 0.639 | 11 (≤50) | - | - |
| Calcium | 2740 | 2480 | 10 (≤50) | - | - |
| Chromium | 22.9 | 19.3 | 17 (≤50) | - | - |
| Cobalt | 5.77 | 10.6 | 59 (≤50) | J (all detects) | A |
| Copper | 0.571 | 12.4 | 182 (≤50) | J (all detects) | A |
| Iron | 21200 | 27800 | 27 (≤50) | - | - |
| Lead | 11.0 | 8.30 | 28 (≤50) | - | - |
| Lithium | 22.5 | 26.9 | 18 (≤50) | - | - |
| Magnesium | 4000 | 5120 | 25 (≤50) | - | - |
| Manganese | 312 | 357 | 13 (≤50) | - | - |
| Mercury | 0.021 | 0.017U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Molybdenum | 1.19 | 0.442 | 92 (≤50) | J (all detects) | A |
| Nickel | 13.9 | 12.2 | 13 (≤50) | - | - |
| Phosphorus | 394 | 429 | 9 (≤50) | - | - |
| Potassium | 3360 | 3470 | 3 (≤50) | - | - |
| Selenium | 0.405U | 0.18 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |

| Analyte | Concentration (ug/L) | | RPD (Limits) | Flag | A or P |
|-----------|------------------------|-------------------------|--------------|---|--------|
| | SL-783-SA5A-SB-0.0-0.5 | SL-1183-SA5A-SB-0.0-0.5 | | | |
| Silver | 0.0599 | 0.207U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Sodium | 109 | 112 | 16 (≤50) | - | - |
| Strontium | 19.0 | 22.4 | 17 (≤50) | - | - |
| Thallium | 0.252 | 0.283 | 11 (≤50) | - | - |
| Tin | 2.68 | 3.32 | 21 (≤50) | - | - |
| Titanium | 1070 | 1150 | 7 (≤50) | - | - |
| Vanadium | 34.5 | 38.0 | 10 (≤50) | - | - |
| Zinc | 64.4 | 66.9 | 4 (≤50) | - | - |
| Zirconium | 2.13 | 1.41 | 41 (≤50) | - | - |

**Santa Susana Field Laboratory
Metals - Data Qualification Summary - SDG PH054**

| SDG | Sample | Analyte | Flag | A or P | Reason (Code) |
|-------|---|---|--|--------|---|
| PH054 | SL-783-SA5A-SB-0.0-0.5 | Antimony Copper Phosphorus | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R) (Q) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 | Chromium | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q,E) |
| PH054 | SL-852-SA5A-SB-0.0-0.5 | Selenium Silver Strontium Thallium | J (all detects) J (all detects) J (all detects) J (all detects) | A | Matrix spike/Matrix spike duplicate (%R) (Q) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 | Colbalt Copper Molybdenum | J (all detects) J (all detects) J (all detects) | A | Field duplicates (RPD) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 | Mercury Selenium Silver | J (all detects) UJ (all non-detects) | A | Field duplicates (RPD) |

**Santa Susana Field Laboratory
Metals - Laboratory Blank Data Qualification Summary - SDG PH054**

| SDG | Sample | Analyte | Modified Final Concentration | A or P | Code |
|-------|-------------------------|-------------------|------------------------------|--------|------|
| PH054 | SL-783-SA5A-SB-0.0-0.5 | Molybdenum Tin | 1.2U mg/Kg 2.7U mg/Kg | A | B |
| PH054 | SL-1183-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.44U mg/Kg 3.3U mg/Kg | A | B |
| PH054 | SL-789-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.53U mg/Kg 2.5U mg/Kg | A | B |
| PH054 | SL-789-SA5A-SB-5.0-6.0 | Molybdenum Tin | 0.25U mg/Kg 2.8U mg/Kg | A | B |
| PH054 | SL-785-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.40U mg/Kg 2.4U mg/Kg | A | B |
| PH054 | SL-786-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.31U mg/Kg 2.5U mg/Kg | A | B |
| PH054 | SL-787-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.35U mg/Kg 2.5U mg/Kg | A | B |

| SDG | Sample | Analyte | Modified Final Concentration | A or P | Code |
|-------|------------------------|-------------------|------------------------------|--------|------|
| PH054 | SL-788-SA5A-SB-0.0-0.5 | Molybdenum Tin | 0.35U mg/Kg 2.6U mg/Kg | A | B |

**Santa Susana Field Laboratory
Metals - Field Blank Data Qualification Summary - SDG PH054**

| SDG | Sample | Analyte | Modified Final Concentration | A or P | Code |
|-------|-------------------------|----------------------|------------------------------|--------|------|
| PH054 | SL-850-SA5A-SB-0.0-0.5 | Molybdenum | 1.2U mg/Kg | A | F |
| PH054 | SL-1183-SA5A-SB-0.0-0.5 | Molybdenum | 0.44U mg/Kg | A | F |
| PH054 | SL-789-SA5A-SB-0.0-0.5 | Silver Molybdenum | 0.087U mg/Kg 0.53U mg/Kg | A | F |
| PH054 | SL-789-SA5A-SB-5.0-6.0 | Silver Molybdenum | 0.083U mg/Kg 0.25U mg/Kg | A | F |
| PH054 | SL-785-SA5A-SB-0.0-0.5 | Molybdenum | 0.40U mg/Kg | A | F |
| PH054 | SL-786-SA5A-SB-0.0-0.5 | Molybdenum | 0.31U mg/Kg | A | F |
| PH054 | SL-787-SA5A-SB-0.0-0.5 | Molybdenum | 0.35U mg/Kg | A | F |
| PH054 | SL-788-SA5A-SB-0.0-0.5 | Molybdenum | 0.35U mg/Kg | A | F |

LDC #: 30074A4

VALIDATION COMPLETENESS WORKSHEET

Date: 7/24/13

SDG #: PH054

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: AL

7471A

2nd Reviewer: W

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|---|
| I. | Technical holding times | A | Sampling dates: 6/11/13 |
| II. | ICP/MS Tune | A | |
| III. | Calibration | A | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | A | |
| VI. | Matrix Spike Analysis | SW | MS/D |
| VII. | Duplicate Sample Analysis | A | DUP |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | A | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | A | |
| XII. | Sample Result Verification | A | |
| XIII. | Overall Assessment of Data | A | |
| XIV. | Field Duplicates | SW | (1,2) |
| XV. | Field Blanks | SW | EB = EB1-061213 } PH055 FB = FB-041113 = EB2-061213 } (PH029) |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Soil

| | | | | | | | |
|----|---------------------------|----|---------------------------|----|--|----|--|
| 1 | SL-783-SA5A-SB-0.0-0.5 | 11 | SL-783-SA5A-SB-0.0-0.5DUP | 21 | | 31 | |
| 2 | SL-1183-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | SL-789-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 | |
| 4 | SL-789-SA5A-SB-0.0-0.5 | 14 | | 24 | | 34 | |
| 5 | SL-785-SA5A-SB-0.0-0.5 | 15 | | 25 | | 35 | |
| 6 | SL-786-SA5A-SB-0.0-0.5 | 16 | | 26 | | 36 | |
| 7 | SL-787-SA5A-SB-0.0-0.5 | 17 | | 27 | | 37 | |
| 8 | SL-788-SA5A-SB-0.0-0.5 | 18 | | 28 | | 38 | |
| 9 | SL-783-SA5A-SB-0.0-0.5MS | 19 | | 29 | | 39 | |
| 10 | SL-783-SA5A-SB-0.0-0.5MSD | 20 | | 30 | | 40 | |

Notes: _____

Method: Metals (EPA SW 846 Method 6010B/7000/6020)

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. ICP/MS Tune | | | | |
| Were all isotopes in the tuning solution mass resolution within 0.1 amu? | / | | | |
| Were %RSD of isotopes in the tuning solution $\leq 5\%$? | / | | | |
| III. Calibration | | | | |
| Were all instruments calibrated daily, each set-up time? | / | | | |
| Were the proper number of standards used? | / | | | |
| Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits? | / | | | |
| Were all initial calibration correlation coefficients > 0.995 ? | / | | | |
| IV. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | / | | | |
| V. ICP Interference Check Sample | | | | |
| Were ICP interference check samples performed daily? | / | | | |
| Were the AB solution percent recoveries (%R) with the 80-120% QC limits? | / | | | |
| VI. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water. | / | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken. | | / | | |
| Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm RL$ ($\pm 2X RL$ for soil) was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $< 5X$ the RL. | | | / | |
| VII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |
| Was an LCS analyzed per extraction batch? | / | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils? | / | | | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| VIII. Furnace Atomic Absorption QC | | | | |
| If MSA was performed, was the correlation coefficients > 0.995? | | | / | |
| Do all applicable analyses have duplicate injections? (Level IV only) | | | / | |
| For sample concentrations > RL, are applicable duplicate injection RSD values < 20%? (Level IV only) | | | / | |
| Were analytical spike recoveries within the 85-115% QC limits? | | | / | |
| IX. ICP Serial Dilution | | | | |
| Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)? | / | | | |
| Were all percent differences (%Ds) < 10%? | / | | | |
| Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data. | | | / | |
| X. Internal Standards (EPA SW 846 Method 6020/EPA 200.8) | | | | |
| Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration? | / | | | |
| If the %Rs were outside the criteria, was a reanalysis performed? | | | / | |
| XI. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | / | | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| XII. Sample Result Verification | | | | |
| Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target analytes were detected in the field duplicates. | / | | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target analytes were detected in the field blanks. | / | | | |

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x Reason: B
Associated Samples: All

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|-----|------|------|------|------|------|------|------|
| Cd | 0.033 | | | 0.165 | | | | | | | | |
| Ca | 11.937 | | | 59.685 | | | | | | | | |
| Fe | | | 42.1 | 21.05 | | | | | | | | |
| Li | 0.585 | | | 2.925 | | | | | | | | |
| Mo | | | 1.7 | 0.85 | 1.2 | 0.44 | 0.53 | 0.25 | 0.40 | 0.31 | 0.35 | 0.35 |
| P | 1.070 | | | 5.35 | | | | | | | | |
| Sn | 1.449 | | | 7.245 | 2.7 | 3.3 | 2.5 | 2.8 | 2.4 | 2.5 | 2.5 | 2.6 |
| Sr | 0.098 | | | 0.49 | | | | | | | | |
| Ti | | | 2.2 | 1.1 | | | | | | | | |
| V | | | 1.0 | 0.5 | | | | | | | | |

Sample Concentration units, unless otherwise noted: mg/Kg Associated Samples: 4-8

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | No Qualifiers | | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|---------------|--|--|--|--|--|--|--|
| Li | | | 5.1 | 2.55 | | | | | | | | |
| Mg | | | 23.7 | 11.85 | | | | | | | | |
| P | | | 2.7 | 1.35 | | | | | | | | |

Sample Concentration units, unless otherwise noted: mg/Kg Associated Samples: 1

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | No Qualifiers | | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|---------------|--|--|--|--|--|--|--|
| Pb | | | 10.0 | 5 | | | | | | | | |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD: Trace metals (EPA SW 846 Method 6010B/6020A/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N N/A Was a matrix spike analyzed for each matrix in this SDG?
- N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125% If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.
- N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤ 35% for soil samples?
- LEVEL IV ONLY:**
- N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

| # | MS/MSD ID | Matrix | Analyte | MS %Recovery | MSD %Recovery | RPD (l limits) | Associated Samples | Qualifications |
|---|-----------|--------|---------|--------------|---------------|----------------|--------------------|----------------|
| | 9/10 | S | Sb | 44 | 41 | | All | J/UJ/A (Q) |
| | | | Cr | 175 | | 36 | ↓ | (Q, E) |
| | | | Cu | 61 | 73 | | ↓ | (Q) |
| | | | P | 54 | 60 | | ↓ | ↓ |
| | | | Se | 139 | 135 | | ↓ | Jdet/A ↓ |
| | | | Ag | 142 | 139 | | ↓ | ↓ |
| | | | Sr | 270 | 235 | | ↓ | ↓ |
| | | | Tl | 168 | 157 | | ↓ | ↓ |
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Comments: Al, Ca, Fe, Mg, Mn, Ti 74x

VALIDATION FINDINGS WORKSHEET Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F
Sampling date: 4/11/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|---------------------------|-----------------------|-----|------|------|------|------|------|------|------|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 1.2 | 0.44 | 0.53 | 0.25 | 0.40 | 0.31 | 0.35 | 0.35 | | |

Sampling date: 6/12/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 1, 2, 5-8

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|----------------------------|-----------------------|---------------|--|--|--|--|--|--|--|--|--|
| | EB1-061213 (SDG: PH055) | Action Limit | No Qualifiers | | | | | | | | | |
| Ba | 0.00037 | 0.185 | | | | | | | | | | |

Sampling date: 6/12/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 3, 4

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|----------------------------|-----------------------|-------|-------|--|--|--|--|--|--|--|--|
| | EB2-061213 (SDG: PH055) | Action Limit | 3 | 4 | | | | | | | | |
| Ba | 0.00045 | 0.225 | | | | | | | | | | |
| Ag | 0.00062 | 0.31 | 0.087 | 0.083 | | | | | | | | |
| Sr | 0.00053 | 0.265 | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 30074A4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 2
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: Metals (EPA Method 6010B/7000)

| Analyte | Concentration (mg/Kg) | | RPD (≤50) | Qualifiers (Parents Only) |
|------------|-----------------------|---------|--------------|------------------------------|
| | 1 | 2 | | |
| Aluminum | 15400 | 16300 | 6 | |
| Arsenic | 3.75 | 5.67 | 45 41 | |
| Barium | 97.7 | 94.84 | 3 | |
| Beryllium | 0.581 | 0.792 | 31 | |
| Boron | 4.93 | 4.22 | 45 16 | |
| Cadmium | 0.712 | 0.639 | 10 | |
| Calcium | 2740 | 2480 | 10 | |
| Chromium | 22.9 | 19.3 | 17 | |
| Cobalt | 5.77 | 10.6 | 59 | Jdet/A (FD) |
| Copper | 0.571 | 12.4 | 182 | Jdet/A (FD) |
| Iron | 21200 | 27800 | 27 | |
| Lead | 11.0 | 8.30 | 28 | |
| Lithium | 22.5 | 26.9 | 18 | |
| Magnesium | 4000 | 5120 | 25 | |
| Manganese | 312 | 357 | 13 | |
| Mercury | 0.0214 | 0.0171U | 200 | J/UJ/A (FD) |
| Molybdenum | 1.29 | 0.442 | 93 | Jdet/A (FD) |
| Nickel | 13.9 | 12.2 | 13 | |
| Phosphorus | 394 | 429 | 9 | |

LDC#: 30074A4

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 22 of
 Reviewer:
 2nd Reviewer:

METHOD: Metals (EPA Method 6010B/7000)

| Analyte | Concentration (mg/Kg) | | RPD (≤50) | Qualifiers (Parents Only) |
|-----------|-------------------------------------|--------|--------------|------------------------------|
| | 1 | 2 | | |
| Potassium | 3360 | 3470 | 3 | |
| Selenium | 0.405U | 0.18 | 200 | J/UJ/A (FD) |
| Silver | 0.060 0.0599 <i>m</i> | 0.207U | 200 | J/UJ/A (FD) |
| Sodium | 109 | 112 | 3 | |
| Strontium | 19.0 | 22.4 | 16 | |
| Thallium | 0.252 | 0.283 | 11 | |
| Tin | 2.68 | 3.32 | 20 | |
| Titanium | 1070 | 1150 | 7 | |
| Vanadium | 34.5 | 38.0 | 10 | |
| Zinc | 64.4 | 66.9 | 4 | |
| Zirconium | 2.13 | 1.41 | 40 | |

LDC #: 30074A

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
 Reviewer: QR
 2nd Reviewer: u

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration (in ug/L) of each analyte in the ICV or CCV source

| Standard ID | Type of Analysis | Element | Found (ug/L) | True (ug/L) | Recalculated | Reported | Acceptable (Y/N) |
|-------------|---------------------------------|---------|--------------|-------------|--------------|----------|------------------|
| | | | | | %R | %R | |
| ICV | ICP (Initial calibration) | Co | 582.79 | 600 | 97.1 | 97.1 | Y |
| ↓ | ICP/MS (Initial calibration) | Se | 5051 | 50 | 101.0 | 101.0 | ↓ |
| ↓ | CVAA (Initial calibration) | Hg | 2.33 | 2.5 | 93.2 | 93.2 | |
| CCV | ICP (Continuing calibration) | P | 509.71 | 500 | 101.9 | 101.9 | |
| ↓ | ICP/MS (Continuing calibration) | Tl | 24.24 | 25 | 97.0 | 97.0 | ↓ |
| ↓ | CVAA (Continuing calibration) | Hg | 0.96 | 1.0 | 96.0 | 96.0 | |
| | GFAA (Initial calibration) | | | | | | |
| | GFAA (Continuing calibration) | | | | | | |

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 300747

VALIDATION FINDINGS WORKSHEET Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: GR
2nd Reviewer: 4

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
 True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$
 Where, S = Original sample concentration
 D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$
 Where, I = Initial Sample Result (mg/L)
 SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

| Sample ID | Type of Analysis | Element | Found / S / I (units) | True / D / SDR (units) | Recalculated | Reported | Acceptable (Y/N) |
|-----------|---------------------------|---------|-----------------------|------------------------|---------------|---------------|------------------|
| | | | | | %R / RPD / %D | %R / RPD / %D | |
| ICSAB | ICP interference check | V | 516.3 | 500 | 103.3 | 103.3 | Y |
| LCS | Laboratory control sample | Ti | 103141 | 100000 | 103 | 103 | Y |
| 9 | Matrix spike | Se | (SSR-SR) 2.7786 | 2 | 139 | 139 | Y |
| 11 | Duplicate | Na | 106.7584 | 109.8320 | 3 | 3 | Y |
| 1 | ICP serial dilution | Zn | 636.6 | 630.9 | 1 | 1 | Y |

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET

Sample Calculation Verification

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Have results been reported and calculated correctly?
- Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
- Y N N/A Are all detection limits below the CRDL?

Detected analyte results for Mo were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In. Vol.)}$

Recalculation:

- RD = Raw data concentration
- FV = Final volume (ml)
- In. Vol. = Initial volume (ml) or weight (G)
- Dil = Dilution factor

$$\frac{100\text{mL} (0.01175\text{mg/L})}{0.978 (1.01\text{g})} = 1.19\text{mg/Kg}$$

| # | Sample ID | Analyte | Reported Concentration (mg/Kg) | Calculated Concentration (mg/Kg) | Acceptable (Y/N) |
|---|-----------|------------|--------------------------------|----------------------------------|------------------|
| | 1 | Aluminum | 15400 | 15400 | Y |
| | | Arsenic | 3.7 | 3.7 | |
| | | Barium | 97.7 | 97.7 | |
| | | Beryllium | 0.58 | 0.58 | |
| | | Boron | 4.9 | 4.9 | |
| | | Cadmium | 0.71 | 0.71 | |
| | | Calcium | 2740 | 2740 | |
| | | Chromium | 22.9 | 22.9 | |
| | | Cobalt | 5.8 | 5.8 | |
| | | Copper | 0.57 | 0.57 | |
| | | Iron | 21200 | 21200 | |
| | | Lead | 11.0 | 11.0 | |
| | | Lithium | 22.5 | 22.5 | |
| | | Magnesium | 4000 | 4000 | |
| | | Manganese | 312 | 312 | |
| | | Mercury | 0.021 | 0.021 | |
| | | Molybdenum | 1.2 | 1.2 | |
| | | Nickel | 13.9 | 13.9 | |
| | | Phosphorus | 394 | 394 | |
| | | Potassium | 3360 | 3360 | |
| | | Silver | 0.060 | 0.060 | |
| | | Sodium | 109 | 109 | |

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Have results been reported and calculated correctly?
- Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
- Y N N/A Are all detection limits below the CRDL?

Detected analyte results for _____ were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In. Vol.)}$

Recalculation:

- RD = Raw data concentration
- FV = Final volume (ml)
- In. Vol. = Initial volume (ml) or weight (G)
- Dil = Dilution factor

See pg 1.

| # | Sample ID | Analyte | Reported Concentration (mg/Kg) | Calculated Concentration (mg/Kg) | Acceptable (Y/N) |
|---|-----------|-----------|--------------------------------|----------------------------------|------------------|
| | | Strontium | 19.0 | 19.0 | Y |
| | | Thallium | 0.25 | 0.25 | ↓ |
| | | Tin | 2.7 | 2.7 | |
| | | Titanium | 1070 | 1070 | |
| | | Vanadium | 34.5 | 34.5 | |
| | | Zinc | 64.4 | 64.4 | |
| | | Zirconium | 2.1 | 2.1 | |

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory

Collection Date: June 11, 2013

LDC Report Date: August 12, 2013

Matrix: Soil

Parameters: Hexavalent Chromium

Validation Level: Level IV

Laboratory: Eurofins

Sample Delivery Group (SDG): PH054

Sample Identification

SL-783-SA5A-SB-0.0-0.5

SL-1183-SA5A-SB-0.0-0.5

SL-789-SA5A-SB-0.0-0.5

SL-789-SA5A-SB-5.0-6.0

SL-783-SA5A-SB-0.0-0.5MS

SL-783-SA5A-SB-0.0-0.5DUP

Introduction

This data review covers 6 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7199 for Hexavalent Chromium.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (January 2010).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

All criteria for the initial calibration were met.

III. Calibration Verification

Continuing calibration frequency and analysis criteria were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No hexavalent chromium was found in the initial, continuing and preparation blanks.

Sample EB1-061213 and EB2-061213 (from SDG PH055) was identified as an equipment blank. No hexavalent chromium was found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No hexavalent chromium was found.

V. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VI. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the following exceptions:

| DUP ID (Associated Samples) | Analyte | Difference (Limits) | Flag | A or P |
|---|---------------------|----------------------|---|--------|
| SL-783-SA5A-SB-0.0-0.5DUP (All samples in SDG PH054) | Hexavalent chromium | 1.68 (≤ 0.82) | J (all detects) UJ (all non-detects) | A |

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Sample Result Verification

All sample result verifications were acceptable.

IX. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

X. Field Duplicates

Samples SL-540-SB-SA7-0.0-0.5 and SL-840-SB-SA7-0.0-0.5 were identified as field duplicates. No hexavalent chromium was detected in any of the samples with the following exceptions:

| Analyte | Concentration (mg/Kg) | | RPD (Limits) | Flag | A or P |
|---------------------|------------------------|-------------------------|-----------------|-----------------|--------|
| | SL-783-SA5A-SB-0.0-0.5 | SL-1183-SA5A-SB-0.0-0.5 | | | |
| Hexavalent chromium | 0.49 | 0.27 | 58 (≤50) | J (all detects) | A |

**Santa Susana Field Laboratory
Hexavalent Chromium - Data Qualification Summary - SDG PH054**

| SDG | Sample | Analyte | Flag | A or P | Reason (Code) |
|------------|---|---------------------|---|---------------|--|
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 | Hexavalent chromium | J (all detects) UJ (all non-detects) | A | Duplicate sample analysis (difference) (E) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 | Hexavalent chromium | J (all detects) | A | Field duplicates (RPD) |

**Santa Susana Field Laboratory
Hexavalent Chromium – Laboratory Blank Data Qualification Summary - SDG PH054**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Hexavalent Chromium - Field Blank Data Qualification Summary - SDG PH054**

No Sample Data Qualified in this SDG

LDC #: 30074A6

VALIDATION COMPLETENESS WORKSHEET

Date: 7/26/13

SDG #: PH054

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: [Signature]

2nd Reviewer: [Signature]

Hexavalent

METHOD: (Analyte) Chromium (EPA SW846 Method 7199)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| Validation Area | | Comments | |
|-----------------|--------------------------------------|------------------|--|
| I. | Technical holding times | A | Sampling dates: 6/11/13 |
| IIa. | Initial calibration | A | |
| IIb. | Calibration verification | A | |
| III. | Blanks | A | |
| IV. | Matrix Spike/Matrix Spike Duplicates | A | MS |
| V. | Duplicates | SWA ² | Dup (ok) [Signature] |
| VI. | Laboratory control samples | A | LCs |
| VII. | Sample result verification | A | |
| VIII. | Overall assessment of data | A | |
| IX. | Field duplicates | SW | (1, 2) |
| X. | Field blanks | ND | EB = EB1-061213 / PH055 FB = FB-041113 EB2-061213 (PH029) |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Soil

| | | | | |
|----|---|----|----|----|
| 1 | SL-783-SA5A-SB-0.0-0.5 | 11 | 21 | 31 |
| 2 | SL-1183-SA5A-SB-0.0-0.5 | 12 | 22 | 32 |
| 3 | SL-789-SA5A-SB-0.0-0.5 | 13 | 23 | 33 |
| 4 | SL-789-SA5A-SB-0.0-0.5 5.0-6.0 pm | 14 | 24 | 34 |
| 5 | SL-783-SA5A-SB-0.0-0.5MS(S8) | 15 | 25 | 35 |
| 6 | SL-783-SA5A-SB-0.0-0.5MS(S8) | 16 | 26 | 36 |
| 7 | SL-783-SA5A-SB-0.0-0.5DUP | 17 | 27 | 37 |
| 8 | | 18 | 28 | 38 |
| 9 | | 19 | 29 | 39 |
| 10 | | 20 | 30 | 40 |

Notes:

Method: Inorganics (EPA Method See cover)

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. Calibration | | | | |
| Were all instruments calibrated daily, each set-up time? | / | | | |
| Were the proper number of standards used? | / | | | |
| Were all initial calibration correlation coefficients > 0.995? | / | | | |
| Were all initial and continuing calibration verification %Rs within the 90-110% QC limits? | / | | | |
| Were titrant checks performed as required? (Level IV only) | | | / | |
| Were balance checks performed as required? (Level IV only) | | | / | |
| III. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | | / | | |
| IV. Matrix spike/Matrix spike duplicates and Duplicates | | | | |
| Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water. | / | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken. | / | | | |
| Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL (≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL. | | / | | |
| V. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |
| Was an LCS analyzed per extraction batch? | / | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits? | / | | | |
| VI. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | / | / | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| VII. Sample Result Verification | | | | |
| Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| Were detection limits < RL? | / | | | |
| VIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| IX. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target analytes were detected in the field duplicates. | / | | | |
| X. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target analytes were detected in the field blanks. | | / | | |

VALIDATION FINDINGS WORKSHEET
Duplicate Analysis

METHOD: Inorganics, Method 7199

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N N/A Was a duplicate sample analyzed for each matrix in this SDG?
 N N/A Were all duplicate sample relative percent differences (RPD) $\leq 20\%$ for water and $\leq 35\%$ for soil samples ($\leq 10\%$ for Method 300.0)? If no, see qualification below. A control limit of $\pm\text{CRDL}$ ($\pm 2\text{X CRDL}$ for soil) was used for samples that were $\leq 5\text{X}$ the CRDL, including when only one of the duplicate sample values were $\leq 5\text{X}$ the CRDL. If field blanks were used for laboratory duplicates, see overall assessment.

LEVEL IV ONLY:
 N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

| # | Date | Duplicate ID | Matrix | Analyte | Difference -RPD (Limits) | Associated Samples | Qualifications |
|---|------|--------------|--------|------------------|-----------------------------|--------------------|----------------|
| | | 7 | W | Cr ⁶⁺ | 1.68 (≤ 0.80) | All | J/UJ/A (E) |
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Comments: _____

LDC# 30074A6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: (1) of
Reviewer: [Signature]
2nd Reviewer: [Signature]

Inorganics: Method See Cover

| Analyte | Concentration (mg/L) ^{mg/L} | | RPD (≤50) | Qual. Parent Only |
|---------------------|--------------------------------------|------|--------------|----------------------|
| | 1 | 2 | | |
| Hexavalent Chromium | 0.49 | 0.27 | 58 | Jdet/A (FD) |

\\LDCFILESERVER\Validation\FIELD DUPLICATES\FD_inorganic\30074A6.wpd

LDC #: 3007MAB

**Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification**

Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of Cr⁶⁺ was recalculated. Calibration date: 6/24/13

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found X 100}}{\text{True}}$$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration of each analyte in the ICV or CCV source

| Type of analysis | Analyte | Standard | Conc. (mg/L) | Area | Recalculated | Reported | Acceptable (Y/N) |
|--------------------------|------------------|----------|--------------|--------|---------------------|---------------------|---------------------|
| | | | | | r or r ² | r or r ² | |
| Initial calibration | Cr ⁶⁺ | s1 | 10 | 0.1205 | 0.99999 | 0.99999 | Y |
| | | s2 | 50 | 0.6701 | | | |
| | | s3 | 100 | 1.3336 | | | |
| | | s4 | 200 | 2.6918 | | | |
| | | s5 | 300 | 4.0518 | | | |
| Calibration verification | ↓ | ICV | 50 | 52.5 | 105 | 105 | ↓ |
| Calibration verification | ↓ | CCV | 200 | 195.49 | 98 | - | ↓ |
| Calibration verification | | | | | | | |

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{\text{Found}}{\text{True}} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
 True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
 D = Duplicate sample concentration

| Sample ID | Type of Analysis | Element | Found / S (units) | True / D (units) | Recalculated | Reported | Acceptable (Y/N) |
|-----------|---------------------------|-----------|----------------------|---------------------|--------------|----------|---------------------|
| | | | | | %R / RPD | %R / RPD | |
| LCS | Laboratory control sample | Cr^{6+} | 5.46 | 5 | 109 | 109 | Y |
| 5 | Matrix spike sample | ↓ | (SSR-SR) 4.19 | 39.84 | 103 | 103 | ↓ |
| 7 | Duplicate sample | ↓ | 0.48 | 2.16 | 128 | 128 | ↓ |

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 11, 2013
LDC Report Date: August 2, 2013
Matrix: Soil/Water
Parameters: Total Petroleum Hydrocarbons as Gasoline
Validation Level: Level IV
Laboratory: Eurofins
Sample Delivery Group (SDG): PH054

Sample Identification

SL-789-SA5A-SB-5.0-6.0
TB-061113

Introduction

This data review covers one soil sample and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Gasoline.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for all compounds were less than or equal to 20.0%

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

Sample TB-061113 was identified as a trip blank. No total petroleum hydrocarbons as gasoline contaminants were found.

Sample EB2-061213 (from SDG PH055) was identified as an equipment blank. No total petroleum hydrocarbons as gasoline contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No total petroleum hydrocarbons as gasoline contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH054 | All compounds reported below the RL. | J (all detects) | A |

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG
 PH054**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|-------------------------------------|---|-----------------|--------|------------------------------|
| PH054 | SL-789-SA5A-SB-5.0-6.0 TB-061113 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification
 Summary - SDG PH054**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification
 Summary - SDG PH054**

No Sample Data Qualified in this SDG

METHOD: GC TPH as Gasoline (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--------------------------------------|----|-----------------------------------|
| I. | Technical holding times | A | Sampling dates: 6/11/13 |
| II. | Initial calibration | A | RSD ≤ 20% |
| III. | Calibration verification/ICV | A | ICV/CCV ≤ 20% |
| IV. | Blanks | A | |
| V. | Surrogate recovery | A | |
| VI. | Matrix spike/Matrix spike duplicates | N | Client spec |
| VII. | Laboratory control samples | A | LCS/D |
| VIII. | Target compound identification | A | |
| IX. | Compound quantitation/RL/LOQ/LODs | A | |
| X. | System Performance | A | |
| XI. | Overall assessment of data | A | |
| XII. | Field duplicates | N | |
| XIII. | Field blanks | ND | TB=1 EB= EB2-061213 (SDG # PH055) |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank
 FB = FB-041113
 (SDG # PH029)

Validated Samples: Soil + Water

| | | | | | | | |
|----|--------------------------|----|--|----|--|----|-----------------|
| 1 | SL-789-SA5A-SB-0.0-0.5 S | 11 | | 21 | | 31 | 13165C20A/BLK#2 |
| 2 | TB-061113 W | 12 | | 22 | | 32 | 43169A/6A/BLK#7 |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

Method: GC HPLC

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Cooler temperature criteria was met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| II. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Did the initial calibration meet the curve fit acceptance criteria? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the RT windows properly established? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IV. Continuing calibration | | | | |
| What type of continuing calibration calculation was performed? <input checked="" type="checkbox"/> %D or <input type="checkbox"/> %R | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a continuing calibration analyzed daily? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all the retention times within the acceptance windows? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a method blank analyzed for each matrix and concentration? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| VII. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

LDC #: 30074K7

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: BR
 2nd Reviewer: _____

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | / | | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| X. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | / | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | | / | | |
| Target compounds were detected in the field duplicates. | | | / | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | | / | | |

LDC #: 30074A7

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page 1 of 2

Reviewer: BR

2nd Reviewer: _____

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$CF = A/C$

average CF = sum of the CF/number of standards

$\%RSD = 100 * (S/X)$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported CF (550 std) | Recalculated CF (550 std) | Reported Average CF (Initial) | Recalculated Average CF (Initial) | Reported %RSD | Recalculated %RSD |
|---|------------------------------|------------------|----------|-----------------------|---------------------------|-------------------------------|-----------------------------------|---------------|-------------------|
| 1 | ICAL 11002f J&W DB-VRX | 1/12/2012 | GRO | 6717 | 6717 | 6269 | 6269 | 9.2 | 9.2 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074A7

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page 2 of 4

Reviewer: BR

2nd Reviewer: _____

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$CF = A/C$

average CF = sum of the CF/number of standards

$\%RSD = 100 * (S/X)$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported CF (550 std) | Recalculated CF (550 std) | Reported Average CF (Initial) | Recalculated Average CF (Initial) | Reported %RSD | Recalculated %RSD |
|---|------------------------------|------------------|----------|-----------------------|---------------------------|-------------------------------|-----------------------------------|---------------|-------------------|
| 1 | ICAL 11379F J&W DB-MTB | 5/23/2013 | GRO | 61486 | 61486 | 61516 | 61516 | 3 | 3 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074A7

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1
 Reviewer: BR
 2nd Reviewer: _____

METHOD: GC _____ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = $100 * (N - C)/N$

Where:

N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

| # | Standard ID | Calibration Date | Compound | CCV Conc/CF | Reported Conc/CF | Recalculated Conc/CF | Reported % D | Recalculated %D |
|---|-------------|------------------|----------|-------------|------------------|----------------------|--------------|-----------------|
| 1 | WG20XWF | 6/17/2013 | GRO | 550.00 | 585.52 | 585.53 | 6 | 6 |
| | | 11:15 | | | | | | |
| 2 | SGCKXCW | 6/18/2013 | GRO | 220.00 | 235.33 | 235.33 | 7 | 7 |
| | | 13:17 | | | | | | |
| 3 | | | | | | | | |
| | | | | | | | | |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074A7

SDG #: see cover

VALIDATION FINDINGS WORKSHEET

Surrogate Results Verification

Page: 1 of 1

Reviewer: BR

2nd reviewer: _____

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

$$\text{Spike added} = 750 \times 1.0395 = 779.7 \approx 780$$

Sample ID: 1

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------------------|-----------------|-----------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| Tri fluorotoluene - F | J&W DB-MTB | 750 780 | 709.002 | 91 | 91 | 0 |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

LDC #: 30074A7

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: BR

2nd Reviewer: _____

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

Where SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory Control Sample

SC = Sample concentration

$\text{RPD} = (((\text{SSCLCS} - \text{SSCLCSD}) * 2) / (\text{SSCLCS} + \text{SSCLCSD})) * 100$

LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: BR 13169A16A-LCS

| Compound | Spike Added (mg/kg) | | Spike Sample Concentration (mg/kg) | | LCS | | LCSD | | LCS/LCSD | |
|------------------------------|------------------------|------|---------------------------------------|------|------------------|---------|------------------|---------|----------|---------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | 11 | — | 10.83 | — | 91 | 91 | — | — | — | — |
| Diesel (8015) | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3007447

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
 Reviewer: BR
 2nd Reviewer: _____

METHOD: GC ___ HPLC

Y N N/A
 Y N N/A

Were all reported results recalculated and verified for all level IV samples?
 Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration = $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

Example:

Sample ID: 1 Compound Name GRD

A= Area or height of the compound to be measured
 Fv= Final Volume of extract
 Df= Dilution Factor
 RF= Average response factor of the compound
 In the initial calibration
 Vs= Initial volume of the sample
 Ws= Initial weight of the sample
 %S= Percent Solid

Concentration = ND
 LCS = LCS74
 GRD = 10 mg/kg
 $GRD = \frac{(24689430)(25)}{28052461} = \frac{(61516)(1000)}{10.03374225} \text{ mg/kg}$

| # | Sample ID | Compound | Reported Concentrations () | Recalculated Results Concentrations () | Qualifications |
|---|-----------|----------|--------------------------------|--|----------------|
| | | | | | |
| | | | | | |
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Comments: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 11, 2013
LDC Report Date: August 13, 2013
Matrix: Soil
Parameters: Total Petroleum Hydrocarbons as Extractables
Validation Level: Level IV
Laboratory: Eurofins
Sample Delivery Group (SDG): PH054

Sample Identification

SL-783-SA5A-SB-0.0-0.5
SL-1183-SA5A-SB-0.0-0.5
SL-789-SA5A-SB-0.0-0.5
SL-789-SA5A-SB-5.0-6.0
SL-785-SA5A-SB-0.0-0.5
SL-786-SA5A-SB-0.0-0.5
SL-787-SA5A-SB-0.0-0.5
SL-788-SA5A-SB-0.0-0.5
SL-783-SA5A-SB-0.0-0.5MS
SL-783-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 10 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractables contaminants were found in the method blanks.

Samples EB1-061213 and EB2-061213 (both from SDG PH055) were identified as equipment blanks. No total petroleum hydrocarbons as extractables contaminants were found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No total petroleum hydrocarbons as extractables contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

| Spike ID (Associated Samples) | Compound | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|--|---|---------------------|----------------------|-----------------|---|--------|
| SL-783-SA5A-SB-0.0-0.5MS/MSD (SL-783-SA5A-SB-0.0-0.5) | Extractable fuel hydrocarbons (C15-C20) | 152 (49-123) | 156 (49-123) | - | J (all detects) | A |
| SL-783-SA5A-SB-0.0-0.5MS/MSD (SL-783-SA5A-SB-0.0-0.5) | Extractable fuel hydrocarbons (C21-C30) | 46 (49-123) | 162 (49-123) | 33 (≤20) | J (all detects) UJ (all non-detects) | A |

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH054 | All compounds reported below the RL. | J (all detects) | A |

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples SL-783-SA5A-SB-0.0-0.5 and SL-1183-SA5A-SB-0.0-0.5 were identified as field duplicates. No total petroleum hydrocarbons as extractables were detected in any of the samples with the following exceptions:

| Compound | Concentration (mg/Kg) | | RPD (Limits) | Flag | A or P |
|---|------------------------|-------------------------|--------------|---|--------|
| | SL-783-SA5A-SB-0.0-0.5 | SL-1183-SA5A-SB-0.0-0.5 | | | |
| Extractable fuel hydrocarbons (C21-C30) | 11 | 5.2U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Extractable fuel hydrocarbons (C30-C40) | 25 | 10U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary -
 SDG PH054**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|---|--|---|--------|---|
| PH054 | SL-783-SA5A-SB-0.0-0.5 | Extractable fuel hydrocarbons (C15-C20) | J (all detects) | A | Matrix spike/Matrix spike duplicate (%R) (Q) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 | Extractable fuel hydrocarbons (C21-C30) | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 | Extractable fuel hydrocarbons (C21-C30) Extractable fuel hydrocarbons (C30-C40) | J (all detects) UJ (all non-detects) | A | Field duplicates (RPD) (FD) |

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data
 Qualification Summary - SDG PH054**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification
 Summary - SDG PH054**

No Sample Data Qualified in this SDG

LDC #: 30074A8

VALIDATION COMPLETENESS WORKSHEET

Date: 7/30/13

SDG #: PH054

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: BA

2nd Reviewer:

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--------------------------------------|----|--|
| I. | Technical holding times | A | Sampling dates: 6/11/13 |
| II | Initial calibration | A | RSD ≤ 20% |
| III. | Calibration verification/ICV | A | 1CV/ICV ≤ 20% |
| IV. | Blanks | A | |
| V | Surrogate recovery | A | |
| VI. | Matrix spike/Matrix spike duplicates | SW | |
| VII. | Laboratory control samples | A | LCS |
| VIII. | Target compound identification | A | |
| IX. | Compound quantitation/RL/LOQ/LODs | A | |
| X. | System Performance | A | |
| XI. | Overall assessment of data | A | |
| XII. | Field duplicates | SW | FD = 1 + 2 |
| XIII. | Field blanks | ND | EB = EB1-061213 } SDG # PH055 EB = EB2-061213 } |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

FB = FB-041113
(SDG # PH029)

Validated Samples: Soil

| | | | | | |
|----|--|----|----|----|------------|
| 1 | SL-783-SA5A-SB-0.0-0.5 | 11 | 21 | 31 | PBLK 22168 |
| 2 | SL-1183-SA5A-SB-0.0-0.5 | 12 | 22 | 32 | |
| 3 | SL-789-SA5A-SB-0.0-0.5 | 13 | 23 | 33 | |
| 4 | SL-789-SA5A-SB- ^{5.0-6.0} 0.0-0.5 | 14 | 24 | 34 | |
| 5 | SL-785-SA5A-SB-0.0-0.5 | 15 | 25 | 35 | |
| 6 | SL-786-SA5A-SB-0.0-0.5 | 16 | 26 | 36 | |
| 7 | SL-787-SA5A-SB-0.0-0.5 | 17 | 27 | 37 | |
| 8 | SL-788-SA5A-SB-0.0-0.5 | 18 | 28 | 38 | |
| 9 | SL-783-SA5A-SB-0.0-0.5MS | 19 | 29 | 39 | |
| 10 | SL-783-SA5A-SB-0.0-0.5MSD | 20 | 30 | 40 | |

Notes:

Method: GC HPLC

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Cooler temperature criteria was met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| II. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Did the initial calibration meet the curve fit acceptance criteria? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the RT windows properly established? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IV. Continuing calibration | | | | |
| What type of continuing calibration calculation was performed? <u>Y</u> %D or %R | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a continuing calibration analyzed daily? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all the retention times within the acceptance windows? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a method blank analyzed for each matrix and concentration? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| VII. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

LDC #: 3007418

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: BR
 2nd Reviewer: _____

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | / | | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| X. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | / | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target compounds were detected in the field duplicates. | / | | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | | / | | |

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

| # | Date | MS/MSD ID | Compound | MS %R (Limits) | MSD %R (Limits) | RPD (Limits) | Associated Samples | Lab: <u>Q</u> Qualifications |
|---|------|-----------------|---------------------|---------------------|---------------------|--------------|--------------------|---------------------------------|
| | | <u>9/10</u> | <u>EPA(C15-</u> | <u>152 (49-123)</u> | <u>156 (49-123)</u> | () | <u>1</u> | <u>J det/A</u> |
| | | <u>C20)</u> | | () | () | () | | |
| | | <u>EPA(C21-</u> | <u>46 (49-123)</u> | <u>162 (49-123)</u> | <u>33 (20)</u> | () | | <u>J 11/11A</u> |
| | | <u>C30)</u> | | () | () | () | | |
| | | <u>EPA(30-</u> | <u>-47 (49-123)</u> | <u>342 (49-123)</u> | <u>62 (20)</u> | () | | <u>No qual.</u> |
| | | <u>C40)</u> | | () | () | () | | <u>Percent 74%</u> |
| | | | | () | () | () | | <u>Spike out.</u> |
| | | | | () | () | () | | |
| | | | | () | () | () | | |
| | | | | () | () | () | | |
| | | | | () | () | () | | |
| | | | | () | () | () | | |
| | | | | () | () | () | | |
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| | | | | () | () | () | | |
| | | | | () | () | () | | |

LDC#: 30074A8

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: pr
2nd Reviewer: _____

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

| Compound | Concentration(mg/kg) | | RPD (≤50%) | Qualifications (Parent Only) |
|---------------|----------------------|------|---------------------------------|---------------------------------|
| | 1 | 2 | | |
| EFH (C21-C30) | 11 | 5.2U | 72 200 sm | J/U/J/A |
| EFH (C30-C40) | 25 | 10U | 88 200 sm | J/U/J/A |

\\LDCFILESERVER\Validation\FIELD DUPLICATES\30074A8.wpd

LDC #: 30074A8

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page 1 of 1

Reviewer: BR

2nd Reviewer: _____

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$CF = A/C$

average CF = sum of the CF/number of standards

$\%RSD = 100 * (S/X)$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported CF (200 std) | Recalculated CF (200 std) | Reported Average CF (Initial) | Recalculated Average CF (Initial) | Reported %RSD | Recalculated %RSD |
|---|---------------------|------------------|----------|--------------------------|------------------------------|----------------------------------|--------------------------------------|---------------|-------------------|
| 1 | ICAL CP23-19879A | 5/3/2013 | C8-C40 | 22340 | 22340 | 22209 | 22210 | 2 | 2 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074A8

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1Reviewer: BR

2nd Reviewer: _____

METHOD: GC _____ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

$$\text{Percent difference (\%D)} = 100 * (N - C)/N$$

Where:

N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

| # | Standard ID | Calibration Date | Compound | CCV Conc/CF | Reported Conc/CF | Recalculated Conc/CF | Reported % D | Recalculated %D |
|---|-------------|--------------------|----------|-------------|------------------|----------------------|--------------|-----------------|
| 1 | J168.0065 | 6/18/2013 14:46 | C8-C40 | 288.01 | 297.64 | 297.66 | 3 | 3 |
| | | | | | | | | |
| 2 | J169.0015 | 6/18/2013 20:57 | C8-C40 | 288.01 | 299.23 | 299.24 | 4 | 4 |
| | | | | | | | | |
| 3 | | | | | | | | |
| | | | | | | | | |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074A8
 SDG #: Sec cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
 Reviewer: BR
 2nd reviewer: _____

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: 1

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| Chlorobenzene | ZBS | 2.0 | 1.8471 | 93 | 92.4 | 0.6 |
| Ortho-terphenyl | ↓ | ↓ | 1.9025 | 95 | 95 | 0 |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

LDC #: 3007458
 SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: of
 Reviewer: BR
 2nd Reviewer:

METHOD: X GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

Where

SSC = Spiked sample concentration

SC = Sample concentration

SA = Spike added

MS = Matrix spike

MSD = Matrix spike duplicate

RPD = (((SSCMS - SSCMSD) * 2) / (SSCMS + SSCMSD)) * 100

MS/MSD samples: _____

| Compound | Spike Added (mg/kg) | | Sample Conc. (mg/kg) | Spike Sample Concentration (mg/kg) | | Matrix spike | | Matrix Spike Duplicate | | MS/MSD | |
|------------------------------|------------------------|------|-------------------------|---------------------------------------|------|------------------|---------|------------------------|---------|----------|---------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | | |
| Diesel (C12-C14) (8015) | 1.67 | 1.67 | 0 | 1.66 | 1.48 | 100 | 99.4 | 89 | 89 | 12 | 12 |
| Benzene (8021B) | | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 80074A8

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1Laboratory Control Sample/Laboratory Control Sample Duplicates Results VerificationReviewer: BR

2nd Reviewer: _____

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$$

Where SSC = Spiked sample concentration

SC = Sample concentration

$$\text{RPD} = (((\text{SSCLCS} - \text{SSCLCSD}) * 2) / (\text{SSCLCS} + \text{SSCLCSD})) * 100$$

SA = Spike added

LCS = Laboratory Control Sample

LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 131680022A

| Compound | Spike Added (mg/L) | | Spike Sample Concentration (mg/L) | | LCS | | LCSD | | LCS/LCSD | |
|------------------------------|-----------------------|------|--------------------------------------|------|------------------|---------|------------------|---------|----------|---------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | |
| Diesel (C12-C14) (8015) | 1.67 | - | 1.63 | - | 98 | 98 | - | - | - | - |
| Benzene (8021B) | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 300748

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer:

METHOD: GC HPLC

N N/A Were all reported results recalculated and verified for all level IV samples?
 N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

C30-C40 = 25 mg/kg

$$\text{Concentration} = \frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$$

Example:

Sample ID: 1 Compound Name C30-C40

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound
In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

$$\begin{aligned} \text{Concentration} &= \frac{(16075790)(1000)}{(22209)(30.1)(0.978)(1000)} \\ &= 24.58883597 \text{ mg/kg} \end{aligned}$$

| # | Sample ID | Compound | Reported Concentrations () | Recalculated Results Concentrations () | Qualifications |
|---|-----------|----------|--------------------------------|--|----------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 11, 2013
LDC Report Date: August 7, 2013
Matrix: Soil
Parameters: Dioxins/Dibenzofurans
Validation Level: Level IV
Laboratory: Eurofins
Sample Delivery Group (SDG): PH054

Sample Identification

SL-783-SA5A-SB-0.0-0.5
SL-1183-SA5A-SB-0.0-0.5
SL-789-SA5A-SB-0.0-0.5
SL-789-SA5A-SB-5.0-6.0
SL-785-SA5A-SB-0.0-0.5
SL-786-SA5A-SB-0.0-0.5
SL-787-SA5A-SB-0.0-0.5
SL-788-SA5A-SB-0.0-0.5
SL-783-SA5A-SB-0.0-0.5MS
SL-783-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 10 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1613B for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

PFK and static resolving power were within validation criteria.

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 35.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio was greater than or equal to 10 for each unlabeled compound and labeled compound.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within QC limits.

The percent differences (%D) of the second source calibration standard were within QC limits.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

| Method Blank ID | Extraction Date | Compound | Concentration | Associated Samples |
|-----------------|-----------------|---|---|--------------------------|
| 13170001 | 6/19/13 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.0347 ng/Kg 0.144 ng/Kg 0.0858 ng/Kg 0.0555 ng/Kg 0.138 ng/Kg 0.148 ng/Kg 0.396 ng/Kg 0.0327 ng/Kg 0.101 ng/Kg 0.0778 ng/Kg 0.0903 ng/Kg 0.0923 ng/Kg 0.161 ng/Kg 0.0711 ng/Kg 0.108 ng/Kg 0.131 ng/Kg 0.215 ng/Kg | All samples in SDG PH054 |

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

| Sample | Compound | Reported Concentration | Modified Final Concentration |
|-------------------------|--|--|--|
| SL-783-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.514 ng/Kg 0.0889 ng/Kg 0.351 ng/Kg 0.177 ng/Kg 0.294 ng/Kg 0.305 ng/Kg 0.244 ng/Kg 0.324 ng/Kg 0.413 ng/Kg | 0.514U ng/Kg 0.0889U ng/Kg 0.351U ng/Kg 0.177U ng/Kg 0.294U ng/Kg 0.305U ng/Kg 0.244U ng/Kg 0.324U ng/Kg 0.413U ng/Kg |
| SL-1183-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.0482 ng/Kg 0.138 ng/Kg 0.196 ng/Kg 0.354 ng/Kg 0.0352 ng/Kg 0.146 ng/Kg 0.123 ng/Kg 0.134 ng/Kg 0.156 ng/Kg 0.210 ng/Kg 0.175 ng/Kg 0.209 ng/Kg | 0.0482U ng/Kg 0.138U ng/Kg 0.196U ng/Kg 0.354U ng/Kg 0.0352U ng/Kg 0.146U ng/Kg 0.123U ng/Kg 0.134U ng/Kg 0.156U ng/Kg 0.210U ng/Kg 0.175U ng/Kg 0.209U ng/Kg |
| SL-789-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.366 ng/Kg 0.090 ng/Kg 0.293 ng/Kg 0.219 ng/Kg 0.252 ng/Kg 0.177 ng/Kg 0.215 ng/Kg 0.246 ng/Kg 0.222 ng/Kg | 0.366U ng/Kg 0.090U ng/Kg 0.293U ng/Kg 0.219U ng/Kg 0.252U ng/Kg 0.177U ng/Kg 0.215U ng/Kg 0.246U ng/Kg 0.222U ng/Kg |

| Sample | Compound | Reported Concentration | Modified Final Concentration |
|------------------------|--|---|---|
| SL-789-SA5A-SB-5.0-6.0 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.0456 ng/Kg 0.144 ng/Kg 0.077 ng/Kg 0.112 ng/Kg 0.144 ng/Kg 0.124 ng/Kg 0.0792 ng/Kg 0.0958 ng/Kg 0.0894 ng/Kg 0.106 ng/Kg 0.077 ng/Kg 0.278 ng/Kg 0.0569 ng/Kg 0.629 ng/Kg | 0.0456U ng/Kg 0.144U ng/Kg 0.077U ng/Kg 0.112U ng/Kg 0.144U ng/Kg 0.124U ng/Kg 0.0792U ng/Kg 0.0958U ng/Kg 0.0894U ng/Kg 0.106U ng/Kg 0.077U ng/Kg 0.278U ng/Kg 0.0569U ng/Kg 0.629U ng/Kg |
| SL-785-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.0501 ng/Kg 0.563 ng/Kg 0.0508 ng/Kg 0.278 ng/Kg 0.174 ng/Kg 0.298 ng/Kg 0.226 ng/Kg 0.307 ng/Kg 0.253 ng/Kg 0.280 ng/Kg | 0.0501U ng/Kg 0.563U ng/Kg 0.0508U ng/Kg 0.278U ng/Kg 0.174U ng/Kg 0.298U ng/Kg 0.226U ng/Kg 0.307U ng/Kg 0.253U ng/Kg 0.280U ng/Kg |
| SL-786-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 2,3,4,7,8-PeCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.078 ng/Kg 0.624 ng/Kg 0.367 ng/Kg 0.348 ng/Kg 0.424 ng/Kg 0.325 ng/Kg 0.404 ng/Kg | 0.078U ng/Kg 0.624U ng/Kg 0.367U ng/Kg 0.348U ng/Kg 0.424U ng/Kg 0.325U ng/Kg 0.404U ng/Kg |
| SL-787-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDF 2,3,4,7,8-PeCDF 1,2,3,7,8,9-HxCDF | 0.142 ng/Kg 0.354 ng/Kg 0.541 ng/Kg | 0.142U ng/Kg 0.354U ng/Kg 0.541U ng/Kg |
| SL-788-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.130 ng/Kg 0.526 ng/Kg 0.440 ng/Kg 0.389 ng/Kg 0.324 ng/Kg 0.258 ng/Kg 0.291 ng/Kg 0.283 ng/Kg 0.262 ng/Kg | 0.130U ng/Kg 0.526U ng/Kg 0.440U ng/Kg 0.389U ng/Kg 0.324U ng/Kg 0.258U ng/Kg 0.291U ng/Kg 0.283U ng/Kg 0.262U ng/Kg |

Samples EB1-061213 and EB2-061213 (both from SDG PH055) were identified as equipment blanks. No polychlorinated dioxin/dibenzofuran contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|------------|---------------|--|---|---|
| EB1-061213 | 6/12/13 | 2,3,7,8-TCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.229 pg/L 0.921 pg/L 1.47 pg/L 0.548 pg/L 0.287 pg/L 0.351 pg/L 0.142 pg/L 0.337 pg/L 0.175 pg/L 0.362 pg/L 0.904 pg/L | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 |
| EB2-061213 | 6/12/13 | 1,2,3,6,7,8-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.182 pg/L 0.479 pg/L 1.27 pg/L 0.425 pg/L 0.201 pg/L 0.265 pg/L 0.0943 pg/L 0.319 pg/L 0.198 pg/L 0.286 pg/L 0.439 pg/L 1.11 pg/L | SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 |

Sample FB-041113 (from SDG PH029) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|----------|---------------|--|--|----------------------------|
| FB041113 | 4/11/13 | 1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF OCDF | 0.125 pg/L 0.134 pg/L 0.402 pg/L 0.398 pg/L 0.316 pg/L 0.324 pg/L 0.221 pg/L 0.211 pg/L 0.149 pg/L 0.254 pg/L 0.840 pg/L | All samples from SDG PH054 |

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since the sample concentration was greater than the spiked concentration, no data were qualified.

VII. Ongoing Precision Recovery (OPR)

Ongoing precision recovery samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation

All compound quantitations were within validation criteria with the following exceptions:

| Sample | Compound | Finding | Criteria | Flag | A or P |
|------------------------|----------|---|---|-----------------|--------|
| SL-787-SA5A-SB-0.0-0.5 | OCDD | Sample result exceeded calibration range. | Reported result should be within calibration range. | J (all detects) | P |

The 2,3,7,8-TCDF confirmation was performed with the following exceptions:

| Sample | Compound | Finding | Criteria | Flag | A or P |
|--|--------------|--|--|------|--------|
| SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 SL-783-SA5A-SB-0.0-0.5MS SL-783-SA5A-SB-0.0-0.5MSD | 2,3,7,8-TCDF | 2nd column confirmation was not performed for this compound. | 2,3,7,8-TCDF must be confirmed on the 2nd column per the method. | None | P |

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH054 | All compounds reported below the RL. | J (all detects) | A |

XII. System Performance

The system performance was acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples SL-783-SA5A-SB-0.0-0.5 and SL-1183-SA5A-SB-0.0-0.5 were identified as field duplicates. No polychlorinated dioxins/dibenzofurans were detected in any of the samples with the following exceptions:

| Compound | Concentration (ng/Kg) | | RPD (Limits) | Flag | A or P |
|---------------------|------------------------|-------------------------|--------------|---|--------|
| | SL-783-SA5A-SB-0.0-0.5 | SL-1183-SA5A-SB-0.0-0.5 | | | |
| 2,3,7,8-TCDD | 1.03U | 0.0482 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| 1,2,3,7,8-PeCDD | 0.514 | 0.138 | 115 (≤50) | J (all detects) | A |
| 1,2,3,4,7,8-HxCDD | 0.711 | 0.196 | 114 (≤50) | J (all detects) | A |
| 1,2,3,6,7,8-HxCDD | 1.80 | 0.373 | 131 (≤50) | J (all detects) | A |
| 1,2,3,7,8,9-HxCDD | 1.74 | 0.354 | 132 (≤50) | J (all detects) | A |
| 1,2,3,4,6,7,8-HpCDD | 50.4 | 5.97 | 158 (≤50) | J (all detects) | A |
| OCDD | 1170 | 58.8 | 181 (≤50) | J (all detects) | A |
| 2,3,7,8-TCDF | 0.0889 | 0.0352 | 87 (≤50) | J (all detects) | A |
| 1,2,3,7,8-PeCDF | 0.351 | 0.146 | 82 (≤50) | J (all detects) | A |
| 2,3,4,7,8-PeCDF | 0.177 | 0.123 | 36 (≤50) | - | - |
| 1,2,3,4,7,8-HxCDF | 0.294 | 0.134 | 75 (≤50) | J (all detects) | A |
| 1,2,3,6,7,8-HxCDF | 0.305 | 0.156 | 65 (≤50) | J (all detects) | A |
| 2,3,4,6,7,8-HxCDF | 0.324 | 0.175 | 60 (≤50) | J (all detects) | A |
| 1,2,3,7,8,9-HxCDF | 0.244 | 0.210 | 15 (≤50) | - | - |
| 1,2,3,4,6,7,8-HpCDF | 3.98 | 0.578 | 149 (≤50) | J (all detects) | A |

| Compound | Concentration (ng/Kg) | | RPD (Limits) | Flag | A or P |
|---------------------|------------------------|-------------------------|-----------------|-----------------|--------|
| | SL-783-SA5A-SB-0.0-0.5 | SL-1183-SA5A-SB-0.0-0.5 | | | |
| 1,2,3,4,7,8,9-HpCDF | 0.413 | 0.209 | 66 (≤50) | J (all detects) | A |
| OCDF | 12.4 | 1.14 | 166 (≤50) | J (all detects) | A |

Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Data Qualification Summary - SDG PH054

| SDG | Sample | Compound | Flag | A or P | Reason |
|-------|---|---|--|--------|--|
| PH054 | SL-787-SA5A-SB-0.0-0.5 | OCDD | J (all detects) | P | Compound quantitation (exceeded range) (*XI) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDF | None | P | Compound quantitation (no confirmation analysis) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 SL-785-SA5A-SB-0.0-0.5 SL-786-SA5A-SB-0.0-0.5 SL-787-SA5A-SB-0.0-0.5 SL-788-SA5A-SB-0.0-0.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) | A | Field duplicates (RPD) (FD) |
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD | J (all detects) UJ (all non-detects) | A | Field duplicates (RPD) (FD) |

Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG PH054

| SDG | Sample | Compound | Modified Final Concentration | A or P | Code |
|-------|------------------------|--|---|--------|------|
| PH054 | SL-783-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.514U ng/Kg 0.0889U ng/Kg 0.351U ng/Kg 0.177U ng/Kg 0.294U ng/Kg 0.305U ng/Kg 0.244U ng/Kg 0.324U ng/Kg 0.413U ng/Kg | A | B |

| SDG | Sample | Compound | Modified Final Concentration | A or P | Code |
|-------|-------------------------|--|---|--------|------|
| PH054 | SL-1183-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.0482U ng/Kg 0.138U ng/Kg 0.196U ng/Kg 0.354U ng/Kg 0.0352U ng/Kg 0.146U ng/Kg 0.123U ng/Kg 0.134U ng/Kg 0.156U ng/Kg 0.210U ng/Kg 0.175U ng/Kg 0.209U ng/Kg | A | B |
| PH054 | SL-789-SA5A-SB-0.0-0.5 | 1,2,3,7,8-PeCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.366U ng/Kg 0.090U ng/Kg 0.293U ng/Kg 0.219U ng/Kg 0.252U ng/Kg 0.177U ng/Kg 0.215U ng/Kg 0.246U ng/Kg 0.222U ng/Kg | A | B |
| PH054 | SL-789-SA5A-SB-5.0-6.0 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.0456U ng/Kg 0.144U ng/Kg 0.077U ng/Kg 0.112U ng/Kg 0.144U ng/Kg 0.124U ng/Kg 0.0792U ng/Kg 0.0958U ng/Kg 0.0894U ng/Kg 0.106U ng/Kg 0.077U ng/Kg 0.278U ng/Kg 0.0569U ng/Kg 0.629U ng/Kg | A | B |
| PH054 | SL-785-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.0501U ng/Kg 0.563U ng/Kg 0.0508U ng/Kg 0.278U ng/Kg 0.174U ng/Kg 0.298U ng/Kg 0.226U ng/Kg 0.307U ng/Kg 0.253U ng/Kg 0.280U ng/Kg | A | B |
| PH054 | SL-786-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 2,3,4,7,8-PeCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.078U ng/Kg 0.624U ng/Kg 0.367U ng/Kg 0.348U ng/Kg 0.424U ng/Kg 0.325U ng/Kg 0.404U ng/Kg | A | B |
| PH054 | SL-787-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDF 2,3,4,7,8-PeCDF 1,2,3,7,8,9-HxCDF | 0.142U ng/Kg 0.354U ng/Kg 0.541U ng/Kg | A | B |

| SDG | Sample | Compound | Modified Final Concentration | A or P | Code |
|-------|------------------------|--|--|--------|------|
| PH054 | SL-788-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.130U ng/Kg 0.526U ng/Kg 0.440U ng/Kg 0.389U ng/Kg 0.324U ng/Kg 0.258U ng/Kg 0.291U ng/Kg 0.283U ng/Kg 0.262U ng/Kg | A | B |

**Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG PH054**

No Sample Data Qualified in this SDG

LDC #: 30074A21

VALIDATION COMPLETENESS WORKSHEET

Date: 8-7-13

SDG #: PH054

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: Ojm

2nd Reviewer:

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|---|
| I. | Technical holding times | A | Sampling dates: 6-11-13 |
| II. | HRGC/HRMS Instrument performance check | A | |
| III. | Initial calibration | A | ≤ 20/35 |
| IV. | Continuing Calibration | A | QC limits |
| V. | Blanks | SW | |
| VI. | Matrix spike/Matrix spike duplicates | SW | %R & RPD out due to conc. > 4x spike amount |
| VII. | Laboratory control samples | A | OPR |
| VIII. | Regional quality assurance and quality control | N | |
| IX. | Internal standards | A | |
| X. | Target compound identifications | A | |
| XI. | Compound quantitation/RL/LOQ/LODs | SW | |
| XII. | System performance | A | |
| XIII. | Overall assessment of data | A | |
| XIV. | Field duplicates | SW | D = 1 + 2 |
| XV. | Field blanks | SW | EB = EB1-061213 (PH055); FB = FB-041113 = EB2-061213 (PH029) |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet
 ND = No compounds detected
 R = Rinsate
 FB = Field blank
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Soil

| | | | | | | | |
|----|---------------------------|----|--|----|----------|----|--|
| 1 | SL-783-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-1183-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | SL-789-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 | |
| 4 | SL-789-SA5A-SB-5.0-6.0 | 14 | | 24 | | 34 | |
| 5 | SL-785-SA5A-SB-0.0-0.5 | 15 | | 25 | | 35 | |
| 6 | SL-786-SA5A-SB-0.0-0.5 | 16 | | 26 | | 36 | |
| 7 | SL-787-SA5A-SB-0.0-0.5 | 17 | | 27 | | 37 | |
| 8 | SL-788-SA5A-SB-0.0-0.5 | 18 | | 28 | | 38 | |
| 9 | SL-783-SA5A-SB-0.0-0.5MS | 19 | | 29 | | 39 | |
| 10 | SL-783-SA5A-SB-0.0-0.5MSD | 20 | | 30 | 13170001 | 40 | |

Notes:

Method: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. GC/MS Instrument performance check | | | | |
| Was PFK exact mass 380.9760 verified? | / | | | |
| Were the retention time windows established for all homologues? | / | | | |
| Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers $\leq 25\%$? | / | | | |
| Is the static resolving power at least 10,000 (10% valley definition)? | / | | | |
| Was the mass resolution adequately check with PFK? | / | | | |
| Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified? | / | | | |
| III. Initial calibration | | | | |
| Was the initial calibration performed at 5 concentration levels? | / | | | |
| Were all percent relative standard deviations (%RSD) $\leq 20\%$ for unlabeled compounds and $\leq 35\%$ for labeled compounds ? | / | | | |
| Did all calibration standards meet the Ion Abundance Ratio criteria? | / | | | |
| Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard ≥ 10 ? | / | | | |
| IV. Continuing calibration | | | | |
| Was a routine calibration performed at the beginning and end of each 12 hour period? | / | | | |
| Were all the concentrations for the unlabeled compounds and labeled compounds within the QC limits (Method 1613B, Table 6)? | / | | | |
| Did all routine calibration standards meet the Ion Abundance Ratio criteria? | / | | | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was a method blank performed for each matrix and concentration? | | | / | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet? | / | | | |
| VI. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | / | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | | / | | >4x spike amount |
| VII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |
| Was an LCS analyzed per extraction batch? | | | / | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | / | | | |

VALIDATION FINDINGS CHECKLIST

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| VIII. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | / | | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| IX. Internal standards | | | | |
| Were internal standard recoveries within the 25-150% criteria? | / | | | |
| Was the minimum S/N ratio of all internal standard peaks ≥ 10 ? | / | | | |
| X. Target compound identification | | | | |
| For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard? | / | | | |
| For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration? | / | | | |
| For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution? | / | | | |
| Did compound spectra contain all characteristic ions listed in the table attached? | / | | | |
| Was the Ion Abundance Ratio for the two quantitation ions within criteria? | | / | | |
| Was the signal to noise ratio for each target compound and labeled standard ≥ 2.5 ? | / | | | |
| Does the maximum intensity of each specified characteristic ion coincide within ± 2 seconds (includes labeled standards)? | / | | | |
| For PCDF identification, was any signal ($S/N \geq 2.5$, at \pm seconds RT) detected in the corresponding PCDF channel? | / | | | |
| Was an acceptable lock mass recorded and monitored? | / | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound? | / | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target compounds were detected in the field duplicates. | / | | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | / | | | |

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

| | | | | |
|----------------------|------------------------|------------------------|------------------------|----------------|
| A. 2,3,7,8-TCDD | F. 1,2,3,4,6,7,8-HpCDD | K. 1,2,3,4,7,8-HxCDF | P. 1,2,3,4,7,8,9-HpCDF | U. Total HpCDD |
| B. 1,2,3,7,8-PeCDD | G. OCDD | L. 1,2,3,6,7,8-HxCDF | Q. OCDF | V. Total TCDF |
| C. 1,2,3,4,7,8-HxCDD | H. 2,3,7,8-TCDF | M. 2,3,4,6,7,8-HxCDF | R. Total TCDD | W. Total PeCDF |
| D. 1,2,3,6,7,8-HxCDD | I. 1,2,3,7,8-PeCDF | N. 1,2,3,7,8,9-HxCDF | S. Total PeCDD | X. Total HxCDF |
| E. 1,2,3,7,8,9-HxCDD | J. 2,3,4,7,8-PeCDF | O. 1,2,3,4,6,7,8-HpCDF | T. Total HxCDD | Y. Total HpCDF |

Notes: _____

VALIDATION FINDINGS WORKSHEET

Blanks

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

 Y N N/A Were all samples associated with a method blank?

 Y N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?

 Y N N/A Was the method blank contaminated?

Blank extraction date: 6/19/13 **Blank analysis date:** 06/21/13
Associated samples: All Qual U (B)
Conc. units: ng/kg

| Compound | Blank ID | Sample Identification | | | | | | | | |
|----------|----------|-----------------------|---------|---------|--------|---------|-----------------------|--------|--------|--------|
| | | 5X | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | 13170001 | | | | | | | | | |
| A | 0.0347* | 0.174 | | 0.0482* | | 0.0456* | 0.0501* | 0.078 | | 0.130 |
| B | 0.144* | 0.720 | 0.514 | 0.138* | 0.366 | 0.144* | 0.563 ^{EMPC} | 0.624 | | 0.526 |
| C | 0.0858* | 0.429 | | 0.196* | | 0.077 | | | | |
| D | 0.0555* | 0.278 | | | | 0.112* | | | | |
| E | 0.138* | 0.690 | | 0.354* | | 0.144 | | | | |
| F | 0.148* | 0.740 | | | | | | | | |
| G | 0.396 | 1.98 | | | | | | | | |
| H | 0.0327* | 0.164 | 0.0889* | 0.0352* | 0.090 | | 0.0508* | | 0.142 | |
| I | 0.101 | 0.505 | 0.351* | 0.146* | 0.293* | 0.124 | 0.278* | | | 0.440 |
| J | 0.0778 | 0.389 | 0.177* | 0.123* | 0.219 | 0.0792* | 0.174* | 0.367 | 0.354 | 0.389* |
| K | 0.0903* | 0.452 | 0.294 | 0.134* | 0.252* | 0.0958* | 0.298* | | | 0.324 |
| L | 0.0923 | 0.462 | 0.305* | 0.156* | 0.177 | 0.0894* | 0.226 | 0.348* | | 0.258 |
| N | 0.161 | 0.805 | 0.244 | 0.210 | 0.215 | 0.106 | 0.307* | 0.424* | 0.541* | 0.291 |
| M | 0.0711 | 0.356 | 0.324 | 0.175* | 0.246 | 0.077 | 0.253 | 0.325 | | 0.283 |
| O | 0.108* | 0.540 | | | | 0.278 | | | | |
| P | 0.131 | 0.655 | 0.413 | 0.209* | 0.222* | 0.0569* | 0.280* | 0.404 | | 0.262* |
| Q | 0.215 | 1.075 | | | | 0.629 | | | | |

*EMPC

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins (EPA Method 1613B)

Blank units: pg/L **Associated sample units:** ng/kg

Sampling date: 04/11/13

Field blank type: (circle one) Field Blank / Rinsate / Other: FB Associated Samples: All >5x

| Compound | Blank ID | Sample Identification | | | | | | | | |
|----------|-----------|-----------------------|--|--|--|--|--|--|--|--|
| | | 5X | | | | | | | | |
| | FB-041113 | 5X | | | | | | | | |
| C | 0.125 | 0.625 | | | | | | | | |
| E | 0.134* | 0.67 | | | | | | | | |
| F | 0.402* | 2.01 | | | | | | | | |
| I | 0.398* | 1.99 | | | | | | | | |
| J | 0.316* | 1.58 | | | | | | | | |
| K | 0.324 | 1.62 | | | | | | | | |
| L | 0.221 | 1.105 | | | | | | | | |
| N | 0.211* | 1.055 | | | | | | | | |
| M | 0.149 | 0.745 | | | | | | | | |
| O | 0.254* | 1.27 | | | | | | | | |
| Q | 0.840* | 4.2 | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

* EMPC

FB-041113 (PH029)

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins (EPA Method 1613B)

Blank units: pg/L **Associated sample units:** ng/kg

Sampling date: 06/12/13

Field blank type: (circle one) Field Blank / Rinsate / Other: EB **Associated Samples:** 3-4 >5x

| Compound | Blank ID | Sample Identification | | | | | | | | |
|----------|------------|-----------------------|--|--|--|--|--|--|--|--|
| | | 5X | | | | | | | | |
| | EB2-061213 | 5X | | | | | | | | |
| D | 0.182* | 0.910 | | | | | | | | |
| F | 0.479* | 2.40 | | | | | | | | |
| G | 1.27* | 6.35 | | | | | | | | |
| I | 0.425* | 2.13 | | | | | | | | |
| J | 0.201* | 1.01 | | | | | | | | |
| K | 0.265* | 1.33 | | | | | | | | |
| L | 0.0943* | 0.472 | | | | | | | | |
| N | 0.319 | 1.60 | | | | | | | | |
| M | 0.198* | 0.990 | | | | | | | | |
| O | 0.286* | 1.43 | | | | | | | | |
| P | 0.439* | 2.20 | | | | | | | | |
| Q | 1.11* | 5.55 | | | | | | | | |

* EMPC

EB2-061213 (PH055)

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins (EPA Method 1613B)

Blank units: pg/L **Associated sample units:** ng/kg

Sampling date: 06/12/13

Field blank type: (circle one) Field Blank / Rinsate / Other: EB **Associated Samples:** 1-2, 5-8 >5x

| Compound | Blank ID | Sample Identification | | | | | | | | |
|----------|------------|-----------------------|--|--|--|--|--|--|--|--|
| | | 5X | | | | | | | | |
| | EB1-061213 | 5X | | | | | | | | |
| A | 0.229* | 1.15 | | | | | | | | |
| F | 0.921* | 4.61 | | | | | | | | |
| G | 1.47 | 7.35 | | | | | | | | |
| I | 0.548* | 2.74 | | | | | | | | |
| J | 0.287* | 1.44 | | | | | | | | |
| K | 0.351 | 1.76 | | | | | | | | |
| L | 0.142* | 0.710 | | | | | | | | |
| N | 0.337* | 1.69 | | | | | | | | |
| M | 0.175* | 0.875 | | | | | | | | |
| P | 0.362* | 1.81 | | | | | | | | |
| Q | 0.904 | 4.52 | | | | | | | | |
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* EMPC

EB1-061213 (PH055)

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported RLs

METHOD: GC/MS Dioxins/Dibenzofurans (EPA Method 1613B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N N/A Were the correct internal standard (IS), quantitation ions and relative response factors (RRF) used to quantitate the compound?
- N N/A Compound quantitation and RLs were adjusted to reflect all sample dilutions and dry weight factors (if necessary).

| # | Date | Compound | Finding | Associated Samples | Qualifications |
|---|------|----------|---------------------------------------|--------------------|----------------|
| | | G | E exceeds upper calibration limit | 7 | Jdets/P *(XI) |
| | | H | No 2,3,7,8-TCDF confirmation analysis | All except 4 | None/P |
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Comments: See sample calculation verification worksheet for recalculations

LDC#: 30074A21

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: _____

METHOD: HRGC/HRMS Dioxins/Furans (EPA Method 1613B)

N NA
 N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

| Compound | Concentration (ng/kg) | | RPD (<50%) | Qualifications (Parent Only) |
|----------|-----------------------|---------|------------|------------------------------|
| | 1 | 2 | | |
| A | 1.03U | 0.0482* | 200 | J/US/A Jdets/A (FD) |
| B | 0.514 | 0.138* | 115 | Jdets/A (FD) |
| C | 0.711 | 0.196* | 114 | Jdets/A (FD) |
| D | 1.80 | 0.373 | 131 | Jdets/A (FD) |
| E | 1.74 | 0.354* | 132 | Jdets/A (FD) |
| F | 50.4 | 5.97 | 158 | Jdets/A (FD) |
| G | 1170 | 58.8 | 181 | Jdets/A (FD) |
| H | 0.0889* | 0.0352* | 87 | Jdets/A (FD) |
| I | 0.351* | 0.146* | 82 | Jdets/A (FD) |
| J | 0.177* | 0.123* | 36 | -- |
| K | 0.294 | 0.134* | 75 | Jdets/A (FD) |
| L | 0.305* | 0.156* | 65 | Jdets/A (FD) |
| M | 0.324 | 0.175* | 60 | Jdets/A (FD) |
| N | 0.244 | 0.210 | 15 | -- |
| O | 3.98 | 0.578 | 149 | Jdets/A (FD) |
| P | 0.413 | 0.209* | 66 | Jdets/A (FD) |
| Q | 12.4 | 1.14 | 166 | Jdets/A (FD) |
| | | | | |

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$

average RRF = sum of the RRFs/number of standards

%RSD = 100 * (S/X)

A_x = Area of compound,

C_x = Concentration of compound,

S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

X = Mean of the RRFs

| # | Standard ID | Calibration Date | Compound (Reference Internal Standard) | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|--|-----------------------|-----------------------|---------------|---------------|----------|--------------|
| | | | | Average RRF (initial) | Average RRF (initial) | RRF (CS3 std) | RRF (CS3 std) | %RSD | %RSD |
| 1 | ICAL | 6-19-13 | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | 1.0556 | 1.0556 | 1.0283 | 1.0283 | 7.30 | 7.30 |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | 1.1957 | 1.1957 | 1.1068 | 1.1068 | 10.82 | 10.82 |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | 0.9548 | 0.9548 | 0.9542 | 0.9542 | 1.24 | 1.24 |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8-HpCDD) | 1.0602 | 1.0602 | 1.0338 | 1.0338 | 8.10 | 8.10 |
| | | | OCDF (¹³ C-OCDF) | 0.9620 | 0.962 | 0.9589 | 0.9589 | 4.62 | 4.62 |
| 2 | | | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | | | | | | |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | | | | | | |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | | | | | | |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8-HpCDD) | | | | | | |
| | | | OCDF (¹³ C-OCDF) | | | | | | |
| 3 | | | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | | | | | | |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | | | | | | |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | | | | | | |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8-HpCDD) | | | | | | |
| | | | OCDF (¹³ C-OCDF) | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Routine Calibration Results Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (A_x)(C_{is}) / (A_{is})(C_x)$$

Where: ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 A_x = Area of compound,
 C_x = Concentration of compound,

A_{is} = Area of associated internal standard
 C_{is} = Concentration of internal standard

| # | Standard ID | Calibration Date | Compound (Reference Internal Standard) | Spiked Conc (ng/mL) | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|---|---------------------|--------------|--------------|----------|--------------|
| | | | | | Conc (ng/mL) | Conc (ng/mL) | %R | %R |
| 1 | CS3CC02 | 6-21-13 | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | 10 | 9.69 | 9.69 | 97 | 97 |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | 10 | 9.29 | 9.29 | 93 | 93 |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | 50 | 49.98 | 49.98 | 100 | 100 |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | 50 | 49.19 | 49.19 | 98 | 98 |
| | | | OCDF (¹³ C-OCDF) | 100 | 99.14 | 99.14 | 99 | 99 |
| 2 | CS3CC03 | 6-21-13 | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | 10 | 9.76 | 9.76 | 98 | 98 |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | 10 | 9.39 | 9.39 | 94 | 94 |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | 50 | 50.45 | 50.45 | 101 | 101 |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | 50 | 49.16 | 49.16 | 98 | 98 |
| | | | OCDF (¹³ C-OCDF) | 100 | 100.93 | 100.93 | 101 | 101 |
| 3 | | | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | 10 | | | | |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | 10 | | | | |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | 50 | | | | |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | 50 | | | | |
| | | | OCDF (¹³ C-OCDF) | 100 | | | | |

Comments: Refer to Routine Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSR - SR)/SA

Where: SSR = Spiked sample result, SR = Sample result
 SA = Spike added

RPD = |MSR - MSDR| * 2/(MSR + MSDR)

MSR = Matrix spike percent recovery MSDR = Matrix spike duplicate percent recovery

MS/MSD samples: 9/10

| Compound | Spike Added (ng/Kg) | | Sample Concentration (ng/Kg) | Spiked Sample Concentration (ng/Kg) | | Matrix Spike | | Matrix Spike Duplicate | | Reported | Recalculated |
|---------------------|---------------------|------|------------------------------|-------------------------------------|------|------------------|--------|------------------------|--------|----------|--------------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | RPD |
| | | | | | | Reported | Recalc | Reported | Recalc | | |
| 2,3,7,8-TCDD | 20.2 | 19.9 | ND | 18.4 | 18.3 | 91 | 91 | 92 | 92 | 0 | 0.5 |
| 1,2,3,7,8-PeCDD | 101 | 99.7 | 0.514 | 97.3 | 97.3 | 96 | 96 | 97 | 97 | 0 | 0 |
| 1,2,3,4,7,8-HxCDD | 101 | 99.7 | 0.711 | 97.9 | 94.3 | 96 | 96 | 94 | 94 | 4 | 4 |
| 1,2,3,4,7,8,9-HpCDF | 101 | 99.7 | 0.413 | 96.3 | 94.7 | 95 | 95 | 95 | 95 | 2 | 2 |
| OCDF | 202 | 199 | 12.4 | 190 | 189 | 88 | 88 | 89 | 89 | 1 | 0.5 |
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Comments: Refer to Matrix Spike/Matrix Spike Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074A2

VALIDATION FINDINGS WORKSHEET Laboratory Control Sample Results Verification

Page: 6 of 1
Reviewer: TH
2nd Reviewer: _____

METHOD: GC/MS Dioxins/Dibenzofurans (EPA Method 1613B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = | LCS - LCSD | * 2 / (LCS + LCSD) LCS = Laboratory control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: 170001

| Compound | Spike Added (ng/kg) | | Spiked Sample Concentration (ng/kg) | | LCS | | LCSD | | LCS/LCSD | |
|---------------------|---------------------|------|-------------------------------------|------|------------------|--------|------------------|--------|----------|--------------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc | Reported | Recalc | Reported | Recalculated |
| 2,3,7,8-TCDD | 20.0 | NA | 19.0 | NA | 95 | 95 | | | | |
| 1,2,3,7,8-PeCDD | 100 | | 96.4 | | 96 | 96 | | | | |
| 1,2,3,4,7,8-HxCDD | 100 | | 101 | | 101 | 101 | | | | |
| 1,2,3,4,7,8,9-HpCDF | 100 | | 95.3 | | 95 | 95 | | | | |
| OCDF | 200 | | 188 | | 94 | 94 | | | | |
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Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET

Sample Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

Y N N/A
 N N/A

Were all reported results recalculated and verified for all level IV samples?
 Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$$

- A_x = Area of the characteristic ion (EICP) for the compound to be measured
- A_{is} = Area of the characteristic ion (EICP) for the specific internal standard
- I_s = Amount of internal standard added in nanograms (ng)
- V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).
- RRF = Relative Response Factor (average) from the initial calibration
- Df = Dilution Factor.
- %S = Percent solids, applicable to soil and solid matrices only.

Example:

Sample I.D. 4, I:

$$\text{Conc.} = \frac{(259+421)(2000)(1)}{(436861+686512)(0.9973)(10.42)(0.94)}$$

= 0.124 ng/kg

| # | Sample ID | Compound | Reported Concentration () | Calculated Concentration () | Qualification |
|---|-----------|----------|-------------------------------|---------------------------------|---------------|
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**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 11, 2013
LDC Report Date: August 2, 2013
Matrix: Soil
Parameters: Formaldehyde
Validation Level: Level IV
Laboratory: Eurofins
Sample Delivery Group (SDG): PH054

Sample Identification

SL-783-SA5A-SB-0.0-0.5
SL-1183-SA5A-SB-0.0-0.5
SL-789-SA5A-SB-0.0-0.5
SL-789-SA5A-SB-5.0-6.0
SL-783-SA5A-SB-0.0-0.5MS
SL-783-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 6 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8315A for Formaldehyde.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No formaldehyde was found in the method blanks.

Samples EB1-061213 and EB2-061213 (both from SDG PH055) were identified as equipment blanks. No formaldehyde was found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No formaldehyde was found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH054 | All compounds reported below the RL. | J (all detects) | A |

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples SL-783-SA5A-SB-0.0-0.5 and SL-1183-SA5A-SB-0.0-0.5 were identified as field duplicates. No formaldehyde was detected in any of the samples.

**Santa Susana Field Laboratory
Formaldehyde - Data Qualification Summary - SDG PH054**

| SDG | Sample | Compound | Flag | A or P | Reason |
|-------|---|--------------------------------------|-----------------|--------|---------------------------|
| PH054 | SL-783-SA5A-SB-0.0-0.5 SL-1183-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-0.0-0.5 SL-789-SA5A-SB-5.0-6.0 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |

**Santa Susana Field Laboratory
Formaldehyde - Laboratory Blank Data Qualification Summary - SDG PH054**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Formaldehyde - Field Blank Data Qualification Summary - SDG PH054**

No Sample Data Qualified in this SDG

METHOD: HPLC Formaldehyde (EPA SW 846 Method 8315A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|---|----|---|
| I. | Technical holding times | A | Sampling dates: 6/11/13 |
| II. | Initial calibration | A | RSD = 2.02 |
| III. | Calibration verification 202 | A | M CV = 2.02 |
| IV. | Blanks | A | |
| V. | Surrogate recovery | A | |
| VI. | Matrix spike/Matrix spike duplicates | A | |
| VII. | Laboratory control samples | A | LCS |
| VIII. | Target compound identification | A | |
| IX. | Compound quantitation/RL/LOQ/LODs | A | |
| X. | System Performance | A | |
| XI. | Overall assessment of data | A | |
| XII. | Field duplicates | ND | FD = 1 + 2 |
| XIII. | Field blanks | ND | EB = EB1-061213, SP 6 # PH 855 EB = EB2 061213 |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

FB = FB-041113
(SDG # PH029)

Validated Samples: Soil

| | | | | | | | |
|----|-----------------------------------|----|--|----|--|----|---------------|
| 1 | SL-783-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | 131680004A-MS |
| 2 | SL-1183-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | SL-789-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 | |
| 4 | SL-789-SA5A-SB-0.0-0.5 5.0-6.0 | 14 | | 24 | | 34 | |
| 5 | SL-783-SA5A-SB-0.0-0.5MS | 15 | | 25 | | 35 | |
| 6 | SL-783-SA5A-SB-0.0-0.5MSD | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes:

LDC #: 30074A71

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
 Reviewer: BR
 2nd Reviewer: _____

Method: GC HPLC

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | / | | | |
| Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%? | / | | | |
| Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used? | | / | | |
| Did the initial calibration meet the curve fit acceptance criteria? | | | / | |
| Were the RT windows properly established? | / | | | |
| IV. Continuing calibration | | | | |
| What type of continuing calibration calculation was performed? <u>X</u> %D or %R | / | | | |
| Was a continuing calibration analyzed daily? | / | | | |
| Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%? | / | | | |
| Were all the retention times within the acceptance windows? | / | | | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was a method blank analyzed for each matrix and concentration? | / | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | | / | | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within the QC limits? | / | | | |
| If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R? | | | / | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | | | / | |
| VII. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | / | | | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | / | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | / | | | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |
| Was an LCS analyzed per extraction batch? | / | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | / | | | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | / | | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| X. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | / | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target compounds were detected in the field duplicates. | | / | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | | / | | |

LDC #: 30074A71

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page 1 of 1

Reviewer: BR

2nd Reviewer: _____

METHOD: GC _____ HPLC X

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

$CF = A/C$

average CF = sum of the CF/number of standards

$\%RSD = 100 * (S/X)$

Where:

A = Area of compound

C = Concentration of compound

S = Standard deviation of calibration factors

X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported CF (2000 std) | Recalculated CF (2000 std) | Reported Average CF (Initial) | Recalculated Average CF (Initial) | Reported %RSD | Recalculated %RSD |
|---|---------------------------|------------------|--------------|------------------------|----------------------------|-------------------------------|-----------------------------------|---------------|-------------------|
| 1 | ICAL F6259A SUP-PAH | 6/19/2013 | Formaldehyde | 70 | 70 | 73.9 | 73.9 | 9 | 9 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074A71

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer: _____

METHOD: GC _____ HPLC X

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

Percent difference (%D) = $100 * (N - C)/N$

Where:

N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

| # | Standard ID | Calibration Date | Compound | CCV Conc/CF | Reported Conc/CF | Recalculated Conc/CF | Reported % D | Recalculated %D |
|---|-------------|------------------|--------------|-------------|------------------|----------------------|--------------|-----------------|
| 1 | 1F4170.19R | 6/20/2013 | Formaldehyde | 2000 | 1967.11 | 1967.11 | 2 | 2 |
| | | 0:25 | | | | | | |
| 2 | | | | | | | | |
| | | | | | | | | |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074A71

SDG #: see cover

VALIDATION FINDINGS WORKSHEET

Surrogate Results Verification

Page: 1 of 1

Reviewer: BR

2nd reviewer: _____

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|---------------|-----------------|------------------|------------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| Butyraldehyde | SUP-PAH | 7140 | 97 ^{ku} | 97 | 97 | 0 |
| | | | 7679.20556 | | | |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

LDC #: 30074471
 SDG #: See Cover

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates Results Verification

Page: (1 of 1)
 Reviewer: BR
 2nd Reviewer: _____

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

Where

SSC = Spiked sample concentration

SC = Sample concentration

SA = Spike added

MS = Matrix spike

MSD = Matrix spike duplicate

$\text{RPD} = ((\text{SSCMS} - \text{SSCMSD}) * 2) / (\text{SSCMS} + \text{SSCMSD}) * 100$

MS/MSD samples: 5/6

| Compound | Spike Added (<i>µg/kg</i>) | | Sample Conc. (<i>µg/kg</i>) | Spike Sample Concentration (<i>µg/kg</i>) | | Matrix spike | | Matrix Spike Duplicate | | MS/MSD | |
|------------------------------|---------------------------------|-------|----------------------------------|--|---------|------------------|---------|------------------------|---------|----------|---------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | | |
| Formaldehyde (8315) | 10000 | 10000 | 0 | 8438.16 | 8901.12 | 84 | 84 | 89 | 89 | 5 | 5.3 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074A71

VALIDATION FINDINGS WORKSHEET

Page: 1 of 1

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: BR

2nd Reviewer: _____

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

Where SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory Control Sample

SC = Sample concentration

RPD = (((SSCLCS - SSCLCSD) * 2) / (SSCLCS + SSCLCSD)) * 100

LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS 04168

| Compound | Spike Added (<u>µg/kg</u>) | | Spike Sample Concentration (<u>µg/kg</u>) | | LCS | | LCSD | | LCS/LCSD | |
|------------------------------|---------------------------------|------|--|------|------------------|---------|------------------|---------|----------|---------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | |
| Formaldehyde (8315A) | 10000 | - | 9075.38 | - | 91 | 91 | - | - | - | - |
| | | | | | | | | | | |
| | | | | | | | | | | |

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074A71

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer: _____

METHOD: GC HPLC

N N/A Were all reported results recalculated and verified for all level IV samples?
 N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration = $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

Example:

Sample ID. 1 Compound Name Formaldehyde

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound
in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Concentration = ND

$$LCS\ 0468 = 8 + 9075.38\ \mu g/kg$$
$$= \frac{(335154)(200000)(0.1)^{8R}}{(73.86)(0.978)(1000)(10)} = 9075.385865\ \mu g/kg$$

| # | Sample ID | Compound | Reported Concentrations () | Recalculated Results Concentrations () | Qualifications |
|---|-----------|----------|--------------------------------|--|----------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | | | | | |

Comments: _____

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|----------------|-------------|-------------|-------------------|--------------|
| 12-Jun-2013 | TB-061213 | 7091437 | TB | 5030B | 8015M | III |
| 12-Jun-2013 | SL-778-SA5A-SB-0.0-0.5 | 7091428 | N | METHOD | 6850 | IV |
| 12-Jun-2013 | SL-778-SA5A-SB-0.0-0.5MS | 7091429 | MS | METHOD | 6850 | IV |
| 12-Jun-2013 | SL-778-SA5A-SB-0.0-0.5MSD | 7091430 | MSD | METHOD | 6850 | IV |
| 12-Jun-2013 | SL-1178-SA5A-SB-0.0-0.5 | 7091431 | FD | METHOD | 6850 | IV |
| 12-Jun-2013 | SL-778-SA5A-SB-4.0-5.0 | 7091432 | N | METHOD | 6850 | IV |
| 12-Jun-2013 | SL-781-SA5A-SB-0.0-0.5 | 7091433 | N | 3050B | 6010C | III |
| 12-Jun-2013 | SL-781-SA5A-SB-0.0-0.5 | 7091433 | N | 3050B | 6020A | III |
| 12-Jun-2013 | SL-781-SA5A-SB-0.0-0.5 | 7091433 | N | 3546 | 8015M | III |
| 12-Jun-2013 | SL-781-SA5A-SB-0.0-0.5 | 7091433 | N | 3546 | 8270D SIM | III |
| 12-Jun-2013 | SL-781-SA5A-SB-0.0-0.5 | 7091433 | N | METHOD | 1613B | III |
| 12-Jun-2013 | SL-781-SA5A-SB-0.0-0.5 | 7091433 | N | METHOD | 7471B | III |
| 12-Jun-2013 | SL-781-SA5A-SB-0.0-0.5MSD | P091433M261404 | MSD | 3546 | 8270D SIM | III |
| 12-Jun-2013 | SL-781-SA5A-SB-0.0-0.5MS | P091433R261332 | MS | 3546 | 8270D SIM | III |
| 12-Jun-2013 | SL-781-SA5A-SB-2.0-3.0 | 7091434 | N | 3050B | 6010C | III |
| 12-Jun-2013 | SL-781-SA5A-SB-2.0-3.0 | 7091434 | N | 3050B | 6020A | III |
| 12-Jun-2013 | SL-781-SA5A-SB-2.0-3.0 | 7091434 | N | 3546 | 8015M | III |
| 12-Jun-2013 | SL-781-SA5A-SB-2.0-3.0 | 7091434 | N | 3546 | 8270D SIM | III |
| 12-Jun-2013 | SL-781-SA5A-SB-2.0-3.0 | 7091434 | N | 5035A | 8015M | III |
| 12-Jun-2013 | SL-781-SA5A-SB-2.0-3.0 | 7091434 | N | METHOD | 1613B | III |
| 12-Jun-2013 | SL-781-SA5A-SB-2.0-3.0 | 7091434 | N | METHOD | 7471B | III |
| 12-Jun-2013 | SL-782-SA5A-SB-0.0-0.5 | 7091435 | N | 3050B | 6010C | III |
| 12-Jun-2013 | SL-782-SA5A-SB-0.0-0.5 | 7091435 | N | 3050B | 6020A | III |
| 12-Jun-2013 | SL-782-SA5A-SB-0.0-0.5 | 7091435 | N | 3546 | 8015M | III |
| 12-Jun-2013 | SL-782-SA5A-SB-0.0-0.5 | 7091435 | N | 3546 | 8270D SIM | III |
| 12-Jun-2013 | SL-782-SA5A-SB-0.0-0.5 | 7091435 | N | METHOD | 1613B | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|-------------------------|---------------|-------------|-------------|-------------------|--------------|
| 12-Jun-2013 | SL-782-SA5A-SB-0.0-0.5 | 7091435 | N | METHOD | 7471B | III |
| 12-Jun-2013 | SL-782-SA5A-SB-4.5-5.5 | 7091436 | N | 3050B | 6010C | III |
| 12-Jun-2013 | SL-782-SA5A-SB-4.5-5.5 | 7091436 | N | 3050B | 6020A | III |
| 12-Jun-2013 | SL-782-SA5A-SB-4.5-5.5 | 7091436 | N | 3546 | 8015M | III |
| 12-Jun-2013 | SL-782-SA5A-SB-4.5-5.5 | 7091436 | N | 3546 | 8270D SIM | III |
| 12-Jun-2013 | SL-782-SA5A-SB-4.5-5.5 | 7091436 | N | 5035A | 8015M | III |
| 12-Jun-2013 | SL-782-SA5A-SB-4.5-5.5 | 7091436 | N | METHOD | 1613B | III |
| 12-Jun-2013 | SL-782-SA5A-SB-4.5-5.5 | 7091436 | N | METHOD | 7471B | III |
| 12-Jun-2013 | SL-826-SA5A-SB-0.0-0.5 | 7091440 | N | 3050B | 6010C | III |
| 12-Jun-2013 | SL-826-SA5A-SB-0.0-0.5 | 7091440 | N | 3050B | 6020A | III |
| 12-Jun-2013 | SL-826-SA5A-SB-0.0-0.5 | 7091440 | N | 3546 | 8015M | III |
| 12-Jun-2013 | SL-826-SA5A-SB-0.0-0.5 | 7091440 | N | 3546 | 8270D SIM | III |
| 12-Jun-2013 | SL-826-SA5A-SB-0.0-0.5 | 7091440 | N | METHOD | 1613B | III |
| 12-Jun-2013 | SL-826-SA5A-SB-0.0-0.5 | 7091440 | N | METHOD | 7471B | III |
| 12-Jun-2013 | SL-826-SA5A-SB-4.0-5.0 | 7091441 | N | 3050B | 6010C | III |
| 12-Jun-2013 | SL-826-SA5A-SB-4.0-5.0 | 7091441 | N | 3050B | 6020A | III |
| 12-Jun-2013 | SL-826-SA5A-SB-4.0-5.0 | 7091441 | N | 3546 | 8015M | III |
| 12-Jun-2013 | SL-826-SA5A-SB-4.0-5.0 | 7091441 | N | 3546 | 8270D SIM | III |
| 12-Jun-2013 | SL-826-SA5A-SB-4.0-5.0 | 7091441 | N | 5035A | 8015M | III |
| 12-Jun-2013 | SL-826-SA5A-SB-4.0-5.0 | 7091441 | N | METHOD | 1613B | III |
| 12-Jun-2013 | SL-826-SA5A-SB-4.0-5.0 | 7091441 | N | METHOD | 7471B | III |
| 12-Jun-2013 | SL-826-SA5A-SB-9.0-10.0 | 7091442 | N | 3050B | 6010C | III |
| 12-Jun-2013 | SL-826-SA5A-SB-9.0-10.0 | 7091442 | N | 3050B | 6020A | III |
| 12-Jun-2013 | SL-826-SA5A-SB-9.0-10.0 | 7091442 | N | 3546 | 8015M | III |
| 12-Jun-2013 | SL-826-SA5A-SB-9.0-10.0 | 7091442 | N | 3546 | 8270D SIM | III |
| 12-Jun-2013 | SL-826-SA5A-SB-9.0-10.0 | 7091442 | N | 5035A | 8015M | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|--------------------------|---------------|-------------|-------------|-------------------|--------------|
| 12-Jun-2013 | SL-826-SA5A-SB-9.0-10.0 | 7091442 | N | METHOD | 1613B | III |
| 12-Jun-2013 | SL-826-SA5A-SB-9.0-10.0 | 7091442 | N | METHOD | 7471B | III |
| 12-Jun-2013 | SL-826-SA5A-SB-14.0-15.0 | 7091443 | N | 3050B | 6010C | III |
| 12-Jun-2013 | SL-826-SA5A-SB-14.0-15.0 | 7091443 | N | 3050B | 6020A | III |
| 12-Jun-2013 | SL-826-SA5A-SB-14.0-15.0 | 7091443 | N | 3546 | 8015M | III |
| 12-Jun-2013 | SL-826-SA5A-SB-14.0-15.0 | 7091443 | N | 3546 | 8270D SIM | III |
| 12-Jun-2013 | SL-826-SA5A-SB-14.0-15.0 | 7091443 | N | 5035A | 8015M | III |
| 12-Jun-2013 | SL-826-SA5A-SB-14.0-15.0 | 7091443 | N | METHOD | 1613B | III |
| 12-Jun-2013 | SL-826-SA5A-SB-14.0-15.0 | 7091443 | N | METHOD | 7471B | III |
| 12-Jun-2013 | SL-784-SA5A-SB-0.0-0.5 | 7091438 | N | 3050B | 6010C | III |
| 12-Jun-2013 | SL-784-SA5A-SB-0.0-0.5 | 7091438 | N | 3050B | 6020A | III |
| 12-Jun-2013 | SL-784-SA5A-SB-0.0-0.5 | 7091438 | N | 3546 | 8015M | III |
| 12-Jun-2013 | SL-784-SA5A-SB-0.0-0.5 | 7091438 | N | 3546 | 8270D SIM | III |
| 12-Jun-2013 | SL-784-SA5A-SB-0.0-0.5 | 7091438 | N | METHOD | 1613B | III |
| 12-Jun-2013 | SL-784-SA5A-SB-0.0-0.5 | 7091438 | N | METHOD | 7471B | III |
| 12-Jun-2013 | SL-784-SA5A-SB-2.5-3.5 | 7091439 | N | 3050B | 6010C | III |
| 12-Jun-2013 | SL-784-SA5A-SB-2.5-3.5 | 7091439 | N | 3050B | 6020A | III |
| 12-Jun-2013 | SL-784-SA5A-SB-2.5-3.5 | 7091439 | N | 3546 | 8015M | III |
| 12-Jun-2013 | SL-784-SA5A-SB-2.5-3.5 | 7091439 | N | 3546 | 8270D SIM | III |
| 12-Jun-2013 | SL-784-SA5A-SB-2.5-3.5 | 7091439 | N | 5035A | 8015M | III |
| 12-Jun-2013 | SL-784-SA5A-SB-2.5-3.5 | 7091439 | N | METHOD | 1613B | III |
| 12-Jun-2013 | SL-784-SA5A-SB-2.5-3.5 | 7091439 | N | METHOD | 7471B | III |
| 12-Jun-2013 | EB1-061213 | 7091426 | EB | 3005A | 6010C | III |
| 12-Jun-2013 | EB1-061213 | 7091426 | EB | 3510C | 8015M | III |
| 12-Jun-2013 | EB1-061213 | 7091426 | EB | 3510C | 8081B | III |
| 12-Jun-2013 | EB1-061213 | 7091426 | EB | 3510C | 8082A | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|-----------------|---------------|-------------|-------------|-------------------|--------------|
| 12-Jun-2013 | EB1-061213 | 7091426 | EB | 3510C | 8270D SIM | III |
| 12-Jun-2013 | EB1-061213 | 7091426 | EB | 5030B | 8015M | III |
| 12-Jun-2013 | EB1-061213 | 7091426 | EB | Gen Prep | 6850 | IV |
| 12-Jun-2013 | EB1-061213 | 7091426 | EB | Gen Prep | 7199 | III |
| 12-Jun-2013 | EB1-061213 | 7091426 | EB | M3010A | 6020A | III |
| 12-Jun-2013 | EB1-061213 | 7091426 | EB | METHOD | 1613B | III |
| 12-Jun-2013 | EB1-061213 | 7091426 | EB | METHOD | 7470A | III |
| 12-Jun-2013 | EB1-061213 | 7091426 | EB | METHOD | 8315A | III |
| 12-Jun-2013 | EB2-061213 | 7091427 | EB | 3005A | 6010C | III |
| 12-Jun-2013 | EB2-061213 | 7091427 | EB | 3510C | 8015M | III |
| 12-Jun-2013 | EB2-061213 | 7091427 | EB | 3510C | 8081B | III |
| 12-Jun-2013 | EB2-061213 | 7091427 | EB | 3510C | 8082A | III |
| 12-Jun-2013 | EB2-061213 | 7091427 | EB | 3510C | 8270D SIM | III |
| 12-Jun-2013 | EB2-061213 | 7091427 | EB | 5030B | 8015M | III |
| 12-Jun-2013 | EB2-061213 | 7091427 | EB | Gen Prep | 6850 | IV |
| 12-Jun-2013 | EB2-061213 | 7091427 | EB | Gen Prep | 7199 | III |
| 12-Jun-2013 | EB2-061213 | 7091427 | EB | M3010A | 6020A | III |
| 12-Jun-2013 | EB2-061213 | 7091427 | EB | METHOD | 1613B | III |
| 12-Jun-2013 | EB2-061213 | 7091427 | EB | METHOD | 7470A | III |
| 12-Jun-2013 | EB2-061213 | 7091427 | EB | METHOD | 8315A | III |

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: AQ |

| Sample ID: EB1-061213 | Collected: 6/12/2013 3:00:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|-----------------------|------------------------------|------------------------|-------------|---------|--------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| CADMIUM | 0.00037 | J | 0.00036 | MDL | 0.0100 | PQL | mg/L | U | B |

| Sample ID: EB2-061213 | Collected: 6/12/2013 3:30:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|-----------------------|------------------------------|------------------------|-------------|---------|--------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| CADMIUM | 0.00045 | J | 0.00036 | MDL | 0.0100 | PQL | mg/L | U | B |

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

| Sample ID: SL-781-SA5A-SB-0.0-0.5 | Collected: 6/12/2013 9:40:00 | Analysis Type: REA/TOT | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.16 | U | 0.520 | MDL | 4.16 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.774 | J | 0.0697 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| BORON | 8.48 | J | 0.863 | MDL | 10.4 | PQL | mg/Kg | J | Z |
| COPPER | 13.9 | | 0.187 | MDL | 2.08 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.544 | J | 0.177 | MDL | 2.08 | PQL | mg/Kg | U | B, F |
| SODIUM | 82.9 | J | 17.4 | MDL | 104 | PQL | mg/Kg | J | Z |
| TIN | 2.88 | J | 0.229 | MDL | 10.4 | PQL | mg/Kg | U | B |
| Zirconium | 3.62 | J | 0.863 | MDL | 5.20 | PQL | mg/Kg | J | Z |

| Sample ID: SL-781-SA5A-SB-2.0-3.0 | Collected: 6/12/2013 9:50:00 | Analysis Type: REA/TOT | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.07 | U | 0.509 | MDL | 4.07 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.581 | J | 0.0682 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 2.26 | J | 0.845 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| COPPER | 5.74 | | 0.183 | MDL | 2.04 | PQL | mg/Kg | J | A |
| LEAD | 3.04 | J | 0.478 | MDL | 3.05 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.204 | J | 0.173 | MDL | 2.04 | PQL | mg/Kg | U | B, F |
| TIN | 3.10 | J | 0.224 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 2.71 | J | 0.845 | MDL | 5.09 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-782-SA5A-SB-0.0-0.5

Collected: 6/12/2013 10:30:00

Analysis Type: REA/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.14 | U | 0.518 | MDL | 4.14 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.834 | J | 0.0694 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| BORON | 3.66 | J | 0.859 | MDL | 10.4 | PQL | mg/Kg | J | Z |
| COPPER | 7.40 | | 0.186 | MDL | 2.07 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.683 | J | 0.176 | MDL | 2.07 | PQL | mg/Kg | U | B, F |
| TIN | 2.84 | J | 0.228 | MDL | 10.4 | PQL | mg/Kg | U | B |
| Zirconium | 4.28 | J | 0.859 | MDL | 5.18 | PQL | mg/Kg | J | Z |

Sample ID: SL-782-SA5A-SB-4.5-5.5

Collected: 6/12/2013 10:40:00

Analysis Type: REA/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.25 | U | 0.531 | MDL | 4.25 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.621 | J | 0.0711 | MDL | 1.06 | PQL | mg/Kg | J | Z |
| BORON | 2.57 | J | 0.881 | MDL | 10.6 | PQL | mg/Kg | J | Z |
| COPPER | 5.17 | | 0.191 | MDL | 2.12 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.441 | J | 0.180 | MDL | 2.12 | PQL | mg/Kg | U | B, F |
| TIN | 3.07 | J | 0.234 | MDL | 10.6 | PQL | mg/Kg | U | B |
| Zirconium | 2.97 | J | 0.881 | MDL | 5.31 | PQL | mg/Kg | J | Z |

Sample ID: SL-784-SA5A-SB-0.0-0.5

Collected: 6/12/2013 2:45:00

Analysis Type: REA/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.09 | U | 0.511 | MDL | 4.09 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.768 | J | 0.0685 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 3.25 | J | 0.849 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| COPPER | 8.23 | | 0.184 | MDL | 2.04 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.448 | J | 0.174 | MDL | 2.04 | PQL | mg/Kg | U | B, F |
| TIN | 2.86 | J | 0.225 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 3.61 | J | 0.849 | MDL | 5.11 | PQL | mg/Kg | J | Z |

Sample ID: SL-784-SA5A-SB-2.5-3.5

Collected: 6/12/2013 2:55:00

Analysis Type: REA/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.05 | U | 0.506 | MDL | 4.05 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.563 | J | 0.0678 | MDL | 1.01 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

| Sample ID: SL-784-SA5A-SB-2.5-3.5 | Collected: 6/12/2013 2:55:00 | Analysis Type: REA/TOT | Dilution: 1 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| BORON | 2.86 | J | 0.839 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| COPPER | 5.80 | | 0.182 | MDL | 2.02 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.330 | J | 0.172 | MDL | 2.02 | PQL | mg/Kg | U | B, F |
| TIN | 2.79 | J | 0.222 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 3.42 | J | 0.839 | MDL | 5.06 | PQL | mg/Kg | J | Z |

| Sample ID: SL-826-SA5A-SB-0.0-0.5 | Collected: 6/12/2013 1:15:00 | Analysis Type: REA/TOT | Dilution: 1 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.06 | U | 0.507 | MDL | 4.06 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.92 | J | 0.335 | MDL | 4.06 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.655 | J | 0.0680 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 4.18 | J | 0.842 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| COPPER | 10.9 | | 0.183 | MDL | 2.03 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.470 | J | 0.172 | MDL | 2.03 | PQL | mg/Kg | U | B, F |
| SODIUM | 75.2 | J | 16.9 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 2.71 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 3.71 | J | 0.842 | MDL | 5.07 | PQL | mg/Kg | J | Z |

| Sample ID: SL-826-SA5A-SB-14.0-15.0 | Collected: 6/12/2013 1:55:00 | Analysis Type: REA/TOT | Dilution: 1 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.27 | U | 0.533 | MDL | 4.27 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.654 | J | 0.0715 | MDL | 1.07 | PQL | mg/Kg | J | Z |
| BORON | 2.73 | J | 0.886 | MDL | 10.7 | PQL | mg/Kg | J | Z |
| COPPER | 7.33 | | 0.192 | MDL | 2.13 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.326 | J | 0.181 | MDL | 2.13 | PQL | mg/Kg | U | B, F |
| TIN | 3.01 | J | 0.235 | MDL | 10.7 | PQL | mg/Kg | U | B |
| Zirconium | 2.95 | J | 0.886 | MDL | 5.33 | PQL | mg/Kg | J | Z |

| Sample ID: SL-826-SA5A-SB-4.0-5.0 | Collected: 6/12/2013 1:25:00 | Analysis Type: REA/TOT | Dilution: 1 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.32 | U | 0.540 | MDL | 4.32 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.778 | J | 0.0723 | MDL | 1.08 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-826-SA5A-SB-4.0-5.0 Collected: 6/12/2013 1:25:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| BORON | 3.68 | J | 0.896 | MDL | 10.8 | PQL | mg/Kg | J | Z |
| COPPER | 7.93 | | 0.194 | MDL | 2.16 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.737 | J | 0.184 | MDL | 2.16 | PQL | mg/Kg | U | B, F |
| SODIUM | 101 | J | 18.0 | MDL | 108 | PQL | mg/Kg | J | Z |
| TIN | 2.95 | J | 0.238 | MDL | 10.8 | PQL | mg/Kg | U | B |
| Zirconium | 3.19 | J | 0.896 | MDL | 5.40 | PQL | mg/Kg | J | Z |

Sample ID: SL-826-SA5A-SB-9.0-10.0 Collected: 6/12/2013 1:40:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.13 | U | 0.516 | MDL | 4.13 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.55 | J | 0.341 | MDL | 4.13 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.464 | J | 0.0692 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| BORON | 2.74 | J | 0.857 | MDL | 10.3 | PQL | mg/Kg | J | Z |
| COPPER | 6.65 | | 0.186 | MDL | 2.07 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.284 | J | 0.176 | MDL | 2.07 | PQL | mg/Kg | U | B, F |
| SODIUM | 91.4 | J | 17.2 | MDL | 103 | PQL | mg/Kg | J | Z |
| TIN | 2.74 | J | 0.227 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 3.00 | J | 0.857 | MDL | 5.16 | PQL | mg/Kg | J | Z |

Method Category: METALS
Method: 6020A **Matrix:** AQ

Sample ID: EB2-061213 Collected: 6/12/2013 3:30:00 Analysis Type: REA2/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|---------|---------|--------|---------|-------|------------------|-------------|
| SILVER | 0.00062 | J | 0.00010 | MDL | 0.0010 | PQL | mg/L | J | Z |
| STRONTIUM | 0.00053 | J | 0.00022 | MDL | 0.0020 | PQL | mg/L | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS
Method: 6020A **Matrix:** SO

Sample ID: SL-781-SA5A-SB-0.0-0.5 Collected: 6/12/2013 9:40:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.202 | J | 0.104 | MDL | 0.416 | PQL | mg/Kg | J | Z |

Sample ID: SL-781-SA5A-SB-0.0-0.5 Collected: 6/12/2013 9:40:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0429 | J | 0.0208 | MDL | 0.208 | PQL | mg/Kg | J | Z |
| STRONTIUM | 27.6 | | 0.0354 | MDL | 0.416 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.305 | | 0.0312 | MDL | 0.208 | PQL | mg/Kg | J | Q |

Sample ID: SL-781-SA5A-SB-2.0-3.0 Collected: 6/12/2013 9:50:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.121 | J | 0.102 | MDL | 0.407 | PQL | mg/Kg | J | Z |

Sample ID: SL-781-SA5A-SB-2.0-3.0 Collected: 6/12/2013 9:50:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 21.0 | | 0.0346 | MDL | 0.407 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.322 | | 0.0305 | MDL | 0.204 | PQL | mg/Kg | J | Q |

Sample ID: SL-782-SA5A-SB-0.0-0.5 Collected: 6/12/2013 10:30:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0472 | J | 0.0207 | MDL | 0.207 | PQL | mg/Kg | J | Z |
| STRONTIUM | 22.8 | | 0.0352 | MDL | 0.414 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.259 | | 0.0311 | MDL | 0.207 | PQL | mg/Kg | J | Q |

Sample ID: SL-782-SA5A-SB-4.5-5.5 Collected: 6/12/2013 10:40:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0482 | J | 0.0212 | MDL | 0.212 | PQL | mg/Kg | J | Z |
| STRONTIUM | 17.8 | | 0.0361 | MDL | 0.425 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.199 | J | 0.0318 | MDL | 0.212 | PQL | mg/Kg | J | Z, Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

| Sample ID: SL-784-SA5A-SB-0.0-0.5 | | Collected: 6/12/2013 2:45:00 | | Analysis Type: REA/TOT | | Dilution: 2 | | | |
|--|------------|-------------------------------------|-------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.173 | J | 0.102 | MDL | 0.409 | PQL | mg/Kg | J | Z |

| Sample ID: SL-784-SA5A-SB-0.0-0.5 | | Collected: 6/12/2013 2:45:00 | | Analysis Type: RES/TOT | | Dilution: 2 | | | |
|--|------------|-------------------------------------|--------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0273 | J | 0.0204 | MDL | 0.204 | PQL | mg/Kg | J | Z |
| STRONTIUM | 25.8 | | 0.0348 | MDL | 0.409 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.298 | | 0.0307 | MDL | 0.204 | PQL | mg/Kg | J | Q |

| Sample ID: SL-784-SA5A-SB-2.5-3.5 | | Collected: 6/12/2013 2:55:00 | | Analysis Type: REA/TOT | | Dilution: 2 | | | |
|--|------------|-------------------------------------|-------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.119 | J | 0.101 | MDL | 0.405 | PQL | mg/Kg | J | Z |

| Sample ID: SL-784-SA5A-SB-2.5-3.5 | | Collected: 6/12/2013 2:55:00 | | Analysis Type: RES/TOT | | Dilution: 2 | | | |
|--|------------|-------------------------------------|--------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0233 | J | 0.0202 | MDL | 0.202 | PQL | mg/Kg | J | Z |
| STRONTIUM | 19.8 | | 0.0344 | MDL | 0.405 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.229 | | 0.0303 | MDL | 0.202 | PQL | mg/Kg | J | Q |

| Sample ID: SL-826-SA5A-SB-0.0-0.5 | | Collected: 6/12/2013 1:15:00 | | Analysis Type: REA/TOT | | Dilution: 2 | | | |
|--|------------|-------------------------------------|-------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.150 | J | 0.101 | MDL | 0.406 | PQL | mg/Kg | J | Z |

| Sample ID: SL-826-SA5A-SB-0.0-0.5 | | Collected: 6/12/2013 1:15:00 | | Analysis Type: RES/TOT | | Dilution: 2 | | | |
|--|------------|-------------------------------------|--------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0334 | J | 0.0203 | MDL | 0.203 | PQL | mg/Kg | J | Z |
| STRONTIUM | 28.7 | | 0.0345 | MDL | 0.406 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.357 | | 0.0304 | MDL | 0.203 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-826-SA5A-SB-14.0-15.0 Collected: 6/12/2013 1:55:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.199 | J | 0.107 | MDL | 0.427 | PQL | mg/Kg | J | Z |

Sample ID: SL-826-SA5A-SB-14.0-15.0 Collected: 6/12/2013 1:55:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 25.8 | | 0.0363 | MDL | 0.427 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.429 | | 0.0320 | MDL | 0.213 | PQL | mg/Kg | J | Q |

Sample ID: SL-826-SA5A-SB-4.0-5.0 Collected: 6/12/2013 1:25:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0597 | J | 0.0216 | MDL | 0.216 | PQL | mg/Kg | J | Z |
| STRONTIUM | 27.0 | | 0.0367 | MDL | 0.432 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.349 | | 0.0324 | MDL | 0.216 | PQL | mg/Kg | J | Q |

Sample ID: SL-826-SA5A-SB-9.0-10.0 Collected: 6/12/2013 1:40:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0341 | J | 0.0207 | MDL | 0.207 | PQL | mg/Kg | J | Z |
| STRONTIUM | 20.4 | | 0.0351 | MDL | 0.413 | PQL | mg/Kg | J | Q, E, A |
| THALLIUM | 0.268 | | 0.0310 | MDL | 0.207 | PQL | mg/Kg | J | Q |

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 7199 | Matrix: AQ |

Sample ID: EB1-061213 Collected: 6/12/2013 3:00:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|-----|---------|------|---------|-------|------------------|-------------|
| HEXAVALENT CHROMIUM | 10.0 | U | 5.0 | MDL | 10.0 | PQL | ug/L | UJ | H |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 7471B | Matrix: SO |

Sample ID: SL-782-SA5A-SB-4.5-5.5 Collected: 6/12/2013 10:40:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0112 | J | 0.0105 | MDL | 0.0174 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: AQ |

Sample ID: EB1-061213 Collected: 6/12/2013 3:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.921 | JBQ | 0.194 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.362 | JBQ | 0.0906 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,4,7,8-HXCDF | 0.351 | JB | 0.0767 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,6,7,8-HXCDF | 0.142 | JBQ | 0.0812 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,7,8,9-HXCDF | 0.337 | JBQ | 0.0841 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,7,8-PECDF | 0.548 | JBQ | 0.132 | MDL | 9.78 | PQL | pg/L | U | B |
| 2,3,4,6,7,8-HXCDF | 0.175 | JBQ | 0.0746 | MDL | 9.78 | PQL | pg/L | U | B |
| 2,3,4,7,8-PECDF | 0.287 | JBQ | 0.120 | MDL | 9.78 | PQL | pg/L | U | B |
| 2,3,7,8-TCDD | 0.229 | JQ | 0.223 | MDL | 1.96 | PQL | pg/L | J | Z |
| OCDD | 1.47 | JB | 0.235 | MDL | 19.6 | PQL | pg/L | U | B |
| OCDF | 0.904 | JB | 0.206 | MDL | 19.6 | PQL | pg/L | U | B |

Sample ID: EB2-061213 Collected: 6/12/2013 3:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.479 | JBQ | 0.184 | MDL | 9.76 | PQL | pg/L | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.286 | JBQ | 0.0611 | MDL | 9.76 | PQL | pg/L | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.439 | JBQ | 0.0718 | MDL | 9.76 | PQL | pg/L | U | B |
| 1,2,3,4,7,8-HXCDF | 0.265 | JBQ | 0.0773 | MDL | 9.76 | PQL | pg/L | U | B |
| 1,2,3,6,7,8-HXCDD | 0.182 | JBQ | 0.178 | MDL | 9.76 | PQL | pg/L | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0943 | JBQ | 0.0780 | MDL | 9.76 | PQL | pg/L | U | B |
| 1,2,3,7,8,9-HXCDF | 0.319 | JB | 0.0787 | MDL | 9.76 | PQL | pg/L | U | B |
| 1,2,3,7,8-PECDF | 0.425 | JBQ | 0.141 | MDL | 9.76 | PQL | pg/L | U | B |
| 2,3,4,6,7,8-HXCDF | 0.198 | JBQ | 0.0760 | MDL | 9.76 | PQL | pg/L | U | B |
| 2,3,4,7,8-PECDF | 0.201 | JBQ | 0.130 | MDL | 9.76 | PQL | pg/L | U | B |
| OCDD | 1.27 | JBQ | 0.241 | MDL | 19.5 | PQL | pg/L | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: AQ |

Sample ID: EB2-061213 Collected: 6/12/2013 3:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| OCDF | 1.11 | JBQ | 0.267 | MDL | 19.5 | PQL | pg/L | U | B |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-781-SA5A-SB-0.0-0.5 Collected: 6/12/2013 9:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 3.55 | JB | 0.0625 | MDL | 5.20 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.328 | JBQ | 0.0155 | MDL | 5.20 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0979 | JBQ | 0.0283 | MDL | 5.20 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0759 | JBQ | 0.0316 | MDL | 5.20 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0896 | JBQ | 0.0208 | MDL | 5.20 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.233 | JB | 0.0355 | MDL | 5.20 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.104 | JB | 0.0183 | MDL | 5.20 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.251 | JBQ | 0.0352 | MDL | 5.20 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.201 | JB | 0.0248 | MDL | 5.20 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.172 | JBQ | 0.0444 | MDL | 5.20 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.191 | JB | 0.0232 | MDL | 5.20 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0819 | JB | 0.0174 | MDL | 5.20 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.166 | JBQ | 0.0237 | MDL | 5.20 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0451 | JBQ | 0.0393 | MDL | 1.04 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0433 | JBQ | 0.0354 | MDL | 1.04 | PQL | ng/Kg | U | B |
| OCDF | 0.850 | JB | 0.0441 | MDL | 10.4 | PQL | ng/Kg | U | B |

Sample ID: SL-781-SA5A-SB-2.0-3.0 Collected: 6/12/2013 9:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.185 | JBQ | 0.0232 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0642 | JBQ | 0.0126 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0699 | JB | 0.0229 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0932 | JBQ | 0.0150 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.0585 | JB | 0.0227 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0700 | JBQ | 0.0134 | MDL | 5.00 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-781-SA5A-SB-2.0-3.0 Collected: 6/12/2013 9:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,7,8,9-HXCDD | 0.106 | JBQ | 0.0222 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0622 | JBQ | 0.0139 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0399 | JBQ | 0.0325 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0765 | JB | 0.0182 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0467 | JBQ | 0.0119 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0921 | JBQ | 0.0182 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0266 | JBQ | 0.0255 | MDL | 1.00 | PQL | ng/Kg | U | B |
| OCDD | 1.56 | JB | 0.0267 | MDL | 10.0 | PQL | ng/Kg | U | B |
| OCDF | 0.132 | JB | 0.0420 | MDL | 10.0 | PQL | ng/Kg | U | B |

Sample ID: SL-782-SA5A-SB-0.0-0.5 Collected: 6/12/2013 10:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.888 | JBQ | 0.0378 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.155 | JBQ | 0.0183 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.105 | JB | 0.0380 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0383 | JBQ | 0.0366 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0583 | JBQ | 0.0157 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.144 | JB | 0.0377 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.148 | JBQ | 0.0371 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.127 | JBQ | 0.0173 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0562 | JBQ | 0.0367 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0831 | JBQ | 0.0180 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0533 | JB | 0.0144 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0461 | JBQ | 0.0182 | MDL | 5.08 | PQL | ng/Kg | U | B |
| OCDF | 0.378 | JB | 0.0351 | MDL | 10.2 | PQL | ng/Kg | U | B |

Sample ID: SL-782-SA5A-SB-4.5-5.5 Collected: 6/12/2013 10:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 3.34 | JB | 0.0483 | MDL | 5.27 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.333 | JB | 0.0158 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0419 | JBQ | 0.0327 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.105 | JB | 0.0308 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0705 | JBQ | 0.0160 | MDL | 5.27 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-782-SA5A-SB-4.5-5.5 Collected: 6/12/2013 10:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,6,7,8-HXCDD | 0.198 | JBQ | 0.0343 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0345 | JBQ | 0.0142 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.155 | JBQ | 0.0347 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0676 | JBQ | 0.0173 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0622 | JBQ | 0.0370 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.145 | JB | 0.0195 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0745 | JBQ | 0.0154 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0614 | JBQ | 0.0200 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0313 | JBQ | 0.0279 | MDL | 1.05 | PQL | ng/Kg | U | B |
| OCDF | 0.819 | JBQ | 0.0359 | MDL | 10.5 | PQL | ng/Kg | U | B |

Sample ID: SL-784-SA5A-SB-0.0-0.5 Collected: 6/12/2013 2:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 4.89 | JB | 0.0482 | MDL | 5.13 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.543 | JBQ | 0.0133 | MDL | 5.13 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0894 | JB | 0.0231 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.117 | JBQ | 0.0376 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0726 | JB | 0.0158 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.222 | JBQ | 0.0398 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0444 | JBQ | 0.0149 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.210 | JBQ | 0.0389 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0544 | JB | 0.0163 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0787 | JBQ | 0.0358 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0936 | JB | 0.0184 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0627 | JBQ | 0.0133 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0727 | JBQ | 0.0193 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0283 | JBQ | 0.0269 | MDL | 1.03 | PQL | ng/Kg | U | B |
| OCDF | 1.41 | JB | 0.0288 | MDL | 10.3 | PQL | ng/Kg | J | Z |

Sample ID: SL-784-SA5A-SB-2.5-3.5 Collected: 6/12/2013 2:55:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 4.43 | JB | 0.0544 | MDL | 5.15 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.494 | JB | 0.0129 | MDL | 5.15 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|------|----------------|-------|
| Method Category: | SVOA | Method: | 1613B |
| | | Matrix: | SO |

| Sample ID: SL-784-SA5A-SB-2.5-3.5 | Collected: 6/12/2013 2:55:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|--|-------------------------------------|---------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,4,7,8,9-HPCDF | 0.0953 | JBQ | 0.0255 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.118 | JBQ | 0.0314 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.265 | JB | 0.0358 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0874 | JB | 0.0170 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.215 | JB | 0.0349 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.123 | JBQ | 0.0216 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.119 | JB | 0.0467 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.138 | JBQ | 0.0221 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0867 | JBQ | 0.0161 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0843 | JB | 0.0241 | MDL | 5.15 | PQL | ng/Kg | U | B |
| OCDF | 1.46 | JB | 0.0405 | MDL | 10.3 | PQL | ng/Kg | J | Z |

| Sample ID: SL-826-SA5A-SB-0.0-0.5 | Collected: 6/12/2013 1:15:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|--|-------------------------------------|---------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,4,6,7,8-HPCDF | 2.15 | JB | 0.0164 | MDL | 4.95 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.153 | JBQ | 0.0265 | MDL | 4.95 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.373 | JBQ | 0.0498 | MDL | 4.95 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.223 | JBQ | 0.0260 | MDL | 4.95 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 1.02 | JB | 0.0531 | MDL | 4.95 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.231 | JBQ | 0.0248 | MDL | 4.95 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 1.12 | JB | 0.0503 | MDL | 4.95 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.531 | JBQ | 0.0259 | MDL | 4.95 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.406 | JBQ | 0.0483 | MDL | 4.95 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.464 | JB | 0.0267 | MDL | 4.95 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.199 | JB | 0.0227 | MDL | 4.95 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.282 | JBQ | 0.0274 | MDL | 4.95 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.108 | JBQ | 0.0444 | MDL | 0.990 | PQL | ng/Kg | U | B |
| OCDF | 6.51 | JB | 0.0297 | MDL | 9.90 | PQL | ng/Kg | J | Z |

| Sample ID: SL-826-SA5A-SB-14.0-15.0 | Collected: 6/12/2013 1:55:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|--|-------------------------------------|---------------------------|--------------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,4,6,7,8-HPCDD | 0.135 | JB | 0.0248 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0563 | JBQ | 0.00819 | MDL | 5.34 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-826-SA5A-SB-14.0-15.0

Collected: 6/12/2013 1:55:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.0521 | JBQ | 0.0124 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0707 | JB | 0.0236 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0724 | JB | 0.0142 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.0588 | JB | 0.0273 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0595 | JBQ | 0.0170 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0584 | JBQ | 0.0425 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0916 | JB | 0.0247 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0642 | JB | 0.0126 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0804 | JBQ | 0.0248 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0410 | JBQ | 0.0393 | MDL | 1.07 | PQL | ng/Kg | U | B |
| OCDD | 0.951 | JBQ | 0.0315 | MDL | 10.7 | PQL | ng/Kg | U | B |
| OCDF | 0.176 | JBQ | 0.0301 | MDL | 10.7 | PQL | ng/Kg | U | B |

Sample ID: SL-826-SA5A-SB-4.0-5.0

Collected: 6/12/2013 1:25:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.258 | JBQ | 0.0299 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.119 | JBQ | 0.0103 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.229 | JB | 0.0204 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0876 | JBQ | 0.0334 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.133 | JBQ | 0.0170 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.105 | JBQ | 0.0360 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.104 | JBQ | 0.0136 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.194 | JBQ | 0.0347 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.208 | JBQ | 0.0172 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.251 | JB | 0.0422 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.213 | JBQ | 0.0227 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.120 | JBQ | 0.0154 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.166 | JBQ | 0.0217 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0875 | JBQ | 0.0394 | MDL | 1.04 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0801 | JBQ | 0.0297 | MDL | 1.04 | PQL | ng/Kg | U | B |
| OCDD | 1.77 | JB | 0.0288 | MDL | 10.4 | PQL | ng/Kg | U | B |
| OCDF | 0.314 | JBQ | 0.0352 | MDL | 10.4 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-826-SA5A-SB-9.0-10.0 Collected: 6/12/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 0.760 | JB | 0.0144 | MDL | 5.30 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.165 | JBQ | 0.0265 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.206 | JB | 0.0456 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.156 | JBQ | 0.0205 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.374 | JB | 0.0477 | MDL | 5.30 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.115 | JBQ | 0.0182 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.331 | JB | 0.0462 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.193 | JBQ | 0.0211 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.116 | JBQ | 0.0384 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.236 | JBQ | 0.0206 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.148 | JBQ | 0.0172 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.148 | JB | 0.0226 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0483 | JB | 0.0391 | MDL | 1.06 | PQL | ng/Kg | U | B |
| OCDF | 2.43 | JB | 0.0283 | MDL | 10.6 | PQL | ng/Kg | J | Z |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 8015M | Matrix: SO |

Sample ID: SL-781-SA5A-SB-0.0-0.5 Collected: 6/12/2013 9:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 3.9 | J | 2.1 | MDL | 5.3 | PQL | mg/Kg | J | Z |
| EFH (C30-C40) | 8.7 | J | 4.2 | MDL | 11 | PQL | mg/Kg | J | Z |

Sample ID: SL-784-SA5A-SB-2.5-3.5 Collected: 6/12/2013 2:55:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 5.0 | J | 2.1 | MDL | 5.2 | PQL | mg/Kg | J | Z |
| EFH (C30-C40) | 8.1 | J | 4.2 | MDL | 10 | PQL | mg/Kg | J | Z |

Sample ID: SL-826-SA5A-SB-0.0-0.5 Collected: 6/12/2013 1:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 3.5 | J | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Z |
| EFH (C30-C40) | 5.8 | J | 4.1 | MDL | 10 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 8015M | Matrix: SO |

| Sample ID: SL-826-SA5A-SB-4.0-5.0 | Collected: 6/12/2013 1:25:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|--------------------|-------------|---------|-----|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| EFH (C21-C30) | 3.0 | J | 2.2 | MDL | 5.5 | PQL | mg/Kg | J | Z |
| EFH (C30-C40) | 7.2 | J | 4.4 | MDL | 11 | PQL | mg/Kg | J | Z |

| Sample ID: SL-826-SA5A-SB-9.0-10.0 | Collected: 6/12/2013 1:40:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|------------------------------------|------------------------------|--------------------|-------------|---------|-----|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| EFH (C15-C20) | 2.3 | J | 2.1 | MDL | 5.3 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|-----------|-------------------|
| Method Category: | SVOA | |
| Method: | 8270D SIM | Matrix: AQ |

| Sample ID: EB1-061213 | Collected: 6/12/2013 3:00:00 | Analysis Type: RES-BASE/NEUTRAL | Dilution: 1 | | | | | | |
|----------------------------|------------------------------|---------------------------------|-------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| BENZO(G,H,I)PERYLENE | 0.014 | J | 0.011 | MDL | 0.055 | PQL | ug/L | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 0.11 | J | 0.055 | MDL | 1.1 | PQL | ug/L | UJ | L, B |
| Diethylphthalate | 0.12 | J | 0.055 | MDL | 1.1 | PQL | ug/L | U | B |
| Di-n-butylphthalate | 0.11 | J | 0.055 | MDL | 1.1 | PQL | ug/L | J | Z |
| Di-n-octylphthalate | 1.1 | U | 0.055 | MDL | 1.1 | PQL | ug/L | UJ | L |

| Sample ID: EB2-061213 | Collected: 6/12/2013 3:30:00 | Analysis Type: RES-BASE/NEUTRAL | Dilution: 1 | | | | | | |
|----------------------------|------------------------------|---------------------------------|-------------|---------|-----|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| BIS(2-ETHYLHEXYL)PHTHALATE | 0.98 | J | 0.051 | MDL | 1.0 | PQL | ug/L | UJ | L, B |
| Diethylphthalate | 0.13 | J | 0.051 | MDL | 1.0 | PQL | ug/L | U | B |
| Di-n-butylphthalate | 0.13 | J | 0.051 | MDL | 1.0 | PQL | ug/L | J | Z |
| Di-n-octylphthalate | 1.0 | U | 0.051 | MDL | 1.0 | PQL | ug/L | UJ | L |

| | | |
|-------------------------|-----------|-------------------|
| Method Category: | SVOA | |
| Method: | 8270D SIM | Matrix: SO |

| Sample ID: SL-781-SA5A-SB-0.0-0.5 | Collected: 6/12/2013 9:40:00 | Analysis Type: RES-BASE/NEUTRAL | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|---------------------------------|-------------|---------|----|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| BIS(2-ETHYLHEXYL)PHTHALATE | 9.6 | J | 6.3 | MDL | 19 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-----------|-------------------|
| Method Category: | SVOA | |
| Method: | 8270D SIM | Matrix: SO |

Sample ID: SL-781-SA5A-SB-0.0-0.5 Collected: 6/12/2013 9:40:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| Di-n-octylphthalate | 13 | J | 6.3 | MDL | 19 | PQL | ug/Kg | J | Z |

Sample ID: SL-782-SA5A-SB-0.0-0.5 Collected: 6/12/2013 10:30:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| BIS(2-ETHYLHEXYL)PHTHALATE | 10 | J | 6.3 | MDL | 19 | PQL | ug/Kg | J | Z |

Sample ID: SL-782-SA5A-SB-4.5-5.5 Collected: 6/12/2013 10:40:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| BIS(2-ETHYLHEXYL)PHTHALATE | 12 | J | 6.3 | MDL | 19 | PQL | ug/Kg | J | Z |

Sample ID: SL-784-SA5A-SB-0.0-0.5 Collected: 6/12/2013 2:45:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 0.87 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| CHRYSENE | 0.46 | J | 0.35 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-784-SA5A-SB-2.5-3.5 Collected: 6/12/2013 2:55:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 0.91 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 10 | J | 6.2 | MDL | 19 | PQL | ug/Kg | J | Z |

Sample ID: SL-826-SA5A-SB-0.0-0.5 Collected: 6/12/2013 1:15:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 1.2 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 0.99 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 0.73 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 0.90 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-826-SA5A-SB-14.0-15.0 Collected: 6/12/2013 1:55:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| BIS(2-ETHYLHEXYL)PHTHALATE | 7.5 | J | 6.4 | MDL | 19 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-826-SA5A-SB-4.0-5.0 Collected: 6/12/2013 1:25:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| BIS(2-ETHYLHEXYL)PHTHALATE | 9.1 | J | 6.5 | MDL | 20 | PQL | ug/Kg | J | Z |
| Diethylphthalate | 7.0 | J | 6.5 | MDL | 20 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 8.9 | J | 6.5 | MDL | 20 | PQL | ug/Kg | J | Z |

Sample ID: SL-826-SA5A-SB-9.0-10.0 Collected: 6/12/2013 1:40:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BIS(2-ETHYLHEXYL)PHTHALATE | 10 | J | 6.3 | MDL | 19 | PQL | ug/Kg | J | Z |
| CHRYSENE | 0.63 | J | 0.35 | MDL | 1.8 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---|
| A | ICP Serial Dilution |
| B | Calibration Blank Contamination |
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| F | Field Blank Contamination |
| H | Sampling to Analysis Estimation |
| L | Laboratory Control Spike Lower Estimation |
| L | Laboratory Control Spike Upper Estimation |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Enclosure I

Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

PH055

QC Outlier Report: HoldingTimes

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 7199

Preparation Method: Gen Prep

Matrix: AQ

| Sample ID | Type | Actual | Criteria | Units | Flag |
|----------------------|----------------------|--------|----------|-------|---|
| EB1-061213 (RES/TOT) | Sampling To Analysis | 24.25 | 24.00 | HOURS | J (all detects) UJ (all non-detects) |

Method Blank Outlier Report

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|---------------------|------------|--------------------|
| BLK1750B371752 | 6/25/2013 5:52:00 PM | 1,2,3,4,6,7,8-HPCDD | 0.662 pg/L | EB1-061213 |
| | | 1,2,3,4,6,7,8-HPCDF | 0.488 pg/L | EB2-061213 |
| | | 1,2,3,4,7,8,9-HPCDF | 0.650 pg/L | |
| | | 1,2,3,4,7,8-HxCDD | 0.302 pg/L | |
| | | 1,2,3,4,7,8-HXCDF | 0.472 pg/L | |
| | | 1,2,3,6,7,8-HxCDD | 0.363 pg/L | |
| | | 1,2,3,6,7,8-HXCDF | 0.342 pg/L | |
| | | 1,2,3,7,8,9-HxCDD | 0.412 pg/L | |
| | | 1,2,3,7,8,9-HXCDF | 0.509 pg/L | |
| | | 1,2,3,7,8-PECDD | 0.425 pg/L | |
| | | 1,2,3,7,8-PECDF | 0.995 pg/L | |
| | | 2,3,4,6,7,8-HXCDF | 0.235 pg/L | |
| | | 2,3,4,7,8-PECDF | 0.342 pg/L | |
| | | OCDD | 2.17 pg/L | |
| | | OCDF | 1.36 pg/L | |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------|---------------------|-----------------|-----------------------|
| EB1-061213(RES) | 1,2,3,4,6,7,8-HPCDD | 0.921 pg/L | 0.921U pg/L |
| EB1-061213(RES) | 1,2,3,4,7,8,9-HPCDF | 0.362 pg/L | 0.362U pg/L |
| EB1-061213(RES) | 1,2,3,4,7,8-HXCDF | 0.351 pg/L | 0.351U pg/L |
| EB1-061213(RES) | 1,2,3,6,7,8-HXCDF | 0.142 pg/L | 0.142U pg/L |
| EB1-061213(RES) | 1,2,3,7,8,9-HXCDF | 0.337 pg/L | 0.337U pg/L |
| EB1-061213(RES) | 1,2,3,7,8-PECDF | 0.548 pg/L | 0.548U pg/L |
| EB1-061213(RES) | 2,3,4,6,7,8-HXCDF | 0.175 pg/L | 0.175U pg/L |
| EB1-061213(RES) | 2,3,4,7,8-PECDF | 0.287 pg/L | 0.287U pg/L |
| EB1-061213(RES) | OCDD | 1.47 pg/L | 1.47U pg/L |
| EB1-061213(RES) | OCDF | 0.904 pg/L | 0.904U pg/L |
| EB2-061213(RES) | 1,2,3,4,6,7,8-HPCDD | 0.479 pg/L | 0.479U pg/L |
| EB2-061213(RES) | 1,2,3,4,6,7,8-HPCDF | 0.286 pg/L | 0.286U pg/L |
| EB2-061213(RES) | 1,2,3,4,7,8,9-HPCDF | 0.439 pg/L | 0.439U pg/L |
| EB2-061213(RES) | 1,2,3,4,7,8-HXCDF | 0.265 pg/L | 0.265U pg/L |
| EB2-061213(RES) | 1,2,3,6,7,8-HxCDD | 0.182 pg/L | 0.182U pg/L |
| EB2-061213(RES) | 1,2,3,6,7,8-HXCDF | 0.0943 pg/L | 0.0943U pg/L |
| EB2-061213(RES) | 1,2,3,7,8,9-HXCDF | 0.319 pg/L | 0.319U pg/L |
| EB2-061213(RES) | 1,2,3,7,8-PECDF | 0.425 pg/L | 0.425U pg/L |
| EB2-061213(RES) | 2,3,4,6,7,8-HXCDF | 0.198 pg/L | 0.198U pg/L |
| EB2-061213(RES) | 2,3,4,7,8-PECDF | 0.201 pg/L | 0.201U pg/L |
| EB2-061213(RES) | OCDD | 1.27 pg/L | 1.27U pg/L |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------|---------|-----------------|-----------------------|
| EB2-061213(RES) | OCDF | 1.11 pg/L | 1.11U pg/L |

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|---------------------|--------------|--------------------------|
| BLK1700B370559 | 6/21/2013 5:59:00 AM | 1,2,3,4,6,7,8-HPCDD | 0.148 ng/Kg | SL-781-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,6,7,8-HPCDF | 0.108 ng/Kg | SL-781-SA5A-SB-2.0-3.0 |
| | | 1,2,3,4,7,8,9-HPCDF | 0.131 ng/Kg | SL-782-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,7,8-HxCDD | 0.0858 ng/Kg | SL-782-SA5A-SB-4.5-5.5 |
| | | 1,2,3,4,7,8-HXCDF | 0.0903 ng/Kg | SL-784-SA5A-SB-0.0-0.5 |
| | | 1,2,3,6,7,8-HXCDD | 0.0555 ng/Kg | SL-784-SA5A-SB-2.5-3.5 |
| | | 1,2,3,6,7,8-HXCDF | 0.0923 ng/Kg | SL-826-SA5A-SB-0.0-0.5 |
| | | 1,2,3,7,8,9-HXCDD | 0.138 ng/Kg | SL-826-SA5A-SB-14.0-15.0 |
| | | 1,2,3,7,8,9-HXCDF | 0.161 ng/Kg | SL-826-SA5A-SB-4.0-5.0 |
| | | 1,2,3,7,8-PECDD | 0.144 ng/Kg | SL-826-SA5A-SB-9.0-10.0 |
| | | 1,2,3,7,8-PECDF | 0.101 ng/Kg | |
| | | 2,3,4,6,7,8-HXCDF | 0.0711 ng/Kg | |
| | | 2,3,4,7,8-PECDF | 0.0778 ng/Kg | |
| | | 2,3,7,8-TCDD | 0.0347 ng/Kg | |
| | | 2,3,7,8-TCDF | 0.0327 ng/Kg | |
| | | OCDD | 0.396 ng/Kg | |
| | | OCDF | 0.215 ng/Kg | |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-781-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.328 ng/Kg | 0.328U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0979 ng/Kg | 0.0979U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0759 ng/Kg | 0.0759U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0896 ng/Kg | 0.0896U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDD | 0.233 ng/Kg | 0.233U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.104 ng/Kg | 0.104U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDD | 0.251 ng/Kg | 0.251U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.201 ng/Kg | 0.201U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.172 ng/Kg | 0.172U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.191 ng/Kg | 0.191U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0819 ng/Kg | 0.0819U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | |
|----------------|--------------|
| Method: | 1613B |
| Matrix: | SO |

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-781-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.166 ng/Kg | 0.166U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0451 ng/Kg | 0.0451U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.0433 ng/Kg | 0.0433U ng/Kg |
| SL-781-SA5A-SB-0.0-0.5(RES) | OCDF | 0.850 ng/Kg | 0.850U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.185 ng/Kg | 0.185U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0642 ng/Kg | 0.0642U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0699 ng/Kg | 0.0699U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0932 ng/Kg | 0.0932U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 1,2,3,6,7,8-HXCDD | 0.0585 ng/Kg | 0.0585U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0700 ng/Kg | 0.0700U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 1,2,3,7,8,9-HXCDD | 0.106 ng/Kg | 0.106U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0622 ng/Kg | 0.0622U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 1,2,3,7,8-PECDD | 0.0399 ng/Kg | 0.0399U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 1,2,3,7,8-PECDF | 0.0765 ng/Kg | 0.0765U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0467 ng/Kg | 0.0467U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 2,3,4,7,8-PECDF | 0.0921 ng/Kg | 0.0921U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | 2,3,7,8-TCDD | 0.0266 ng/Kg | 0.0266U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | OCDD | 1.56 ng/Kg | 1.56U ng/Kg |
| SL-781-SA5A-SB-2.0-3.0(RES) | OCDF | 0.132 ng/Kg | 0.132U ng/Kg |
| SL-782-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.155 ng/Kg | 0.155U ng/Kg |
| SL-782-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.105 ng/Kg | 0.105U ng/Kg |
| SL-782-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0383 ng/Kg | 0.0383U ng/Kg |
| SL-782-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0583 ng/Kg | 0.0583U ng/Kg |
| SL-782-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDD | 0.144 ng/Kg | 0.144U ng/Kg |
| SL-782-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDD | 0.148 ng/Kg | 0.148U ng/Kg |
| SL-782-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.127 ng/Kg | 0.127U ng/Kg |
| SL-782-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.0562 ng/Kg | 0.0562U ng/Kg |
| SL-782-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.0831 ng/Kg | 0.0831U ng/Kg |
| SL-782-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0533 ng/Kg | 0.0533U ng/Kg |
| SL-782-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0461 ng/Kg | 0.0461U ng/Kg |
| SL-782-SA5A-SB-0.0-0.5(RES) | OCDF | 0.378 ng/Kg | 0.378U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.333 ng/Kg | 0.333U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0419 ng/Kg | 0.0419U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | 1,2,3,4,7,8-HxCDD | 0.105 ng/Kg | 0.105U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-782-SA5A-SB-4.5-5.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0705 ng/Kg | 0.0705U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | 1,2,3,6,7,8-HXCDD | 0.198 ng/Kg | 0.198U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0345 ng/Kg | 0.0345U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | 1,2,3,7,8,9-HXCDD | 0.155 ng/Kg | 0.155U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | 1,2,3,7,8,9-HXCDF | 0.0676 ng/Kg | 0.0676U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | 1,2,3,7,8-PECDD | 0.0622 ng/Kg | 0.0622U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | 1,2,3,7,8-PECDF | 0.145 ng/Kg | 0.145U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0745 ng/Kg | 0.0745U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | 2,3,4,7,8-PECDF | 0.0614 ng/Kg | 0.0614U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | 2,3,7,8-TCDF | 0.0313 ng/Kg | 0.0313U ng/Kg |
| SL-782-SA5A-SB-4.5-5.5(RES) | OCDF | 0.819 ng/Kg | 0.819U ng/Kg |
| SL-784-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0894 ng/Kg | 0.0894U ng/Kg |
| SL-784-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.117 ng/Kg | 0.117U ng/Kg |
| SL-784-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0726 ng/Kg | 0.0726U ng/Kg |
| SL-784-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDD | 0.222 ng/Kg | 0.222U ng/Kg |
| SL-784-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0444 ng/Kg | 0.0444U ng/Kg |
| SL-784-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDD | 0.210 ng/Kg | 0.210U ng/Kg |
| SL-784-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.0544 ng/Kg | 0.0544U ng/Kg |
| SL-784-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.0787 ng/Kg | 0.0787U ng/Kg |
| SL-784-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.0936 ng/Kg | 0.0936U ng/Kg |
| SL-784-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0627 ng/Kg | 0.0627U ng/Kg |
| SL-784-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0727 ng/Kg | 0.0727U ng/Kg |
| SL-784-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.0283 ng/Kg | 0.0283U ng/Kg |
| SL-784-SA5A-SB-2.5-3.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.494 ng/Kg | 0.494U ng/Kg |
| SL-784-SA5A-SB-2.5-3.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0953 ng/Kg | 0.0953U ng/Kg |
| SL-784-SA5A-SB-2.5-3.5(RES) | 1,2,3,4,7,8-HxCDD | 0.118 ng/Kg | 0.118U ng/Kg |
| SL-784-SA5A-SB-2.5-3.5(RES) | 1,2,3,6,7,8-HXCDD | 0.265 ng/Kg | 0.265U ng/Kg |
| SL-784-SA5A-SB-2.5-3.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0874 ng/Kg | 0.0874U ng/Kg |
| SL-784-SA5A-SB-2.5-3.5(RES) | 1,2,3,7,8,9-HXCDD | 0.215 ng/Kg | 0.215U ng/Kg |
| SL-784-SA5A-SB-2.5-3.5(RES) | 1,2,3,7,8,9-HXCDF | 0.123 ng/Kg | 0.123U ng/Kg |
| SL-784-SA5A-SB-2.5-3.5(RES) | 1,2,3,7,8-PECDD | 0.119 ng/Kg | 0.119U ng/Kg |
| SL-784-SA5A-SB-2.5-3.5(RES) | 1,2,3,7,8-PECDF | 0.138 ng/Kg | 0.138U ng/Kg |
| SL-784-SA5A-SB-2.5-3.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0867 ng/Kg | 0.0867U ng/Kg |
| SL-784-SA5A-SB-2.5-3.5(RES) | 2,3,4,7,8-PECDF | 0.0843 ng/Kg | 0.0843U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-------------------------------|---------------------|-----------------|-----------------------|
| SL-826-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.153 ng/Kg | 0.153U ng/Kg |
| SL-826-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.373 ng/Kg | 0.373U ng/Kg |
| SL-826-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.223 ng/Kg | 0.223U ng/Kg |
| SL-826-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.231 ng/Kg | 0.231U ng/Kg |
| SL-826-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.531 ng/Kg | 0.531U ng/Kg |
| SL-826-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.406 ng/Kg | 0.406U ng/Kg |
| SL-826-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.464 ng/Kg | 0.464U ng/Kg |
| SL-826-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.199 ng/Kg | 0.199U ng/Kg |
| SL-826-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.282 ng/Kg | 0.282U ng/Kg |
| SL-826-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.108 ng/Kg | 0.108U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.135 ng/Kg | 0.135U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0563 ng/Kg | 0.0563U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0521 ng/Kg | 0.0521U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | 1,2,3,4,7,8-HxCDD | 0.0707 ng/Kg | 0.0707U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0724 ng/Kg | 0.0724U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | 1,2,3,6,7,8-HXCDD | 0.0588 ng/Kg | 0.0588U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0595 ng/Kg | 0.0595U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | 1,2,3,7,8-PECDD | 0.0584 ng/Kg | 0.0584U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | 1,2,3,7,8-PECDF | 0.0916 ng/Kg | 0.0916U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0642 ng/Kg | 0.0642U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | 2,3,4,7,8-PECDF | 0.0804 ng/Kg | 0.0804U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | 2,3,7,8-TCDD | 0.0410 ng/Kg | 0.0410U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | OCDD | 0.951 ng/Kg | 0.951U ng/Kg |
| SL-826-SA5A-SB-14.0-15.0(RES) | OCDF | 0.176 ng/Kg | 0.176U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.258 ng/Kg | 0.258U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.119 ng/Kg | 0.119U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.229 ng/Kg | 0.229U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HxCDD | 0.0876 ng/Kg | 0.0876U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.133 ng/Kg | 0.133U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDD | 0.105 ng/Kg | 0.105U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.104 ng/Kg | 0.104U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDD | 0.194 ng/Kg | 0.194U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDF | 0.208 ng/Kg | 0.208U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDD | 0.251 ng/Kg | 0.251U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|---------------------|-----------------|-----------------------|
| SL-826-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.213 ng/Kg | 0.213U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 2,3,4,6,7,8-HXCDF | 0.120 ng/Kg | 0.120U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.166 ng/Kg | 0.166U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 2,3,7,8-TCDD | 0.0875 ng/Kg | 0.0875U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | 2,3,7,8-TCDF | 0.0801 ng/Kg | 0.0801U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | OCDD | 1.77 ng/Kg | 1.77U ng/Kg |
| SL-826-SA5A-SB-4.0-5.0(RES) | OCDF | 0.314 ng/Kg | 0.314U ng/Kg |
| SL-826-SA5A-SB-9.0-10.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.165 ng/Kg | 0.165U ng/Kg |
| SL-826-SA5A-SB-9.0-10.0(RES) | 1,2,3,4,7,8-HxCDD | 0.206 ng/Kg | 0.206U ng/Kg |
| SL-826-SA5A-SB-9.0-10.0(RES) | 1,2,3,4,7,8-HXCDF | 0.156 ng/Kg | 0.156U ng/Kg |
| SL-826-SA5A-SB-9.0-10.0(RES) | 1,2,3,6,7,8-HXCDF | 0.115 ng/Kg | 0.115U ng/Kg |
| SL-826-SA5A-SB-9.0-10.0(RES) | 1,2,3,7,8,9-HxCDD | 0.331 ng/Kg | 0.331U ng/Kg |
| SL-826-SA5A-SB-9.0-10.0(RES) | 1,2,3,7,8,9-HXCDF | 0.193 ng/Kg | 0.193U ng/Kg |
| SL-826-SA5A-SB-9.0-10.0(RES) | 1,2,3,7,8-PECDD | 0.116 ng/Kg | 0.116U ng/Kg |
| SL-826-SA5A-SB-9.0-10.0(RES) | 1,2,3,7,8-PECDF | 0.236 ng/Kg | 0.236U ng/Kg |
| SL-826-SA5A-SB-9.0-10.0(RES) | 2,3,4,6,7,8-HXCDF | 0.148 ng/Kg | 0.148U ng/Kg |
| SL-826-SA5A-SB-9.0-10.0(RES) | 2,3,4,7,8-PECDF | 0.148 ng/Kg | 0.148U ng/Kg |
| SL-826-SA5A-SB-9.0-10.0(RES) | 2,3,7,8-TCDF | 0.0483 ng/Kg | 0.0483U ng/Kg |

Method: 6010C
Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|---------|--------------|--------------------------|
| P16435AB220135 | 6/17/2013 1:35:00 AM | CADMIUM | 0.00045 mg/L | EB1-061213 EB2-061213 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------|---------|-----------------|-----------------------|
| EB1-061213(RES/TOT) | CADMIUM | 0.00037 mg/L | 0.00037U mg/L |
| EB2-061213(RES/TOT) | CADMIUM | 0.00045 mg/L | 0.00045U mg/L |

Method Blank Outlier Report

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|--|--|---|
| P16437AB220226 | 6/17/2013 2:26:00 AM | ALUMINUM CALCIUM PHOSPHORUS TIN ZINC | 8.46 mg/Kg 9.77 mg/Kg 1.17 mg/Kg 1.48 mg/Kg 1.92 mg/Kg | SL-781-SA5A-SB-0.0-0.5 SL-781-SA5A-SB-2.0-3.0 SL-782-SA5A-SB-0.0-0.5 SL-782-SA5A-SB-4.5-5.5 SL-784-SA5A-SB-0.0-0.5 SL-784-SA5A-SB-2.5-3.5 SL-826-SA5A-SB-0.0-0.5 SL-826-SA5A-SB-14.0-15.0 SL-826-SA5A-SB-4.0-5.0 SL-826-SA5A-SB-9.0-10.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------------|---------|-----------------|-----------------------|
| SL-781-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 2.88 mg/Kg | 2.88U mg/Kg |
| SL-781-SA5A-SB-2.0-3.0(REA/TOT) | TIN | 3.10 mg/Kg | 3.10U mg/Kg |
| SL-782-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 2.84 mg/Kg | 2.84U mg/Kg |
| SL-782-SA5A-SB-4.5-5.5(REA/TOT) | TIN | 3.07 mg/Kg | 3.07U mg/Kg |
| SL-784-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 2.86 mg/Kg | 2.86U mg/Kg |
| SL-784-SA5A-SB-2.5-3.5(REA/TOT) | TIN | 2.79 mg/Kg | 2.79U mg/Kg |
| SL-826-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 2.71 mg/Kg | 2.71U mg/Kg |
| SL-826-SA5A-SB-14.0-15.0(REA/TOT) | TIN | 3.01 mg/Kg | 3.01U mg/Kg |
| SL-826-SA5A-SB-4.0-5.0(REA/TOT) | TIN | 2.95 mg/Kg | 2.95U mg/Kg |
| SL-826-SA5A-SB-9.0-10.0(REA/TOT) | TIN | 2.74 mg/Kg | 2.74U mg/Kg |

Method: 6020A
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|-----------|--------------|---|
| P16437AB221115A | 6/17/2013 11:15:00 AM | STRONTIUM | 0.0566 mg/Kg | SL-781-SA5A-SB-0.0-0.5 SL-781-SA5A-SB-2.0-3.0 SL-782-SA5A-SB-0.0-0.5 SL-782-SA5A-SB-4.5-5.5 SL-784-SA5A-SB-0.0-0.5 SL-784-SA5A-SB-2.5-3.5 SL-826-SA5A-SB-0.0-0.5 SL-826-SA5A-SB-14.0-15.0 SL-826-SA5A-SB-4.0-5.0 SL-826-SA5A-SB-9.0-10.0 |

Method Blank Outlier Report

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM
Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|--|-------------------------|--------------------------|
| PLKWC16B261446 | 6/24/2013 2:46:00 PM | BIS(2-ETHYLHEXYL)PHTHALATE Diethylphthalate | 0.11 ug/L 0.067 ug/L | EB1-061213 EB2-061213 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------|----------------------------|-----------------|-----------------------|
| EB1-061213(RES) | BIS(2-ETHYLHEXYL)PHTHALATE | 0.11 ug/L | 1.1U ug/L |
| EB1-061213(RES) | Diethylphthalate | 0.12 ug/L | 1.1U ug/L |
| EB2-061213(RES) | BIS(2-ETHYLHEXYL)PHTHALATE | 0.98 ug/L | 1.0U ug/L |
| EB2-061213(RES) | Diethylphthalate | 0.13 ug/L | 1.0U ug/L |

Field Blank Outlier Report

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|----------------------|----------------------------|--|
| FB-041113(REA2/TOT) | 4/11/2013 3:00:00 PM | COPPER MOLYBDENUM | 0.0036 mg/L 0.0036 mg/L | SL-1178-SA5A-SB-0.0-0.5 SL-778-SA5A-SB-0.0-0.5 SL-778-SA5A-SB-4.0-5.0 SL-781-SA5A-SB-0.0-0.5 SL-781-SA5A-SB-2.0-3.0 SL-782-SA5A-SB-0.0-0.5 SL-782-SA5A-SB-4.5-5.5 SL-784-SA5A-SB-0.0-0.5 SL-784-SA5A-SB-2.5-3.5 SL-826-SA5A-SB-0.0-0.5 SL-826-SA5A-SB-14.0-15.0 SL-826-SA5A-SB-4.0-5.0 SL-826-SA5A-SB-9.0-10.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------------|------------|-----------------|-----------------------|
| SL-781-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.544 mg/Kg | 0.544U mg/Kg |
| SL-781-SA5A-SB-2.0-3.0(REA/TOT) | MOLYBDENUM | 0.204 mg/Kg | 0.204U mg/Kg |
| SL-782-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.683 mg/Kg | 0.683U mg/Kg |
| SL-782-SA5A-SB-4.5-5.5(REA/TOT) | MOLYBDENUM | 0.441 mg/Kg | 0.441U mg/Kg |
| SL-784-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.448 mg/Kg | 0.448U mg/Kg |
| SL-784-SA5A-SB-2.5-3.5(REA/TOT) | MOLYBDENUM | 0.330 mg/Kg | 0.330U mg/Kg |
| SL-826-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.470 mg/Kg | 0.470U mg/Kg |
| SL-826-SA5A-SB-14.0-15.0(REA/TOT) | MOLYBDENUM | 0.326 mg/Kg | 0.326U mg/Kg |
| SL-826-SA5A-SB-4.0-5.0(REA/TOT) | MOLYBDENUM | 0.737 mg/Kg | 0.737U mg/Kg |
| SL-826-SA5A-SB-9.0-10.0(REA/TOT) | MOLYBDENUM | 0.284 mg/Kg | 0.284U mg/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM
Matrix: AQ

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|--|-----------|------------|------------------------------|-----------------|---|---|
| P8WCLCSY261540 (EB1-061213 EB2-061213) | BIS(2-ETHYLHEXYL)PHTHALAT Di-n-octylphthalate | - - | 69 55 | 70.00-143.00 57.00-145.00 | - - | BIS(2-ETHYLHEXYL)PHTHALA Di-n-octylphthalate | J (all detects) UJ (all non-detects) |

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|----------------|-----------|------------|--------------|-----------------|-----------------------|----------------|
| P9LHLCSEQ260743 (SL-781-SA5A-SB-0.0-0.5 SL-781-SA5A-SB-2.0-3.0 SL-782-SA5A-SB-0.0-0.5 SL-782-SA5A-SB-4.5-5.5 SL-784-SA5A-SB-0.0-0.5 SL-784-SA5A-SB-2.5-3.5 SL-826-SA5A-SB-0.0-0.5 SL-826-SA5A-SB-14.0-15.0 SL-826-SA5A-SB-4.0-5.0 SL-826-SA5A-SB-9.0-10.0) | ACENAPHTHYLENE | 116 | - | 71.00-113.00 | - | ACENAPHTHYLENE | J(all detects) |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 160.3M

Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-778-SA5A-SB-0.0-0.5 | SL-1178-SA5A-SB-0.0-0.5 | | | |
| MOISTURE | 2.6 | 3.1 | 18 | | No Qualifiers Applied |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Reporting Limit Outliers

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| EB1-061213 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.921 | 9.78 | PQL | pg/L | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.362 | 9.78 | PQL | pg/L | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.351 | 9.78 | PQL | pg/L | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.142 | 9.78 | PQL | pg/L | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.337 | 9.78 | PQL | pg/L | |
| | 1,2,3,7,8-PECDF | JBQ | 0.548 | 9.78 | PQL | pg/L | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.175 | 9.78 | PQL | pg/L | |
| | 2,3,4,7,8-PECDF | JBQ | 0.287 | 9.78 | PQL | pg/L | |
| | 2,3,7,8-TCDD | JQ | 0.229 | 1.96 | PQL | pg/L | |
| | OCDD | JB | 1.47 | 19.6 | PQL | pg/L | |
| OCDF | JB | 0.904 | 19.6 | PQL | pg/L | | |
| EB2-061213 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.479 | 9.76 | PQL | pg/L | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.286 | 9.76 | PQL | pg/L | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.439 | 9.76 | PQL | pg/L | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.265 | 9.76 | PQL | pg/L | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.182 | 9.76 | PQL | pg/L | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0943 | 9.76 | PQL | pg/L | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.319 | 9.76 | PQL | pg/L | |
| | 1,2,3,7,8-PECDF | JBQ | 0.425 | 9.76 | PQL | pg/L | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.198 | 9.76 | PQL | pg/L | |
| | 2,3,4,7,8-PECDF | JBQ | 0.201 | 9.76 | PQL | pg/L | |
| | OCDD | JBQ | 1.27 | 19.5 | PQL | pg/L | |
| | OCDF | JBQ | 1.11 | 19.5 | PQL | pg/L | |

Method: 6010C

Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------|---------|----------|---------|-----------------|---------|-------|-----------------|
| EB1-061213 | CADMIUM | J | 0.00037 | 0.0100 | PQL | mg/L | J (all detects) |
| EB2-061213 | CADMIUM | J | 0.00045 | 0.0100 | PQL | mg/L | J (all detects) |

Method: 6020A

Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------|-----------|----------|---------|-----------------|---------|-------|-----------------|
| EB2-061213 | SILVER | J | 0.00062 | 0.0010 | PQL | mg/L | J (all detects) |
| | STRONTIUM | J | 0.00053 | 0.0020 | PQL | mg/L | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Reporting Limit Outliers

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM
Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| EB1-061213 | BENZO(G,H,I)PERYLENE | J | 0.014 | 0.055 | PQL | ug/L | J (all detects) |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 0.11 | 1.1 | PQL | ug/L | |
| | Diethylphthalate | J | 0.12 | 1.1 | PQL | ug/L | |
| | Di-n-butylphthalate | J | 0.11 | 1.1 | PQL | ug/L | |
| EB2-061213 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 0.98 | 1.0 | PQL | ug/L | J (all detects) |
| | Diethylphthalate | J | 0.13 | 1.0 | PQL | ug/L | |
| | Di-n-butylphthalate | J | 0.13 | 1.0 | PQL | ug/L | |

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-781-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 3.55 | 5.20 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.328 | 5.20 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0979 | 5.20 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0759 | 5.20 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0896 | 5.20 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.233 | 5.20 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.104 | 5.20 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.251 | 5.20 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.201 | 5.20 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.172 | 5.20 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.191 | 5.20 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 0.0819 | 5.20 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.166 | 5.20 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0451 | 1.04 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0433 | 1.04 | PQL | ng/Kg | |
| | OCDF | JB | 0.850 | 10.4 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-781-SA5A-SB-2.0-3.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.185 | 5.00 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0642 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0699 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0932 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 0.0585 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0700 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.106 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0622 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0399 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.0765 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0467 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0921 | 5.00 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0266 | 1.00 | PQL | ng/Kg | |
| | OCDD | JB | 1.56 | 10.0 | PQL | ng/Kg | |
| OCDF | JB | 0.132 | 10.0 | PQL | ng/Kg | | |
| SL-782-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.888 | 5.08 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.155 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.105 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0383 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0583 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 0.144 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.148 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.127 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0562 | 5.08 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0831 | 5.08 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0533 | 5.08 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0461 | 5.08 | PQL | ng/Kg | |
| | OCDF | JB | 0.378 | 10.2 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-782-SA5A-SB-4.5-5.5 | 1,2,3,4,6,7,8-HPCDD | JB | 3.34 | 5.27 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.333 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0419 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.105 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0705 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.198 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0345 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.155 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0676 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0622 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.145 | 5.27 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0745 | 5.27 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0614 | 5.27 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0313 | 1.05 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.819 | 10.5 | PQL | ng/Kg | |
| SL-784-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 4.89 | 5.13 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.543 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0894 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.117 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.0726 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.222 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0444 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.210 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.0544 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0787 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.0936 | 5.13 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0627 | 5.13 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0727 | 5.13 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0283 | 1.03 | PQL | ng/Kg | |
| | OCDF | JB | 1.41 | 10.3 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-784-SA5A-SB-2.5-3.5 | 1,2,3,4,6,7,8-HPCDD | JB | 4.43 | 5.15 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.494 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0953 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.118 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.265 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.0874 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.215 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.123 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.119 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.138 | 5.15 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0867 | 5.15 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.0843 | 5.15 | PQL | ng/Kg | |
| OCDF | JB | 1.46 | 10.3 | PQL | ng/Kg | | |
| SL-826-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 2.15 | 4.95 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.153 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.373 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.223 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 1.02 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.231 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 1.12 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.531 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.406 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.464 | 4.95 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 0.199 | 4.95 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.282 | 4.95 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.108 | 0.990 | PQL | ng/Kg | |
| | OCDF | JB | 6.51 | 9.90 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-826-SA5A-SB-14.0-15.0 | 1,2,3,4,6,7,8-HPCDD | JB | 0.135 | 5.34 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0563 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0521 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.0707 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.0724 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 0.0588 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0595 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0584 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.0916 | 5.34 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0642 | 5.34 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0804 | 5.34 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0410 | 1.07 | PQL | ng/Kg | |
| | OCDD | JBQ | 0.951 | 10.7 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.176 | 10.7 | PQL | ng/Kg | |
| SL-826-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.258 | 5.22 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.119 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.229 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0876 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.133 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.105 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.104 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.194 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.208 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.251 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.213 | 5.22 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.120 | 5.22 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.166 | 5.22 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0875 | 1.04 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0801 | 1.04 | PQL | ng/Kg | |
| | OCDD | JB | 1.77 | 10.4 | PQL | ng/Kg | |
| OCDF | JBQ | 0.314 | 10.4 | PQL | ng/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-826-SA5A-SB-9.0-10.0 | 1,2,3,4,6,7,8-HPCDF | JB | 0.760 | 5.30 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.165 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.206 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.156 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.374 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.115 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.331 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.193 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.116 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.236 | 5.30 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.148 | 5.30 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.148 | 5.30 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.0483 | 1.06 | PQL | ng/Kg | |
| OCDF | JB | 2.43 | 10.6 | PQL | ng/Kg | | |

Method: 6010C

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-781-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.774 | 1.04 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 8.48 | 10.4 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.544 | 2.08 | PQL | mg/Kg | |
| | SODIUM | J | 82.9 | 104 | PQL | mg/Kg | |
| | TIN | J | 2.88 | 10.4 | PQL | mg/Kg | |
| | Zirconium | J | 3.62 | 5.20 | PQL | mg/Kg | |
| SL-781-SA5A-SB-2.0-3.0 | BERYLLIUM | J | 0.581 | 1.02 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.26 | 10.2 | PQL | mg/Kg | |
| | LEAD | J | 3.04 | 3.05 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.204 | 2.04 | PQL | mg/Kg | |
| | TIN | J | 3.10 | 10.2 | PQL | mg/Kg | |
| | Zirconium | J | 2.71 | 5.09 | PQL | mg/Kg | |
| SL-782-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.834 | 1.04 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.66 | 10.4 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.683 | 2.07 | PQL | mg/Kg | |
| | TIN | J | 2.84 | 10.4 | PQL | mg/Kg | |
| | Zirconium | J | 4.28 | 5.18 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-782-SA5A-SB-4.5-5.5 | BERYLLIUM | J | 0.621 | 1.06 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.57 | 10.6 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.441 | 2.12 | PQL | mg/Kg | |
| | TIN | J | 3.07 | 10.6 | PQL | mg/Kg | |
| | Zirconium | J | 2.97 | 5.31 | PQL | mg/Kg | |
| SL-784-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.768 | 1.02 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.25 | 10.2 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.448 | 2.04 | PQL | mg/Kg | |
| | TIN | J | 2.86 | 10.2 | PQL | mg/Kg | |
| | Zirconium | J | 3.61 | 5.11 | PQL | mg/Kg | |
| SL-784-SA5A-SB-2.5-3.5 | BERYLLIUM | J | 0.563 | 1.01 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.86 | 10.1 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.330 | 2.02 | PQL | mg/Kg | |
| | TIN | J | 2.79 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 3.42 | 5.06 | PQL | mg/Kg | |
| SL-826-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.92 | 4.06 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.655 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 4.18 | 10.1 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.470 | 2.03 | PQL | mg/Kg | |
| | SODIUM | J | 75.2 | 101 | PQL | mg/Kg | |
| | TIN | J | 2.71 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 3.71 | 5.07 | PQL | mg/Kg | |
| SL-826-SA5A-SB-14.0-15.0 | BERYLLIUM | J | 0.654 | 1.07 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.73 | 10.7 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.326 | 2.13 | PQL | mg/Kg | |
| | TIN | J | 3.01 | 10.7 | PQL | mg/Kg | |
| | Zirconium | J | 2.95 | 5.33 | PQL | mg/Kg | |
| SL-826-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.778 | 1.08 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.68 | 10.8 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.737 | 2.16 | PQL | mg/Kg | |
| | SODIUM | J | 101 | 108 | PQL | mg/Kg | |
| | TIN | J | 2.95 | 10.8 | PQL | mg/Kg | |
| | Zirconium | J | 3.19 | 5.40 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-826-SA5A-SB-9.0-10.0 | ARSENIC | J | 3.55 | 4.13 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.464 | 1.03 | PQL | mg/Kg | |
| | BORON | J | 2.74 | 10.3 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.284 | 2.07 | PQL | mg/Kg | |
| | SODIUM | J | 91.4 | 103 | PQL | mg/Kg | |
| | TIN | J | 2.74 | 10.3 | PQL | mg/Kg | |
| | Zirconium | J | 3.00 | 5.16 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-781-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.202 | 0.416 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0429 | 0.208 | PQL | mg/Kg | |
| SL-781-SA5A-SB-2.0-3.0 | SELENIUM | J | 0.121 | 0.407 | PQL | mg/Kg | J (all detects) |
| SL-782-SA5A-SB-0.0-0.5 | SILVER | J | 0.0472 | 0.207 | PQL | mg/Kg | J (all detects) |
| SL-782-SA5A-SB-4.5-5.5 | SILVER | J | 0.0482 | 0.212 | PQL | mg/Kg | J (all detects) |
| | THALLIUM | J | 0.199 | 0.212 | PQL | mg/Kg | |
| SL-784-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.173 | 0.409 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0273 | 0.204 | PQL | mg/Kg | |
| SL-784-SA5A-SB-2.5-3.5 | SELENIUM | J | 0.119 | 0.405 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0233 | 0.202 | PQL | mg/Kg | |
| SL-826-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.150 | 0.406 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0334 | 0.203 | PQL | mg/Kg | |
| SL-826-SA5A-SB-14.0-15.0 | SELENIUM | J | 0.199 | 0.427 | PQL | mg/Kg | J (all detects) |
| SL-826-SA5A-SB-4.0-5.0 | SILVER | J | 0.0597 | 0.216 | PQL | mg/Kg | J (all detects) |
| SL-826-SA5A-SB-9.0-10.0 | SILVER | J | 0.0341 | 0.207 | PQL | mg/Kg | J (all detects) |

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-782-SA5A-SB-4.5-5.5 | MERCURY | J | 0.0112 | 0.0174 | PQL | mg/Kg | J (all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH055

Laboratory: LL

EDD Filename: PrepPH055_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-781-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 3.9 | 5.3 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 8.7 | 11 | PQL | mg/Kg | |
| SL-784-SA5A-SB-2.5-3.5 | EFH (C21-C30) | J | 5.0 | 5.2 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 8.1 | 10 | PQL | mg/Kg | |
| SL-826-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 3.5 | 5.1 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 5.8 | 10 | PQL | mg/Kg | |
| SL-826-SA5A-SB-4.0-5.0 | EFH (C21-C30) | J | 3.0 | 5.5 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 7.2 | 11 | PQL | mg/Kg | |
| SL-826-SA5A-SB-9.0-10.0 | EFH (C15-C20) | J | 2.3 | 5.3 | PQL | mg/Kg | J (all detects) |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-781-SA5A-SB-0.0-0.5 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 9.6 | 19 | PQL | ug/Kg | J (all detects) |
| | Di-n-octylphthalate | J | 13 | 19 | PQL | ug/Kg | |
| SL-782-SA5A-SB-0.0-0.5 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 10 | 19 | PQL | ug/Kg | J (all detects) |
| SL-782-SA5A-SB-4.5-5.5 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 12 | 19 | PQL | ug/Kg | J (all detects) |
| SL-784-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 0.87 | 1.7 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 0.46 | 1.7 | PQL | ug/Kg | |
| SL-784-SA5A-SB-2.5-3.5 | BENZO(B)FLUORANTHENE | J | 0.91 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 10 | 19 | PQL | ug/Kg | |
| SL-826-SA5A-SB-0.0-0.5 | CHRYSENE | J | 1.2 | 1.7 | PQL | ug/Kg | J (all detects) |
| | FLUORANTHENE | J | 0.99 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.73 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 0.90 | 1.7 | PQL | ug/Kg | |
| SL-826-SA5A-SB-14.0-15.0 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 7.5 | 19 | PQL | ug/Kg | J (all detects) |
| SL-826-SA5A-SB-4.0-5.0 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 9.1 | 20 | PQL | ug/Kg | J (all detects) |
| | Diethylphthalate | J | 7.0 | 20 | PQL | ug/Kg | |
| | Di-n-octylphthalate | J | 8.9 | 20 | PQL | ug/Kg | |
| SL-826-SA5A-SB-9.0-10.0 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 10 | 19 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 0.63 | 1.8 | PQL | ug/Kg | |

LDC #: 30074B4

VALIDATION COMPLETENESS WORKSHEET

Date: 7/26/13

SDG #: PH055

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: ca

2nd Reviewer: h

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--|
| I. | Technical holding times | — | Sampling dates: 6/12/13 |
| II. | ICP/MS Tune | — | |
| III. | Calibration | — | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | F | |
| VI. | Matrix Spike Analysis | SW | MS/D (from PH050 (LOCA 30037F)) |
| VII. | Duplicate Sample Analysis | N | Dup ↓ |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | SW | (from PH050) (Cu (21%), Sr (16%)) : J/UJ |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | N | |
| XV. | Field Blanks | SW | EB=1,2 FB=FB-041113 |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(PH029)

Validated Samples: Sillwater

| | | | | | | | |
|----|------------------------|---|----|--------------------------|----|--|----|
| 1 | EB1-061213 | ✓ | 11 | SL-826-SA5A-SB-9.0-10.0 | 21 | | 31 |
| 2 | EB2-061213 | ✓ | 12 | SL-826-SA5A-SB-14.0-15.0 | 22 | | 32 |
| 3 | SL-781-SA5A-SB-0.0-0.5 | | 13 | | 23 | | 33 |
| 4 | SL-781-SA5A-SB-2.0-3.0 | | 14 | | 24 | | 34 |
| 5 | SL-782-SA5A-SB-0.0-0.5 | | 15 | | 25 | | 35 |
| 6 | SL-782-SA5A-SB-4.5-5.5 | | 16 | | 26 | | 36 |
| 7 | SL-784-SA5A-SB-0.0-0.5 | | 17 | | 27 | | 37 |
| 8 | SL-784-SA5A-SB-2.5-3.5 | | 18 | | 28 | | 38 |
| 9 | SL-826-SA5A-SB-0.0-0.5 | | 19 | | 29 | | 39 |
| 10 | SL-826-SA5A-SB-4.0-5.0 | | 20 | | 30 | | 40 |

Notes: _____

LDC #: 30074B4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x Reason: B
Associated Samples: All

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|------|------|------|------|------|------|------|------|------|------|
| Mo | | | 1.8 | 0.9 | 0.54 | 0.20 | 0.26 | 0.44 | 0.45 | 0.33 | 0.47 | 0.74 | 0.28 | 0.33 |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F
Sampling date: 4/11/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|---------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|
| | FB-041113 (SDG: PH029) | Action Limit | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Cu | 0.0036 | 1.8 | | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 0.54 | 0.20 | 0.26 | 0.44 | 0.45 | 0.33 | 0.47 | 0.74 | 0.28 | 0.33 |

Sampling date: 6/12/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|----------------------------|-----------------------|---------------|--|--|--|--|--|--|--|--|--|
| | EB1-061213 (SDG: PH055) | Action Limit | No Qualifiers | | | | | | | | | |
| Ba | 0.00037 | 0.185 | | | | | | | | | | |

Sampling date: 6/12/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: None

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|----------------------------|-----------------------|---------------|--|--|--|--|--|--|--|--|--|
| | EB2-061213 (SDG: PH055) | Action Limit | No Qualifiers | | | | | | | | | |
| Ba | 0.00045 | 0.225 | | | | | | | | | | |
| Ag | 0.00062 | 0.31 | | | | | | | | | | |
| Sr | 0.00053 | 0.265 | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Enclosure II

Level IV Validation Reports

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: June 11, 2013
LDC Report Date: August 13, 2013
Matrix: Soil/Water
Parameters: Perchlorate
Validation Level: Level IV
Laboratory: TestAmerica, Inc.
Sample Delivery Group (SDG): PH055

Sample Identification

EB1-061213
EB2-061213
SL-778-SA5A-SB-0.0-0.5
SL-1178-SA5A-SB-0.0-0.5
SL-778-SA5A-SB-4.0-5.0
SL-778-SA5A-SB-0.0-0.5MS
SL-778-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 5 soil samples and 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6850 for Perchlorate.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 15.0% for unlabeled compounds and less than or equal to 50.0% for labeled compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 15.0% for unlabeled compounds and less than or equal to 50.0% for labeled compounds.

The percent differences (%D) of the limit of detection verification (LODV) calibration standard were less than or equal to 50.0% for perchlorate.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perchlorate was found in the method blanks.

Samples EB1-061213 and EB2-061213 were identified as equipment blanks. No perchlorate was found.

Sample FB-041113 (from SDG PH029) was identified as a field blank. No perchlorate was found.

VI. Surrogate Spikes

Surrogate spikes were not required by the method.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH055 | All compounds reported below the RL. | J (all detects) | A |

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SL-778-SA5A-SB-0.0-0.5 and SL-1178-SA5A-SB-0.0-0.5 were identified as field duplicates. No perchlorate was detected in any of the samples.

**Santa Susana Field Laboratory
Perchlorate - Data Qualification Summary - SDG PH055**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|---|--------------------------------------|-----------------|--------|---------------------------|
| PH055 | EB1-061213 EB2-061213 SL-778-SA5A-SB-0.0-0.5 SL-1178-SA5A-SB-0.0-0.5 SL-778-SA5A-SB-4.0-5.0 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |

**Santa Susana Field Laboratory
Perchlorate - Laboratory Blank Data Qualification Summary - SDG PH055**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Perchlorate - Field Blank Data Qualification Summary - SDG PH055**

No Sample Data Qualified in this SDG

METHOD: LC/MS Perchlorate (EPA SW846 Method 6850)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|-----------------|---------------------------------------|
| I. | Technical holding times | A | Sampling dates: 6/11/13 |
| II. | GC/MS Instrument performance check | A | |
| III. | Initial calibration | A | RSD r^2 |
| IV. | Continuing calibration/ICV | SW A | ICV/CCV $\leq 15/80$ LODV ≤ 502 |
| V. | Blanks | A | |
| VI. | Surrogate spikes | N | |
| VII. | Matrix spike/Matrix spike duplicates | A | |
| VIII. | Laboratory control samples | A | LCS |
| IX. | Regional Quality Assurance and Quality Control | N | |
| X. | Internal standards | A | |
| XI. | Target compound identification | A | |
| XII. | Compound quantitation/RL/LOQ/LODs | A | |
| XIII. | Tentatively identified compounds (TICs) | N | |
| XIV. | System performance | A | |
| XV. | Overall assessment of data | A | |
| XVI. | Field duplicates | ND | FD = 3 + 4 |
| XVII. | Field blanks | ND | EB = 1, 2 PB = PB-041113 (SDG# PH029) |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Water + Soil

| | | | | | | | | |
|----|---------------------------|---|----|--|----|--|----|------------|
| 12 | EB1-061213 | W | 11 | | 21 | | 31 | PBLK 25168 |
| 2 | EB2-061213 | ↓ | 12 | | 22 | | 32 | PBLK 23175 |
| 3 | SL-778-SA5A-SB-0.0-0.5 | | 13 | | 23 | | 33 | |
| 4 | SL-1178-SA5A-SB-0.0-0.5 | | 14 | | 24 | | 34 | |
| 5 | SL-778-SA5A-SB-4.0-5.0 | | 15 | | 25 | | 35 | |
| 6 | SL-778-SA5A-SB-0.0-0.5MS | | 16 | | 26 | | 36 | |
| 7 | SL-778-SA5A-SB-0.0-0.5MSD | | 17 | | 27 | | 37 | |
| 8 | | | 18 | | 28 | | 38 | |
| 9 | | | 19 | | 29 | | 39 | |
| 10 | | | 20 | | 30 | | 40 | |

Method: LC/MS

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. GC/MS Instrument performance check | | | | |
| Were the instrument performance reviewed and found to be within the specified criteria? | / | | | |
| Were all samples analyzed within the 12 hour clock criteria? | / | | | |
| III. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | / | | | |
| Were all percent relative standard deviations (%RSD) \leq 20%? | | / | | |
| Was a curve fit used for evaluation? | / | | | |
| Did the initial calibration meet the curve fit acceptance criteria of > 0.990 ? | / | | | |
| Were the RT windows properly established? | / | | | |
| IV. Continuing calibration | | | | |
| Was a continuing calibration analyzed daily? | / | | | |
| Were all percent differences (%D) \leq 20%? ¹⁵ LODV \leq 50? | / | | | |
| Were all the retention times within the acceptance windows? | / | | | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was a method blank analyzed for each matrix and concentration? | / | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | | / | | |
| VI. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | / | | | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | / | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | / | | | |
| VII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |
| Was an LCS analyzed per extraction batch? | / | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | / | | | |
| XIII. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | / | | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| IX. Internal standards | | | | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| Were internal standard area counts within -50% or +100% of the associated calibration standard? | / | | | |
| Were retention times within ± 30 seconds from the associated calibration standard? | / | | | |
| X. Target compound identification | | | | |
| Were relative retention times (RRT's) within ± 0.06 RRT units of the standard? | / | | | |
| Did compound spectra meet specified EPA "Functional Guidelines" criteria? | / | | | |
| Were chromatogram peaks verified and accounted for? | / | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound? | / | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target compounds were detected in the field duplicates. | | / | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | | / | | |

LDC#:30074B87

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: (of)
 Reviewer: BR
 2nd Reviewer:

METHOD: LC/MS Perchlorate (EPA SW 846 Method 6850)

| Calibration Date | Instrument | Compound | Standard | (Y) Response Ratio | (X) Concentration Ratio |
|------------------|--------------------|-------------|----------|-----------------------|----------------------------|
| 6/21/2013 | Instrument1 ESI | Perchlorate | 1 | 0.047073297 | 0.040 |
| | | | 2 | 0.102208963 | 0.100 |
| | | | 3 | 0.21125106 | 0.200 |
| | | | 4 | 0.452014894 | 0.400 |
| | | | 5 | 1.108963011 | 1.000 |
| | | | 6 | 2.908999456 | 2.500 |

CF
 1.1768
 1.0221
 1.0563
 1.1300
 1.1090
 1.1636
 Ave 1.1096

| Regression Output | Calculated | Reported |
|--|----------------------------|------------|
| Constant | c = -1.833149E-02 | -0.0050000 |
| Std Err of Y Est | | |
| R Squared | r ² = 0.9996633 | 0.9990341 |
| Degrees of Freedom | | |
| X Coefficient(s) | m = 1.16521 | 0.11460 |
| Std Err of Coef. | | |
| Correlation Coefficient | 1.000 | |
| Coefficient of Determination (r ²) | 1.000 | 0.999 |

LDC#: 30074B87

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1

Reviewer: BK

2nd Reviewer: _____

METHOD: LCMS X HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration percent difference (%D) values were recalculated for the compounds identified below using the following calculation:

$$\text{Percent difference (\%D)} = 100 * (N - C)/N$$

Where:

N = Initial Calibration Factor or Nominal Amount

C = Calibration Factor from Continuing Calibration Standard or Calculated Amount

| # | Standard ID | Calibration Date | Compound | CCV Conc | Reported Conc | Recalculated Conc | Reported % D | Recalculated %D |
|---|--------------|------------------|-------------|----------|---------------|-------------------|--------------|-----------------|
| 1 | MS5P17113021 | 6/20/2013 | Perchlorate | 0.4 | 0.49 | 0.49 | 23 | 23 |
| | | | | | | | | |
| 2 | MSP17113032 | 6/21/2013 | Perchlorate | 4 | 3.5 | 3.5 | 13 | 13 |
| | | | | | | | | |

Comments: Refer to Continuing Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: LC/MS

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * (SSC - SC) / SA$

Where: SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

RPD = $|MSC - MSC| * 2 / (MSC + MSDC)$

MSC = Matrix spike concentration

MSDC = Matrix spike duplicate concentration

MS/MSD sample: 6/7

| Compound | Spike Added (ug/L) | | Sample Concentration (ug/L) | Spiked Sample Concentration (ug/L) | | Matrix Spike | | Matrix Spike Duplicate | | MS/MSD | |
|-------------|-----------------------|-----|--------------------------------|--|------|------------------|--------|------------------------|--------|----------|--------------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc | Reported | Recalc | Reported | Recalculated |
| Perchlorate | 100 | 100 | 0 | 91.7 ⁴ 91.7 BR | 91.7 | 91 | 91 | 92 | 92 | 0 | 0.3 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074887

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
 Reviewer: BK
 2nd Reviewer: _____

METHOD: LC/MS

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * SSC/SA$

Where: SSC = Spiked sample concentration
 SA = Spike added

RPD = $|LCSC - LCSDC| * 2 / (LCSC + LCSDC)$

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: LCS25168

| Compound | Spike Added (µg/kg) | | Spiked Sample Concentration (µg/kg) | | LCS | | LCSD | | LCS/LCSD | |
|-------------|------------------------|------|--|------|------------------|---------|------------------|---------|----------|--------------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalculated |
| Perchlorate | LOD | — | 92.1 | — | 92 | 92 | — | — | — | — |
| | | | | | | | | | | |
| | | | | | | | | | | |
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Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 30074 1887

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1

Reviewer: BR

2nd reviewer: _____

METHOD: LC/MS

X N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(DF)}{(A_s)(RRF)(V_o)(\%S)}$$

- A_x = Area of the characteristic ion (EICP) for the compound to be measured
- A_s = Area of the characteristic ion (EICP) for the specific internal standard
- I_s = Amount of internal standard added in nanograms (ng)
- RRF = Relative response factor of the calibration standard.
- V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).
- Df = Dilution factor.
- %S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 3, Perchlorate

Conc. = $\frac{(ND)(\)(\)}{(\)(\)(\)}$

$LCS25168 \approx 92.1 \text{ ng/kg}$

$= \frac{[(\frac{69292}{65884}) + 0.005](10)}{(0.1146)(10)} = 92.2/0059 \text{ ng/kg}$

| # | Sample ID | Compound | Reported Concentration () () | Calculated Concentration () () | Qualification |
|---|-----------|----------|-----------------------------------|-------------------------------------|---------------|
| | | | | | |
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Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 13-Jun-2013 | SL-795-SA5A-SB-0.0-0.5 | 7093174 | N | 3050B | 6010C | III |
| 13-Jun-2013 | SL-795-SA5A-SB-0.0-0.5 | 7093174 | N | 3050B | 6020A | III |
| 13-Jun-2013 | SL-795-SA5A-SB-0.0-0.5 | 7093174 | N | 3546 | 8015M | III |
| 13-Jun-2013 | SL-795-SA5A-SB-0.0-0.5 | 7093174 | N | 3546 | 8082A | III |
| 13-Jun-2013 | SL-795-SA5A-SB-0.0-0.5 | 7093174 | N | 3546 | 8270D SIM | III |
| 13-Jun-2013 | SL-795-SA5A-SB-0.0-0.5 | 7093174 | N | METHOD | 1613B | III |
| 13-Jun-2013 | SL-795-SA5A-SB-0.0-0.5 | 7093174 | N | METHOD | 7471B | III |
| 13-Jun-2013 | SL-792-SA5A-SB-0.0-0.5 | 7093172 | N | 3050B | 6010C | III |
| 13-Jun-2013 | SL-792-SA5A-SB-0.0-0.5 | 7093172 | N | 3050B | 6020A | III |
| 13-Jun-2013 | SL-792-SA5A-SB-0.0-0.5 | 7093172 | N | 3546 | 8015M | III |
| 13-Jun-2013 | SL-792-SA5A-SB-0.0-0.5 | 7093172 | N | 3546 | 8082A | III |
| 13-Jun-2013 | SL-792-SA5A-SB-0.0-0.5 | 7093172 | N | 3546 | 8270D SIM | III |
| 13-Jun-2013 | SL-792-SA5A-SB-0.0-0.5 | 7093172 | N | METHOD | 1613B | III |
| 13-Jun-2013 | SL-792-SA5A-SB-0.0-0.5 | 7093172 | N | METHOD | 7471B | III |
| 13-Jun-2013 | SL-793-SA5A-SB-0.0-0.5 | 7093173 | N | 3050B | 6010C | III |
| 13-Jun-2013 | SL-793-SA5A-SB-0.0-0.5 | 7093173 | N | 3050B | 6020A | III |
| 13-Jun-2013 | SL-793-SA5A-SB-0.0-0.5 | 7093173 | N | 3546 | 8015M | III |
| 13-Jun-2013 | SL-793-SA5A-SB-0.0-0.5 | 7093173 | N | 3546 | 8082A | III |
| 13-Jun-2013 | SL-793-SA5A-SB-0.0-0.5 | 7093173 | N | 3546 | 8270D SIM | III |
| 13-Jun-2013 | SL-793-SA5A-SB-0.0-0.5 | 7093173 | N | METHOD | 1613B | III |
| 13-Jun-2013 | SL-793-SA5A-SB-0.0-0.5 | 7093173 | N | METHOD | 7471B | III |
| 13-Jun-2013 | SL-791-SA5A-SB-0.0-0.5 | 7093176 | N | 3050B | 6010C | III |
| 13-Jun-2013 | SL-791-SA5A-SB-0.0-0.5 | 7093176 | N | 3050B | 6020A | III |
| 13-Jun-2013 | SL-791-SA5A-SB-0.0-0.5 | 7093176 | N | 3546 | 8015M | III |
| 13-Jun-2013 | SL-791-SA5A-SB-0.0-0.5 | 7093176 | N | 3546 | 8270D SIM | III |
| 13-Jun-2013 | SL-791-SA5A-SB-0.0-0.5 | 7093176 | N | METHOD | 1613B | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 13-Jun-2013 | SL-791-SA5A-SB-0.0-0.5 | 7093176 | N | METHOD | 7471B | III |
| 13-Jun-2013 | SL-790-SA5A-SB-0.0-0.5 | 7093175 | N | 3050B | 6010C | III |
| 13-Jun-2013 | SL-790-SA5A-SB-0.0-0.5 | 7093175 | N | 3050B | 6020A | III |
| 13-Jun-2013 | SL-790-SA5A-SB-0.0-0.5 | 7093175 | N | 3546 | 8015M | III |
| 13-Jun-2013 | SL-790-SA5A-SB-0.0-0.5 | 7093175 | N | 3546 | 8270D SIM | III |
| 13-Jun-2013 | SL-790-SA5A-SB-0.0-0.5 | 7093175 | N | METHOD | 1613B | III |
| 13-Jun-2013 | SL-790-SA5A-SB-0.0-0.5 | 7093175 | N | METHOD | 7471B | III |
| 13-Jun-2013 | SL-775-SA5A-SB-0.0-0.5 | 7093177 | N | 3050B | 6010C | III |
| 13-Jun-2013 | SL-775-SA5A-SB-0.0-0.5 | 7093177 | N | 3050B | 6020A | III |
| 13-Jun-2013 | SL-775-SA5A-SB-0.0-0.5 | 7093177 | N | 3546 | 8015M | III |
| 13-Jun-2013 | SL-775-SA5A-SB-0.0-0.5 | 7093177 | N | 3546 | 8270D SIM | III |
| 13-Jun-2013 | SL-775-SA5A-SB-0.0-0.5 | 7093177 | N | METHOD | 1613B | III |
| 13-Jun-2013 | SL-775-SA5A-SB-0.0-0.5 | 7093177 | N | METHOD | 7471B | III |

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-775-SA5A-SB-0.0-0.5

Collected: 6/13/2013 2:25:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 3.98 | U | 0.498 | MDL | 3.98 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.599 | J | 0.0667 | MDL | 0.995 | PQL | mg/Kg | J | Z |
| BORON | 3.09 | J | 0.826 | MDL | 9.95 | PQL | mg/Kg | J | Z |
| CALCIUM | 1980 | | 4.00 | MDL | 19.9 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.540 | J | 0.169 | MDL | 1.99 | PQL | mg/Kg | U | F |
| POTASSIUM | 3350 | | 13.4 | MDL | 99.5 | PQL | mg/Kg | J | Q |
| SODIUM | 68.9 | J | 16.6 | MDL | 99.5 | PQL | mg/Kg | J | Z |
| TIN | 2.72 | J | 0.219 | MDL | 9.95 | PQL | mg/Kg | U | B |
| Zirconium | 2.19 | J | 0.826 | MDL | 4.98 | PQL | mg/Kg | J | Z |

Sample ID: SL-790-SA5A-SB-0.0-0.5

Collected: 6/13/2013 1:40:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.05 | U | 0.506 | MDL | 4.05 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.602 | J | 0.0678 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 3.39 | J | 0.840 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| CALCIUM | 2200 | | 4.07 | MDL | 20.2 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.452 | J | 0.172 | MDL | 2.02 | PQL | mg/Kg | U | F |
| POTASSIUM | 3070 | | 13.7 | MDL | 101 | PQL | mg/Kg | J | Q |
| SODIUM | 84.2 | J | 16.9 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 2.71 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 2.92 | J | 0.840 | MDL | 5.06 | PQL | mg/Kg | J | Z |

Sample ID: SL-791-SA5A-SB-0.0-0.5

Collected: 6/13/2013 1:00:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 0.757 | J | 0.490 | MDL | 3.92 | PQL | mg/Kg | J | Z, Q |
| BERYLLIUM | 0.588 | J | 0.0657 | MDL | 0.981 | PQL | mg/Kg | J | Z |
| BORON | 3.18 | J | 0.814 | MDL | 9.81 | PQL | mg/Kg | J | Z |
| CALCIUM | 2090 | | 3.94 | MDL | 19.6 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.471 | J | 0.167 | MDL | 1.96 | PQL | mg/Kg | U | F |
| POTASSIUM | 3350 | | 13.2 | MDL | 98.1 | PQL | mg/Kg | J | Q |
| SODIUM | 78.3 | J | 16.4 | MDL | 98.1 | PQL | mg/Kg | J | Z |
| TIN | 2.64 | J | 0.216 | MDL | 9.81 | PQL | mg/Kg | U | B |
| Zirconium | 3.15 | J | 0.814 | MDL | 4.90 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-792-SA5A-SB-0.0-0.5 Collected: 6/13/2013 10:05:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 0.639 | J | 0.499 | MDL | 4.00 | PQL | mg/Kg | J | Z, Q |
| BERYLLIUM | 0.654 | J | 0.0669 | MDL | 0.999 | PQL | mg/Kg | J | Z |
| BORON | 1.68 | J | 0.829 | MDL | 9.99 | PQL | mg/Kg | J | Z |
| CALCIUM | 2280 | | 4.02 | MDL | 20.0 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.187 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | F |
| POTASSIUM | 2150 | | 13.5 | MDL | 99.9 | PQL | mg/Kg | J | Q |
| SODIUM | 97.4 | J | 16.7 | MDL | 99.9 | PQL | mg/Kg | J | Z |
| TIN | 2.90 | J | 0.220 | MDL | 9.99 | PQL | mg/Kg | U | B |
| Zirconium | 2.69 | J | 0.829 | MDL | 4.99 | PQL | mg/Kg | J | Z |

Sample ID: SL-793-SA5A-SB-0.0-0.5 Collected: 6/13/2013 11:00:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 0.529 | J | 0.500 | MDL | 4.00 | PQL | mg/Kg | J | Z, Q |
| BERYLLIUM | 0.548 | J | 0.0670 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 2.99 | J | 0.830 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| CALCIUM | 2340 | | 4.02 | MDL | 20.0 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.395 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | F |
| POTASSIUM | 3380 | | 13.5 | MDL | 100 | PQL | mg/Kg | J | Q |
| SODIUM | 68.8 | J | 16.7 | MDL | 100 | PQL | mg/Kg | J | Z |
| TIN | 2.58 | J | 0.220 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 2.84 | J | 0.830 | MDL | 5.00 | PQL | mg/Kg | J | Z |

Sample ID: SL-795-SA5A-SB-0.0-0.5 Collected: 6/13/2013 9:20:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 0.601 | J | 0.508 | MDL | 4.07 | PQL | mg/Kg | J | Z, Q |
| BERYLLIUM | 0.600 | J | 0.0681 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 2.78 | J | 0.844 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| CALCIUM | 2500 | | 4.09 | MDL | 20.3 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.560 | J | 0.173 | MDL | 2.03 | PQL | mg/Kg | U | F |
| POTASSIUM | 3600 | | 13.7 | MDL | 102 | PQL | mg/Kg | J | Q |
| SODIUM | 75.5 | J | 17.0 | MDL | 102 | PQL | mg/Kg | J | Z |
| TIN | 2.74 | J | 0.224 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 3.01 | J | 0.844 | MDL | 5.08 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

| | | | | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-775-SA5A-SB-0.0-0.5 | Collected: 6/13/2013 2:25:00 | Analysis Type: REA/TOT | Dilution: 2 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.157 | J | 0.0995 | MDL | 0.398 | PQL | mg/Kg | J | Z |

| | | | | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-775-SA5A-SB-0.0-0.5 | Collected: 6/13/2013 2:25:00 | Analysis Type: RES/TOT | Dilution: 2 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0251 | J | 0.0199 | MDL | 0.199 | PQL | mg/Kg | J | Z |

| | | | | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-790-SA5A-SB-0.0-0.5 | Collected: 6/13/2013 1:40:00 | Analysis Type: REA/TOT | Dilution: 2 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.134 | J | 0.101 | MDL | 0.405 | PQL | mg/Kg | J | Z |

| | | | | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-790-SA5A-SB-0.0-0.5 | Collected: 6/13/2013 1:40:00 | Analysis Type: RES/TOT | Dilution: 2 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0556 | J | 0.0202 | MDL | 0.202 | PQL | mg/Kg | J | Z |

| | | | | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-791-SA5A-SB-0.0-0.5 | Collected: 6/13/2013 1:00:00 | Analysis Type: REA/TOT | Dilution: 2 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.122 | J | 0.0981 | MDL | 0.392 | PQL | mg/Kg | J | Z |

| | | | | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-791-SA5A-SB-0.0-0.5 | Collected: 6/13/2013 1:00:00 | Analysis Type: RES/TOT | Dilution: 2 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0583 | J | 0.0196 | MDL | 0.196 | PQL | mg/Kg | J | Z |

| | | | | | | | | | |
|-----------------------------------|-------------------------------|------------------------|-------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-793-SA5A-SB-0.0-0.5 | Collected: 6/13/2013 11:00:00 | Analysis Type: REA/TOT | Dilution: 2 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.127 | J | 0.100 | MDL | 0.400 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-793-SA5A-SB-0.0-0.5 Collected: 6/13/2013 11:00:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.103 | J | 0.0200 | MDL | 0.200 | PQL | mg/Kg | J | Z |

Sample ID: SL-795-SA5A-SB-0.0-0.5 Collected: 6/13/2013 9:20:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.151 | J | 0.102 | MDL | 0.407 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 7471B | Matrix: SO |

Sample ID: SL-775-SA5A-SB-0.0-0.5 Collected: 6/13/2013 2:25:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0111 | J | 0.0097 | MDL | 0.0161 | PQL | mg/Kg | J | Z |

Sample ID: SL-790-SA5A-SB-0.0-0.5 Collected: 6/13/2013 1:40:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0103 | J | 0.0099 | MDL | 0.0165 | PQL | mg/Kg | J | Z |

Sample ID: SL-793-SA5A-SB-0.0-0.5 Collected: 6/13/2013 11:00:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0105 | J | 0.0094 | MDL | 0.0157 | PQL | mg/Kg | J | Z |

Sample ID: SL-795-SA5A-SB-0.0-0.5 Collected: 6/13/2013 9:20:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0122 | J | 0.0100 | MDL | 0.0167 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-775-SA5A-SB-0.0-0.5 Collected: 6/13/2013 2:25:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 2.97 | JB | 0.0239 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.248 | JB | 0.0317 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.404 | JB | 0.0421 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.222 | JB | 0.0240 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 1.03 | J | 0.0453 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.147 | JB | 0.0237 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 1.13 | JBQ | 0.0442 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.222 | JB | 0.0270 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.261 | JBQ | 0.0338 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.147 | JB | 0.0201 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.172 | JB | 0.0231 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.0996 | JBQ | 0.0189 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0543 | JQ | 0.0304 | MDL | 1.01 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.0637 | JQ | 0.0293 | MDL | 1.01 | PQL | ng/Kg | J | Z |
| OCDF | 9.56 | JB | 0.0302 | MDL | 10.1 | PQL | ng/Kg | J | Z |

Sample ID: SL-790-SA5A-SB-0.0-0.5 Collected: 6/13/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 4.49 | JB | 0.0147 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.325 | JB | 0.0203 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.447 | JB | 0.0330 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.248 | JB | 0.0177 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 1.27 | J | 0.0343 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.213 | JB | 0.0174 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 1.10 | JB | 0.0340 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.236 | JBQ | 0.0215 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.295 | JB | 0.0262 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.249 | JB | 0.0164 | MDL | 5.04 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.258 | JB | 0.0178 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.181 | JB | 0.0154 | MDL | 5.04 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0317 | JQ | 0.0202 | MDL | 1.01 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.196 | JQ | 0.0239 | MDL | 1.01 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-791-SA5A-SB-0.0-0.5 Collected: 6/13/2013 1:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 3.79 | JB | 0.0179 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.269 | JB | 0.0236 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.584 | JB | 0.0434 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.275 | JB | 0.0210 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 1.74 | J | 0.0446 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.186 | JB | 0.0206 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 1.56 | JB | 0.0405 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.280 | JB | 0.0226 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.374 | JBQ | 0.0331 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.276 | JB | 0.0214 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.214 | JB | 0.0210 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.250 | JBQ | 0.0206 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0445 | JQ | 0.0244 | MDL | 0.984 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.146 | J | 0.0315 | MDL | 0.984 | PQL | ng/Kg | J | Z |

Sample ID: SL-792-SA5A-SB-0.0-0.5 Collected: 6/13/2013 10:05:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 2.22 | JB | 0.0372 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.426 | JBQ | 0.0152 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0772 | JBQ | 0.0208 | MDL | 5.05 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0963 | JBQ | 0.0256 | MDL | 5.05 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.102 | JB | 0.0225 | MDL | 5.05 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.161 | J | 0.0267 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0745 | JBQ | 0.0221 | MDL | 5.05 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.159 | JBQ | 0.0267 | MDL | 5.05 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0613 | JBQ | 0.0249 | MDL | 5.05 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0821 | JBQ | 0.0311 | MDL | 5.05 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.128 | JB | 0.0192 | MDL | 5.05 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0448 | JBQ | 0.0218 | MDL | 5.05 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0775 | JBQ | 0.0176 | MDL | 5.05 | PQL | ng/Kg | U | B |
| OCDF | 1.66 | JB | 0.0264 | MDL | 10.1 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-793-SA5A-SB-0.0-0.5 Collected: 6/13/2013 11:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 1.30 | JB | 0.0296 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 2.12 | JB | 0.0405 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.721 | JB | 0.0241 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.503 | JB | 0.0243 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 4.78 | JB | 0.0401 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.422 | JB | 0.0267 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 1.29 | JB | 0.0413 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.468 | JBQ | 0.0234 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.686 | JB | 0.0234 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.461 | JBQ | 0.0217 | MDL | 4.97 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.190 | JQ | 0.0285 | MDL | 0.993 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.225 | J | 0.0353 | MDL | 0.993 | PQL | ng/Kg | J | Z |

Sample ID: SL-795-SA5A-SB-0.0-0.5 Collected: 6/13/2013 9:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 2.07 | JB | 0.0348 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 2.91 | JB | 0.0332 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.968 | JB | 0.0304 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.607 | JB | 0.0265 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 1.48 | JB | 0.0291 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.618 | JB | 0.0248 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.227 | JQ | 0.0425 | MDL | 1.02 | PQL | ng/Kg | J | Z |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 8015M | Matrix: SO |

Sample ID: SL-792-SA5A-SB-0.0-0.5 Collected: 6/13/2013 10:05:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 2.4 | J | 2.1 | MDL | 5.1 | PQL | mg/Kg | J | Z |
| EFH (C30-C40) | 6.1 | J | 4.1 | MDL | 10 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 8015M | Matrix: SO |

Sample ID: SL-795-SA5A-SB-0.0-0.5 Collected: 6/13/2013 9:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 4.2 | J | 2.1 | MDL | 5.1 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|-----------|-------------------|
| Method Category: | SVOA | |
| Method: | 8270D SIM | Matrix: SO |

Sample ID: SL-775-SA5A-SB-0.0-0.5 Collected: 6/13/2013 2:25:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)ANTHRACENE | 0.68 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 0.85 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 0.70 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 15 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |
| Butylbenzylphthalate | 7.5 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 1.0 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 1.3 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-790-SA5A-SB-0.0-0.5 Collected: 6/13/2013 1:40:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 0.67 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 16 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |
| CHRYSENE | 1.4 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 1.2 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 0.93 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 1.1 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-791-SA5A-SB-0.0-0.5 Collected: 6/13/2013 1:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)ANTHRACENE | 0.91 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 1.3 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 0.99 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 1.2 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 13 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |
| INDENO(1,2,3-CD)PYRENE | 0.89 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-791-SA5A-SB-0.0-0.5 Collected: 6/13/2013 1:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| NAPHTHALENE | 0.73 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | U | F |
| PHENANTHRENE | 1.3 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-793-SA5A-SB-0.0-0.5 Collected: 6/13/2013 11:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 0.70 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| ANTHRACENE | 0.41 | J | 0.33 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)ANTHRACENE | 0.88 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 1.1 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 0.98 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 0.93 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| Butylbenzylphthalate | 6.9 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |
| INDENO(1,2,3-CD)PYRENE | 0.88 | J | 0.66 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-795-SA5A-SB-0.0-0.5 Collected: 6/13/2013 9:20:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ACENAPHTHYLENE | 0.40 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)ANTHRACENE | 0.78 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 0.68 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 1.0 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 14 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|--|
| B | Method Blank Contamination |
| F | Field Blank Contamination |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Upper Estimation |
| S | Surrogate/Tracer Recovery Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Enclosure I

Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

PH056

Method Blank Outlier Report

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|---------------------|--------------|------------------------|
| BLK1720B371646 | 6/23/2013 4:46:00 PM | 1,2,3,4,6,7,8-HPCDD | 0.0944 ng/Kg | SL-775-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,6,7,8-HPCDF | 0.0442 ng/Kg | SL-790-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,7,8,9-HPCDF | 0.0170 ng/Kg | SL-791-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,7,8-HxCDD | 0.0235 ng/Kg | SL-792-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,7,8-HXCDF | 0.0475 ng/Kg | SL-793-SA5A-SB-0.0-0.5 |
| | | 1,2,3,6,7,8-HXCDF | 0.0263 ng/Kg | SL-795-SA5A-SB-0.0-0.5 |
| | | 1,2,3,7,8,9-HXCDD | 0.0485 ng/Kg | |
| | | 1,2,3,7,8,9-HXCDF | 0.0606 ng/Kg | |
| | | 1,2,3,7,8-PECDD | 0.0466 ng/Kg | |
| | | 1,2,3,7,8-PECDF | 0.0665 ng/Kg | |
| | | 2,3,4,6,7,8-HXCDF | 0.0280 ng/Kg | |
| | | 2,3,4,7,8-PECDF | 0.0271 ng/Kg | |
| | | OCDD | 0.287 ng/Kg | |
| | | OCDF | 0.105 ng/Kg | |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-775-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.222 ng/Kg | 0.222U ng/Kg |
| SL-775-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.222 ng/Kg | 0.222U ng/Kg |
| SL-775-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.147 ng/Kg | 0.147U ng/Kg |
| SL-775-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0996 ng/Kg | 0.0996U ng/Kg |
| SL-790-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.236 ng/Kg | 0.236U ng/Kg |
| SL-790-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.249 ng/Kg | 0.249U ng/Kg |
| SL-791-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.280 ng/Kg | 0.280U ng/Kg |
| SL-791-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.276 ng/Kg | 0.276U ng/Kg |
| SL-792-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0772 ng/Kg | 0.0772U ng/Kg |
| SL-792-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0963 ng/Kg | 0.0963U ng/Kg |
| SL-792-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.102 ng/Kg | 0.102U ng/Kg |
| SL-792-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0745 ng/Kg | 0.0745U ng/Kg |
| SL-792-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDD | 0.159 ng/Kg | 0.159U ng/Kg |
| SL-792-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.0613 ng/Kg | 0.0613U ng/Kg |
| SL-792-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.0821 ng/Kg | 0.0821U ng/Kg |
| SL-792-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.128 ng/Kg | 0.128U ng/Kg |
| SL-792-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0448 ng/Kg | 0.0448U ng/Kg |
| SL-792-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0775 ng/Kg | 0.0775U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH056
 EDD Filename: PrepPH056_v1

Laboratory: LL
 eQAPP Name: CDM_SSFL_130705_Lan

| Method: | 6010C | | | |
|------------------------|----------------------|-------------------|--------------------------|--|
| Matrix: | SO | | | |
| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
| P16737AB221426 | 6/18/2013 2:26:00 PM | PHOSPHORUS TIN | 1.25 mg/Kg 1.37 mg/Kg | SL-775-SA5A-SB-0.0-0.5 SL-790-SA5A-SB-0.0-0.5 SL-791-SA5A-SB-0.0-0.5 SL-792-SA5A-SB-0.0-0.5 SL-793-SA5A-SB-0.0-0.5 SL-795-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|---------|-----------------|-----------------------|
| SL-775-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.72 mg/Kg | 2.72U mg/Kg |
| SL-790-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.71 mg/Kg | 2.71U mg/Kg |
| SL-791-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.64 mg/Kg | 2.64U mg/Kg |
| SL-792-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.90 mg/Kg | 2.90U mg/Kg |
| SL-793-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.58 mg/Kg | 2.58U mg/Kg |
| SL-795-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.74 mg/Kg | 2.74U mg/Kg |

Field Blank Outlier Report

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|----------------------|----------------------------|--|
| FB-041113(REA2/TOT) | 4/11/2013 3:00:00 PM | COPPER MOLYBDENUM | 0.0036 mg/L 0.0036 mg/L | SL-775-SA5A-SB-0.0-0.5 SL-790-SA5A-SB-0.0-0.5 SL-791-SA5A-SB-0.0-0.5 SL-792-SA5A-SB-0.0-0.5 SL-793-SA5A-SB-0.0-0.5 SL-795-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|------------|-----------------|-----------------------|
| SL-775-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.540 mg/Kg | 0.540U mg/Kg |
| SL-790-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.452 mg/Kg | 0.452U mg/Kg |
| SL-791-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.471 mg/Kg | 0.471U mg/Kg |
| SL-792-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.187 mg/Kg | 0.187U mg/Kg |
| SL-793-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.395 mg/Kg | 0.395U mg/Kg |
| SL-795-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.560 mg/Kg | 0.560U mg/Kg |

Method: 8270D SIM
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|--|---|--|
| FB-041113(RES) | 4/11/2013 3:00:00 PM | 1-Methylnaphthalene 2-METHYLNAPHTHALENE BIS(2-ETHYLHEXYL)PHTHALATE Diethylphthalate Di-n-butylphthalate NAPHTHALENE | 0.019 ug/L 0.024 ug/L 0.082 ug/L 0.18 ug/L 0.17 ug/L 0.17 ug/L | SL-775-SA5A-SB-0.0-0.5 SL-790-SA5A-SB-0.0-0.5 SL-791-SA5A-SB-0.0-0.5 SL-792-SA5A-SB-0.0-0.5 SL-793-SA5A-SB-0.0-0.5 SL-795-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|-------------|-----------------|-----------------------|
| SL-791-SA5A-SB-0.0-0.5(RES) | NAPHTHALENE | 0.73 ug/Kg | 1.7U ug/Kg |

Surrogate Outlier Report

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8082A

Matrix: SO

| <i>Sample ID (Analysis Type)</i> | <i>Surrogate</i> | <i>Sample % Recovery</i> | <i>% Recovery Limits</i> | <i>Affected Compounds</i> | <i>Flag</i> |
|--------------------------------------|--|------------------------------|------------------------------|-------------------------------|-----------------|
| SL-793-SA5A-SB-0.0-0.5 | DECACHLOROBIPHENYL TETRACHLORO-M-XYLENE | 131 142 | 45.00-120.00 45.00-120.00 | All Target Analytes | J (all detects) |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Reporting Limit Outliers

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-775-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 2.97 | 5.04 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.248 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.404 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.222 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | J | 1.03 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.147 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 1.13 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.222 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.261 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.147 | 5.04 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.172 | 5.04 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0996 | 5.04 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0543 | 1.01 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0637 | 1.01 | PQL | ng/Kg | |
| OCDF | JB | 9.56 | 10.1 | PQL | ng/Kg | | |
| SL-790-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 4.49 | 5.04 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.325 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.447 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.248 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | J | 1.27 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.213 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 1.10 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.236 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.295 | 5.04 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.249 | 5.04 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.258 | 5.04 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.181 | 5.04 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0317 | 1.01 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.196 | 1.01 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-791-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 3.79 | 4.92 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.269 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.584 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.275 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | J | 1.74 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.186 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 1.56 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.280 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.374 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.276 | 4.92 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.214 | 4.92 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.250 | 4.92 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0445 | 0.984 | PQL | ng/Kg | |
| 2,3,7,8-TCDF | J | 0.146 | 0.984 | PQL | ng/Kg | | |
| SL-792-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 2.22 | 5.05 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.426 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0772 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0963 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.102 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | J | 0.161 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0745 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.159 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0613 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0821 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.128 | 5.05 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0448 | 5.05 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0775 | 5.05 | PQL | ng/Kg | |
| | OCDF | JB | 1.66 | 10.1 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-793-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 1.30 | 4.97 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | JB | 2.12 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.721 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.503 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 4.78 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.422 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 1.29 | 4.97 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.468 | 4.97 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.686 | 4.97 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.461 | 4.97 | PQL | ng/Kg | |
| SL-795-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD | JQ | 0.190 | 0.993 | PQL | ng/Kg | J (all detects) |
| | 2,3,7,8-TCDF | J | 0.225 | 0.993 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 2.07 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 2.91 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.968 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.607 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 1.48 | 5.09 | PQL | ng/Kg | J (all detects) |
| | 2,3,4,7,8-PECDF | JB | 0.618 | 5.09 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.227 | 1.02 | PQL | ng/Kg | |
| | | | | | | | |

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-775-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.599 | 0.995 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.09 | 9.95 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.540 | 1.99 | PQL | mg/Kg | |
| | SODIUM | J | 68.9 | 99.5 | PQL | mg/Kg | |
| | TIN | J | 2.72 | 9.95 | PQL | mg/Kg | |
| | Zirconium | J | 2.19 | 4.98 | PQL | mg/Kg | |
| SL-790-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.602 | 1.01 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.39 | 10.1 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.452 | 2.02 | PQL | mg/Kg | |
| | SODIUM | J | 84.2 | 101 | PQL | mg/Kg | |
| | TIN | J | 2.71 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 2.92 | 5.06 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-791-SA5A-SB-0.0-0.5 | ANTIMONY | J | 0.757 | 3.92 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.588 | 0.981 | PQL | mg/Kg | |
| | BORON | J | 3.18 | 9.81 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.471 | 1.96 | PQL | mg/Kg | |
| | SODIUM | J | 78.3 | 98.1 | PQL | mg/Kg | |
| | TIN | J | 2.64 | 9.81 | PQL | mg/Kg | |
| | Zirconium | J | 3.15 | 4.90 | PQL | mg/Kg | |
| SL-792-SA5A-SB-0.0-0.5 | ANTIMONY | J | 0.639 | 4.00 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.654 | 0.999 | PQL | mg/Kg | |
| | BORON | J | 1.68 | 9.99 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.187 | 2.00 | PQL | mg/Kg | |
| | SODIUM | J | 97.4 | 99.9 | PQL | mg/Kg | |
| | TIN | J | 2.90 | 9.99 | PQL | mg/Kg | |
| | Zirconium | J | 2.69 | 4.99 | PQL | mg/Kg | |
| SL-793-SA5A-SB-0.0-0.5 | ANTIMONY | J | 0.529 | 4.00 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.548 | 1.00 | PQL | mg/Kg | |
| | BORON | J | 2.99 | 10.0 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.395 | 2.00 | PQL | mg/Kg | |
| | SODIUM | J | 68.8 | 100 | PQL | mg/Kg | |
| | TIN | J | 2.58 | 10.0 | PQL | mg/Kg | |
| | Zirconium | J | 2.84 | 5.00 | PQL | mg/Kg | |
| SL-795-SA5A-SB-0.0-0.5 | ANTIMONY | J | 0.601 | 4.07 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.600 | 1.02 | PQL | mg/Kg | |
| | BORON | J | 2.78 | 10.2 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.560 | 2.03 | PQL | mg/Kg | |
| | SODIUM | J | 75.5 | 102 | PQL | mg/Kg | |
| | TIN | J | 2.74 | 10.2 | PQL | mg/Kg | |
| | Zirconium | J | 3.01 | 5.08 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-775-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.157 | 0.398 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0251 | 0.199 | PQL | mg/Kg | |
| SL-790-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.134 | 0.405 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0556 | 0.202 | PQL | mg/Kg | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Reporting Limit Outliers

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-791-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.122 | 0.392 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0583 | 0.196 | PQL | mg/Kg | |
| SL-793-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.127 | 0.400 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.103 | 0.200 | PQL | mg/Kg | |
| SL-795-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.151 | 0.407 | PQL | mg/Kg | J (all detects) |

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-775-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0111 | 0.0161 | PQL | mg/Kg | J (all detects) |
| SL-790-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0103 | 0.0165 | PQL | mg/Kg | J (all detects) |
| SL-793-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0105 | 0.0157 | PQL | mg/Kg | J (all detects) |
| SL-795-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0122 | 0.0167 | PQL | mg/Kg | J (all detects) |

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-792-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 2.4 | 5.1 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 6.1 | 10 | PQL | mg/Kg | |
| SL-795-SA5A-SB-0.0-0.5 | EFH (C15-C20) | J | 4.2 | 5.1 | PQL | mg/Kg | J (all detects) |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-775-SA5A-SB-0.0-0.5 | BENZO(A)ANTHRACENE | J | 0.68 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)PYRENE | J | 0.85 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 0.70 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 15 | 18 | PQL | ug/Kg | |
| | Butylbenzylphthalate | J | 7.5 | 18 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.0 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.3 | 1.7 | PQL | ug/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH056

Laboratory: LL

EDD Filename: PrepPH056_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-790-SA5A-SB-0.0-0.5 | BENZO(A)PYRENE | J | 0.67 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 16 | 18 | PQL | ug/Kg | |
| | CHRYSENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.93 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| SL-791-SA5A-SB-0.0-0.5 | BENZO(A)ANTHRACENE | J | 0.91 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)PYRENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 0.99 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 13 | 18 | PQL | ug/Kg | |
| | INDENO(1,2,3-CD)PYRENE | J | 0.89 | 1.7 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 0.73 | 1.7 | PQL | ug/Kg | |
| PHENANTHRENE | J | 1.3 | 1.7 | PQL | ug/Kg | | |
| SL-793-SA5A-SB-0.0-0.5 | 2-METHYLNAPHTHALENE | J | 0.70 | 1.7 | PQL | ug/Kg | J (all detects) |
| | ANTHRACENE | J | 0.41 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)ANTHRACENE | J | 0.88 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 0.98 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 0.93 | 1.7 | PQL | ug/Kg | |
| | Butylbenzylphthalate | J | 6.9 | 18 | PQL | ug/Kg | |
| | INDENO(1,2,3-CD)PYRENE | J | 0.88 | 1.7 | PQL | ug/Kg | |
| SL-795-SA5A-SB-0.0-0.5 | ACENAPHTHYLENE | J | 0.40 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)ANTHRACENE | J | 0.78 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 0.68 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 1.0 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 14 | 18 | PQL | ug/Kg | |

LDC #: 30074C4

VALIDATION COMPLETENESS WORKSHEET

Date: 7/26/13

SDG #: PH056

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--|
| I. | Technical holding times | — | Sampling dates: 6/13/13 |
| II. | ICP/MS Tune | — | |
| III. | Calibration | — | |
| IV. | Blanks | A | |
| V. | ICP Interference Check Sample (ICS) Analysis | — | |
| VI. | Matrix Spike Analysis | N | MSD (from PH056) (SL-775-SA5A-SB-6070) (LDC: 300374) |
| VII. | Duplicate Sample Analysis | N | Dup ↓ |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | A | |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | N | |
| XV. | Field Blanks | SW | EB = EB1-061213 FB = FB-041113 |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

(PH056)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(PH029)

Validated Samples: 30.1

| | | | | | | | |
|----|------------------------|----|--|----|--|----|--|
| 1 | SL-792-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-793-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | SL-795-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 | |
| 4 | SL-790-SA5A-SB-0.0-0.5 | 14 | | 24 | | 34 | |
| 5 | SL-791-SA5A-SB-0.0-0.5 | 15 | | 25 | | 35 | |
| 6 | SL-775-SA5A-SB-0.0-0.5 | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

VALIDATION FINDINGS WORKSHEET Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

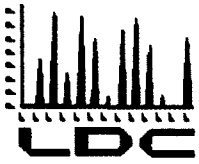
Blank units: mg/L **Associated sample units:** mg/Kg Reason: F
Sampling date: 4/11/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|---------------------------|-----------------------|------|------|------|------|------|------|--|--|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 1 | 2 | 3 | 4 | 5 | 6 | | | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 0.19 | 0.40 | 0.56 | 0.45 | 0.47 | 0.54 | | | | |

Sampling date: 6/12/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|----------------------------|-----------------------|---------------|--|--|--|--|--|--|--|--|--|
| | EB1-061213 (SDG: PH055) | Action Limit | No Qualifiers | | | | | | | | | |
| Ba | 0.00037 | 0.185 | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".



Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437

Web www.lab-data.com

Fax 760.634.0439

CDM
555 17th Street, Suite 1100
Denver, CO 80202
ATTN: Mrs. Cherie Zakowski

August 15, 2013

SUBJECT: Santa Susana Field Laboratory, Data Validation

Dear Mrs. Zakowski,

Enclosed is the final validation report for the fractions listed below. These SDGs were received on July 24, 2013.

LDC project# 30098:

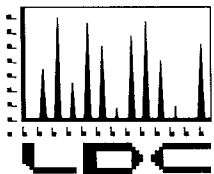
| <u>SDG #</u> | <u>Fraction</u> |
|-------------------------------|--|
| PH058, PH059, PH060, PH061 | Semivolatiles (EPA SW 846 Method 8270D-SIM) Metals (EPA SW 846 Method 6010C/6020A/7471A/7470A) TPH-G (EPA SW 846 Method 8015M) TPH-E (EPA SW 846 Method 8015M) Dioxins/Dibenzofurans (EPA Method 1613B) |

The following deliverables are submitted under this report:

- Attachment I Sample ID Cross Reference and Data Review Level
- Attachment II Overall Data Qualification Summary
- Enclosure I Level III ADR Outliers (including manual review outliers)

The data validation was performed in accordance to the Quality Assurance Project Plan for Santa Susana Field Laboratory, RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4), USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005), and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience. The following items were evaluated during the review:

- Holding Times
- Sample Preservation
- Cooler Temperatures
- Initial Calibration (Level IV only)
- Continuing Calibration (Level IV only)
- Blanks
- Surrogates
- Matrix Spike/Matrix Spike Duplicates



- Laboratory Duplicates
- Laboratory Control Samples
- Internal Standards (Level IV only)
- ICP Serial Dilution (Manual Review)
- Detection and Quantitation Limits
- Field QC Samples

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. McKellar', with a long horizontal flourish extending to the right.

Shauna McKellar
Project Manager/Chemist

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 17-Jun-2013 | TB-061713 | 7096471 | TB | 5030B | 8015M | III |
| 17-Jun-2013 | SL-780-SA5A-SB-0.0-0.5 | 7096472 | N | 3050B | 6010C | III |
| 17-Jun-2013 | SL-780-SA5A-SB-0.0-0.5 | 7096472 | N | 3050B | 6020A | III |
| 17-Jun-2013 | SL-780-SA5A-SB-0.0-0.5 | 7096472 | N | 3546 | 8015M | III |
| 17-Jun-2013 | SL-780-SA5A-SB-0.0-0.5 | 7096472 | N | 3546 | 8270D SIM | III |
| 17-Jun-2013 | SL-780-SA5A-SB-0.0-0.5 | 7096472 | N | METHOD | 1613B | III |
| 17-Jun-2013 | SL-780-SA5A-SB-0.0-0.5 | 7096472 | N | METHOD | 7471B | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0 | 7096473 | N | 3050B | 6010C | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0 | 7096473 | N | 3050B | 6020A | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0 | 7096473 | N | 3546 | 8015M | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0 | 7096473 | N | 3546 | 8270D SIM | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0 | 7096473 | N | 5035A | 8015M | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0 | 7096473 | N | METHOD | 1613B | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0 | 7096473 | N | METHOD | 7471B | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MS | 7096474 | MS | 3050B | 6010C | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MS | 7096474 | MS | 3050B | 6020A | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MS | 7096474 | MS | 3546 | 8015M | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MS | 7096474 | MS | 3546 | 8270D SIM | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MS | 7096474 | MS | 5035A | 8015M | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MS | 7096474 | MS | METHOD | 1613B | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MS | 7096474 | MS | METHOD | 7471B | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MSD | 7096475 | MSD | 3050B | 6010C | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MSD | 7096475 | MSD | 3050B | 6020A | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MSD | 7096475 | MSD | 3546 | 8015M | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MSD | 7096475 | MSD | 3546 | 8270D SIM | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MSD | 7096475 | MSD | 5035A | 8015M | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MSD | 7096475 | MSD | METHOD | 1613B | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0MSD | 7096475 | MSD | METHOD | 7471B | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0DUP | 7096476 | DUP | 3050B | 6010C | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0DUP | 7096476 | DUP | 3050B | 6020A | III |
| 17-Jun-2013 | SL-780-SA5A-SB-3.0-4.0DUP | 7096476 | DUP | METHOD | 7471B | III |
| 17-Jun-2013 | SL-1180-SA5A-SB-3.0-4.0 | 7096477 | FD | 3050B | 6010C | III |
| 17-Jun-2013 | SL-1180-SA5A-SB-3.0-4.0 | 7096477 | FD | 3050B | 6020A | III |
| 17-Jun-2013 | SL-1180-SA5A-SB-3.0-4.0 | 7096477 | FD | 3546 | 8015M | III |
| 17-Jun-2013 | SL-1180-SA5A-SB-3.0-4.0 | 7096477 | FD | 3546 | 8270D SIM | III |
| 17-Jun-2013 | SL-1180-SA5A-SB-3.0-4.0 | 7096477 | FD | 5035A | 8015M | III |
| 17-Jun-2013 | SL-1180-SA5A-SB-3.0-4.0 | 7096477 | FD | METHOD | 1613B | III |
| 17-Jun-2013 | SL-1180-SA5A-SB-3.0-4.0 | 7096477 | FD | METHOD | 7471B | III |
| 17-Jun-2013 | SL-823-SA5A-SB-0.0-0.5 | 7096478 | N | 3050B | 6010C | III |
| 17-Jun-2013 | SL-823-SA5A-SB-0.0-0.5 | 7096478 | N | 3050B | 6020A | III |
| 17-Jun-2013 | SL-823-SA5A-SB-0.0-0.5 | 7096478 | N | 3546 | 8015M | III |
| 17-Jun-2013 | SL-823-SA5A-SB-0.0-0.5 | 7096478 | N | 3546 | 8270D SIM | III |
| 17-Jun-2013 | SL-823-SA5A-SB-0.0-0.5 | 7096478 | N | METHOD | 1613B | III |
| 17-Jun-2013 | SL-823-SA5A-SB-0.0-0.5 | 7096478 | N | METHOD | 7471B | III |
| 17-Jun-2013 | SL-825-SA5A-SB-0.0-0.5 | 7096479 | N | 3050B | 6010C | III |
| 17-Jun-2013 | SL-825-SA5A-SB-0.0-0.5 | 7096479 | N | 3050B | 6020A | III |
| 17-Jun-2013 | SL-825-SA5A-SB-0.0-0.5 | 7096479 | N | 3546 | 8015M | III |
| 17-Jun-2013 | SL-825-SA5A-SB-0.0-0.5 | 7096479 | N | 3546 | 8270D SIM | III |
| 17-Jun-2013 | SL-825-SA5A-SB-0.0-0.5 | 7096479 | N | METHOD | 1613B | III |
| 17-Jun-2013 | SL-825-SA5A-SB-0.0-0.5 | 7096479 | N | METHOD | 7471B | III |
| 17-Jun-2013 | SL-824-SA5A-SB-0.0-0.5 | 7096481 | N | 3050B | 6010C | III |
| 17-Jun-2013 | SL-824-SA5A-SB-0.0-0.5 | 7096481 | N | 3050B | 6020A | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 17-Jun-2013 | SL-824-SA5A-SB-0.0-0.5 | 7096481 | N | 3546 | 8015M | III |
| 17-Jun-2013 | SL-824-SA5A-SB-0.0-0.5 | 7096481 | N | 3546 | 8270D SIM | III |
| 17-Jun-2013 | SL-824-SA5A-SB-0.0-0.5 | 7096481 | N | METHOD | 1613B | III |
| 17-Jun-2013 | SL-824-SA5A-SB-0.0-0.5 | 7096481 | N | METHOD | 7471B | III |
| 17-Jun-2013 | SL-822-SA5A-SB-0.0-0.5 | 7096480 | N | 3050B | 6010C | III |
| 17-Jun-2013 | SL-822-SA5A-SB-0.0-0.5 | 7096480 | N | 3050B | 6020A | III |
| 17-Jun-2013 | SL-822-SA5A-SB-0.0-0.5 | 7096480 | N | 3546 | 8015M | III |
| 17-Jun-2013 | SL-822-SA5A-SB-0.0-0.5 | 7096480 | N | 3546 | 8270D SIM | III |
| 17-Jun-2013 | SL-822-SA5A-SB-0.0-0.5 | 7096480 | N | METHOD | 1613B | III |
| 17-Jun-2013 | SL-822-SA5A-SB-0.0-0.5 | 7096480 | N | METHOD | 7471B | III |

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | |
|-------------------------|---------------|
| Method Category: | METALS |
| Method: | 6010C |
| Matrix: | SO |

Sample ID: SL-1180-SA5A-SB-3.0-4.0 Collected: 6/17/2013 9:35:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.24 | U | 0.784 | MDL | 4.24 | PQL | mg/Kg | UJ | Q |
| BORON | 1.38 | J | 0.890 | MDL | 10.6 | PQL | mg/Kg | U | B |
| CADMIUM | 0.103 | J | 0.0806 | MDL | 1.06 | PQL | mg/Kg | J | Z, FD |
| COBALT | 12.8 | | 0.105 | MDL | 1.06 | PQL | mg/Kg | J | E |
| COPPER | 27.4 | | 0.307 | MDL | 2.12 | PQL | mg/Kg | J | A |
| MANGANESE | 618 | | 0.0880 | MDL | 1.06 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.332 | J | 0.180 | MDL | 2.12 | PQL | mg/Kg | UJ | FD, B, F, F |
| POTASSIUM | 3110 | | 8.84 | MDL | 106 | PQL | mg/Kg | J | Q |
| TIN | 4.13 | J | 0.233 | MDL | 10.6 | PQL | mg/Kg | U | B |

Sample ID: SL-780-SA5A-SB-0.0-0.5 Collected: 6/17/2013 9:05:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.05 | U | 0.750 | MDL | 4.05 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.599 | J | 0.0679 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 3.33 | J | 0.851 | MDL | 10.1 | PQL | mg/Kg | U | B |
| CADMIUM | 0.301 | J | 0.0770 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| COBALT | 5.48 | | 0.100 | MDL | 1.01 | PQL | mg/Kg | J | E |
| COPPER | 9.97 | | 0.294 | MDL | 2.03 | PQL | mg/Kg | J | A |
| MANGANESE | 344 | | 0.0841 | MDL | 1.01 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.654 | J | 0.172 | MDL | 2.03 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 4190 | | 8.45 | MDL | 101 | PQL | mg/Kg | J | Q |
| SODIUM | 84.2 | J | 16.9 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 2.89 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 4.04 | J | 0.851 | MDL | 5.07 | PQL | mg/Kg | J | Z |

Sample ID: SL-780-SA5A-SB-3.0-4.0 Collected: 6/17/2013 9:25:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.15 | U | 0.768 | MDL | 4.15 | PQL | mg/Kg | UJ | Q |
| BORON | 1.29 | J | 0.872 | MDL | 10.4 | PQL | mg/Kg | U | B |
| CADMIUM | 1.04 | U | 0.0789 | MDL | 1.04 | PQL | mg/Kg | UJ | FD |
| COBALT | 8.66 | | 0.103 | MDL | 1.04 | PQL | mg/Kg | J | E |
| COPPER | 17.9 | | 0.301 | MDL | 2.08 | PQL | mg/Kg | J | A |
| MANGANESE | 372 | | 0.0861 | MDL | 1.04 | PQL | mg/Kg | J | E |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-780-SA5A-SB-3.0-4.0 Collected: 6/17/2013 9:25:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| MOLYBDENUM | 0.641 | J | 0.176 | MDL | 2.08 | PQL | mg/Kg | UJ | FD, B, F, F |
| POTASSIUM | 2950 | | 8.66 | MDL | 104 | PQL | mg/Kg | J | Q |
| TIN | 3.73 | J | 0.228 | MDL | 10.4 | PQL | mg/Kg | U | B |
| Zirconium | 5.06 | J | 0.872 | MDL | 5.19 | PQL | mg/Kg | J | Z |

Sample ID: SL-822-SA5A-SB-0.0-0.5 Collected: 6/17/2013 2:35:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 3.99 | U | 0.739 | MDL | 3.99 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.98 | J | 0.699 | MDL | 3.99 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.604 | J | 0.0669 | MDL | 0.998 | PQL | mg/Kg | J | Z |
| BORON | 3.81 | J | 0.839 | MDL | 9.98 | PQL | mg/Kg | U | B |
| CADMIUM | 0.289 | J | 0.0759 | MDL | 0.998 | PQL | mg/Kg | J | Z |
| COBALT | 5.66 | | 0.0988 | MDL | 0.998 | PQL | mg/Kg | J | E |
| COPPER | 10.6 | | 0.290 | MDL | 2.00 | PQL | mg/Kg | J | A |
| MANGANESE | 378 | | 0.0829 | MDL | 0.998 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.468 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 4180 | | 8.33 | MDL | 99.8 | PQL | mg/Kg | J | Q |
| SODIUM | 78.6 | J | 16.7 | MDL | 99.8 | PQL | mg/Kg | J | Z |
| TIN | 2.77 | J | 0.220 | MDL | 9.98 | PQL | mg/Kg | U | B |
| Zirconium | 3.21 | J | 0.839 | MDL | 4.99 | PQL | mg/Kg | J | Z |

Sample ID: SL-823-SA5A-SB-0.0-0.5 Collected: 6/17/2013 10:05:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 3.93 | U | 0.727 | MDL | 3.93 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.581 | J | 0.0658 | MDL | 0.982 | PQL | mg/Kg | J | Z |
| BORON | 4.05 | J | 0.825 | MDL | 9.82 | PQL | mg/Kg | U | B |
| CADMIUM | 0.344 | J | 0.0746 | MDL | 0.982 | PQL | mg/Kg | J | Z |
| COBALT | 5.69 | | 0.0972 | MDL | 0.982 | PQL | mg/Kg | J | E |
| COPPER | 14.8 | | 0.285 | MDL | 1.96 | PQL | mg/Kg | J | A |
| MANGANESE | 401 | | 0.0815 | MDL | 0.982 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.510 | J | 0.167 | MDL | 1.96 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 4340 | | 8.19 | MDL | 98.2 | PQL | mg/Kg | J | Q |
| SODIUM | 79.6 | J | 16.4 | MDL | 98.2 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-823-SA5A-SB-0.0-0.5 Collected: 6/17/2013 10:05:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| TIN | 2.74 | J | 0.216 | MDL | 9.82 | PQL | mg/Kg | U | B |
| Zirconium | 3.28 | J | 0.825 | MDL | 4.91 | PQL | mg/Kg | J | Z |

Sample ID: SL-824-SA5A-SB-0.0-0.5 Collected: 6/17/2013 1:45:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 3.95 | U | 0.731 | MDL | 3.95 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.628 | J | 0.0662 | MDL | 0.988 | PQL | mg/Kg | J | Z |
| BORON | 2.70 | J | 0.830 | MDL | 9.88 | PQL | mg/Kg | U | B |
| CADMIUM | 0.252 | J | 0.0751 | MDL | 0.988 | PQL | mg/Kg | J | Z |
| COBALT | 5.49 | | 0.0978 | MDL | 0.988 | PQL | mg/Kg | J | E |
| COPPER | 10.1 | | 0.286 | MDL | 1.98 | PQL | mg/Kg | J | A |
| MANGANESE | 355 | | 0.0820 | MDL | 0.988 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.520 | J | 0.168 | MDL | 1.98 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 4030 | | 8.24 | MDL | 98.8 | PQL | mg/Kg | J | Q |
| SODIUM | 81.2 | J | 16.5 | MDL | 98.8 | PQL | mg/Kg | J | Z |
| TIN | 2.87 | J | 0.217 | MDL | 9.88 | PQL | mg/Kg | U | B |
| Zirconium | 3.47 | J | 0.830 | MDL | 4.94 | PQL | mg/Kg | J | Z |

Sample ID: SL-825-SA5A-SB-0.0-0.5 Collected: 6/17/2013 11:05:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 3.88 | U | 0.718 | MDL | 3.88 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.69 | J | 0.679 | MDL | 3.88 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.579 | J | 0.0650 | MDL | 0.970 | PQL | mg/Kg | J | Z |
| BORON | 3.50 | J | 0.815 | MDL | 9.70 | PQL | mg/Kg | U | B |
| CADMIUM | 0.344 | J | 0.0737 | MDL | 0.970 | PQL | mg/Kg | J | Z |
| COBALT | 5.30 | | 0.0961 | MDL | 0.970 | PQL | mg/Kg | J | E |
| COPPER | 9.90 | | 0.281 | MDL | 1.94 | PQL | mg/Kg | J | A |
| MANGANESE | 354 | | 0.0805 | MDL | 0.970 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.488 | J | 0.165 | MDL | 1.94 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 4210 | | 8.09 | MDL | 97.0 | PQL | mg/Kg | J | Q |
| SODIUM | 77.3 | J | 16.2 | MDL | 97.0 | PQL | mg/Kg | J | Z |
| TIN | 2.80 | J | 0.213 | MDL | 9.70 | PQL | mg/Kg | U | B |
| Zirconium | 3.44 | J | 0.815 | MDL | 4.85 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

| Sample ID: SL-1180-SA5A-SB-3.0-4.0 | Collected: 6/17/2013 9:35:00 | Analysis Type: REA/TOT | Dilution: 2 | | | | | | |
|---|-------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.265 | J | 0.106 | MDL | 0.424 | PQL | mg/Kg | J | Z |

| Sample ID: SL-1180-SA5A-SB-3.0-4.0 | Collected: 6/17/2013 9:35:00 | Analysis Type: RES/TOT | Dilution: 2 | | | | | | |
|---|-------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| STRONTIUM | 47.4 | | 0.0551 | MDL | 0.424 | PQL | mg/Kg | J | Q |

| Sample ID: SL-780-SA5A-SB-0.0-0.5 | Collected: 6/17/2013 9:05:00 | Analysis Type: REA/TOT | Dilution: 2 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.202 | J | 0.101 | MDL | 0.405 | PQL | mg/Kg | J | Z |

| Sample ID: SL-780-SA5A-SB-0.0-0.5 | Collected: 6/17/2013 9:05:00 | Analysis Type: RES/TOT | Dilution: 2 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0692 | J | 0.0263 | MDL | 0.203 | PQL | mg/Kg | J | Z |
| STRONTIUM | 31.7 | | 0.0527 | MDL | 0.405 | PQL | mg/Kg | J | Q |

| Sample ID: SL-780-SA5A-SB-3.0-4.0 | Collected: 6/17/2013 9:25:00 | Analysis Type: REA/TOT | Dilution: 2 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.338 | J | 0.104 | MDL | 0.415 | PQL | mg/Kg | J | Z |

| Sample ID: SL-780-SA5A-SB-3.0-4.0 | Collected: 6/17/2013 9:25:00 | Analysis Type: RES/TOT | Dilution: 2 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| STRONTIUM | 32.8 | | 0.0540 | MDL | 0.415 | PQL | mg/Kg | J | Q |

| Sample ID: SL-822-SA5A-SB-0.0-0.5 | Collected: 6/17/2013 2:35:00 | Analysis Type: REA/TOT | Dilution: 2 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.201 | J | 0.0998 | MDL | 0.399 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

| Sample ID: SL-822-SA5A-SB-0.0-0.5 | Collected: 6/17/2013 2:35:00 | Analysis Type: RES/TOT | Dilution: 2 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0707 | J | 0.0260 | MDL | 0.200 | PQL | mg/Kg | J | Z |
| STRONTIUM | 41.4 | | 0.0519 | MDL | 0.399 | PQL | mg/Kg | J | Q |

| Sample ID: SL-823-SA5A-SB-0.0-0.5 | Collected: 6/17/2013 10:05:00 | Analysis Type: REA/TOT | Dilution: 2 | | | | | | |
|--|--------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.226 | J | 0.0982 | MDL | 0.393 | PQL | mg/Kg | J | Z |

| Sample ID: SL-823-SA5A-SB-0.0-0.5 | Collected: 6/17/2013 10:05:00 | Analysis Type: RES/TOT | Dilution: 2 | | | | | | |
|--|--------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0601 | J | 0.0255 | MDL | 0.196 | PQL | mg/Kg | J | Z |
| STRONTIUM | 40.3 | | 0.0511 | MDL | 0.393 | PQL | mg/Kg | J | Q |

| Sample ID: SL-824-SA5A-SB-0.0-0.5 | Collected: 6/17/2013 1:45:00 | Analysis Type: REA/TOT | Dilution: 2 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.196 | J | 0.0988 | MDL | 0.395 | PQL | mg/Kg | J | Z |

| Sample ID: SL-824-SA5A-SB-0.0-0.5 | Collected: 6/17/2013 1:45:00 | Analysis Type: RES/TOT | Dilution: 2 | | | | | | |
|--|-------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0558 | J | 0.0257 | MDL | 0.198 | PQL | mg/Kg | J | Z |
| STRONTIUM | 33.7 | | 0.0514 | MDL | 0.395 | PQL | mg/Kg | J | Q |

| Sample ID: SL-825-SA5A-SB-0.0-0.5 | Collected: 6/17/2013 11:05:00 | Analysis Type: REA/TOT | Dilution: 2 | | | | | | |
|--|--------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.160 | J | 0.0970 | MDL | 0.388 | PQL | mg/Kg | J | Z |

| Sample ID: SL-825-SA5A-SB-0.0-0.5 | Collected: 6/17/2013 11:05:00 | Analysis Type: RES/TOT | Dilution: 2 | | | | | | |
|--|--------------------------------------|-------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0529 | J | 0.0252 | MDL | 0.194 | PQL | mg/Kg | J | Z |
| STRONTIUM | 37.9 | | 0.0505 | MDL | 0.388 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 7471B | Matrix: SO |

Sample ID: SL-780-SA5A-SB-0.0-0.5 Collected: 6/17/2013 9:05:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0139 | J | 0.010 | MDL | 0.0166 | PQL | mg/Kg | J | Z |

Sample ID: SL-823-SA5A-SB-0.0-0.5 Collected: 6/17/2013 10:05:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0120 | J | 0.010 | MDL | 0.0167 | PQL | mg/Kg | J | Z |

Sample ID: SL-824-SA5A-SB-0.0-0.5 Collected: 6/17/2013 1:45:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0107 | J | 0.0097 | MDL | 0.0162 | PQL | mg/Kg | J | Z |

Sample ID: SL-825-SA5A-SB-0.0-0.5 Collected: 6/17/2013 11:05:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0155 | J | 0.0098 | MDL | 0.0164 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|--------------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-1180-SA5A-SB-3.0-4.0 Collected: 6/17/2013 9:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.169 | JB | 0.0216 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0426 | JBQ | 0.00664 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0502 | JB | 0.0108 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0407 | JQ | 0.0201 | MDL | 5.19 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDF | 0.0563 | JBQ | 0.00889 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.0499 | JB | 0.0218 | MDL | 5.19 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HxCDF | 0.0448 | JBQ | 0.00824 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.135 | JBQ | 0.0199 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDF | 0.0687 | JBQ | 0.00942 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0770 | JB | 0.0277 | MDL | 5.19 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDF | 0.0651 | JBQ | 0.0116 | MDL | 5.19 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,6,7,8-HxCDF | 0.0378 | JBQ | 0.00824 | MDL | 5.19 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-1180-SA5A-SB-3.0-4.0 Collected: 6/17/2013 9:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 2,3,4,7,8-PECDF | 0.0806 | JBQ | 0.0119 | MDL | 5.19 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDD | 0.0525 | JB | 0.0273 | MDL | 1.04 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0192 | JQ | 0.0173 | MDL | 1.04 | PQL | ng/Kg | J | Z, FD |
| OCDD | 0.911 | JB | 0.0192 | MDL | 10.4 | PQL | ng/Kg | UJ | B, FD |
| OCDF | 0.142 | JB | 0.0246 | MDL | 10.4 | PQL | ng/Kg | UJ | B, FD |

Sample ID: SL-780-SA5A-SB-0.0-0.5 Collected: 6/17/2013 9:05:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 4.69 | JB | 0.0235 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.307 | JB | 0.0377 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 1.16 | J | 0.0527 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.443 | JB | 0.0306 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 3.12 | JB | 0.0558 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.338 | JB | 0.0284 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 3.31 | JB | 0.0540 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.546 | JB | 0.0358 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.855 | JB | 0.0431 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.667 | JB | 0.0258 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.378 | JB | 0.0282 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.609 | JB | 0.0250 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.106 | JB | 0.0290 | MDL | 1.02 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.280 | J | 0.0418 | MDL | 1.02 | PQL | ng/Kg | J | Z |

Sample ID: SL-780-SA5A-SB-3.0-4.0 Collected: 6/17/2013 9:25:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.117 | JB | 0.0227 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0414 | JBQ | 0.00702 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0386 | JB | 0.0122 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0482 | JQ | 0.0239 | MDL | 5.19 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.0351 | JBQ | 0.00828 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.124 | JBQ | 0.0264 | MDL | 5.19 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HXCDF | 0.0554 | JBQ | 0.00755 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.179 | JBQ | 0.0247 | MDL | 5.19 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

| Sample ID: SL-780-SA5A-SB-3.0-4.0 | Collected: 6/17/2013 9:25:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,7,8,9-HXCDF | 0.0953 | JBQ | 0.00870 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0458 | JBQ | 0.0253 | MDL | 5.19 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDF | 0.0358 | JBQ | 0.0114 | MDL | 5.19 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,6,7,8-HXCDF | 0.0421 | JB | 0.00755 | MDL | 5.19 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0468 | JBQ | 0.0109 | MDL | 5.19 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDD | 0.0510 | JB | 0.0263 | MDL | 1.04 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 1.04 | U | 0.0197 | MDL | 1.04 | PQL | ng/Kg | UJ | FD |
| OCDD | 0.415 | JB | 0.0229 | MDL | 10.4 | PQL | ng/Kg | UJ | B, FD |
| OCDF | 0.0766 | JBQ | 0.0299 | MDL | 10.4 | PQL | ng/Kg | UJ | B, FD |

| Sample ID: SL-822-SA5A-SB-0.0-0.5 | Collected: 6/17/2013 2:35:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,4,6,7,8-HPCDF | 3.66 | JB | 0.0165 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.262 | JBQ | 0.0264 | MDL | 5.02 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.620 | JQ | 0.0420 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.233 | JB | 0.0206 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 1.56 | JB | 0.0426 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.202 | JB | 0.0196 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 1.76 | JB | 0.0443 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.428 | JB | 0.0228 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.472 | JB | 0.0362 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.296 | JB | 0.0182 | MDL | 5.02 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.193 | JB | 0.0202 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.183 | JB | 0.0184 | MDL | 5.02 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0675 | JBQ | 0.0265 | MDL | 1.00 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.129 | JQ | 0.0271 | MDL | 1.00 | PQL | ng/Kg | J | Z |

| Sample ID: SL-823-SA5A-SB-0.0-0.5 | Collected: 6/17/2013 10:05:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-----------------------------------|-------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,4,6,7,8-HPCDF | 1.69 | JB | 0.0124 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.136 | JB | 0.0200 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.489 | JQ | 0.0417 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.189 | JBQ | 0.0217 | MDL | 5.10 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|-------------------|-----------------|-----------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| 1,2,3,6,7,8-HXCDD | 1.20 | JB | 0.0444 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.172 | JB | 0.0200 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 1.58 | JB | 0.0423 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.501 | JB | 0.0233 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.325 | JB | 0.0279 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.338 | JB | 0.0190 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.186 | JB | 0.0199 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.285 | JB | 0.0187 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0438 | JBQ | 0.0243 | MDL | 1.02 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.447 | JQ | 0.0388 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| OCDF | 4.55 | JB | 0.0270 | MDL | 10.2 | PQL | ng/Kg | J | Z |

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|-------------------|-----------------|-----------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| 1,2,3,4,6,7,8-HPCDF | 2.73 | JB | 0.0141 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.210 | JB | 0.0238 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.362 | JQ | 0.0357 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.256 | JB | 0.0186 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 0.988 | JB | 0.0375 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.222 | JB | 0.0163 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 1.04 | JB | 0.0346 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.308 | JB | 0.0205 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.403 | JB | 0.0279 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.348 | JB | 0.0166 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.223 | JB | 0.0172 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.266 | JB | 0.0166 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0442 | JB | 0.0232 | MDL | 1.00 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.179 | J | 0.0270 | MDL | 1.00 | PQL | ng/Kg | J | Z |
| OCDF | 8.46 | JB | 0.0257 | MDL | 10.0 | PQL | ng/Kg | J | Z |

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|-------------------|-----------------|-----------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| 1,2,3,4,6,7,8-HPCDF | 2.15 | JB | 0.0109 | MDL | 5.00 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-825-SA5A-SB-0.0-0.5 Collected: 6/17/2013 11:05:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.163 | JB | 0.0185 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.356 | J | 0.0363 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.218 | JB | 0.0187 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 0.962 | JB | 0.0387 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.144 | JB | 0.0176 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 1.03 | JB | 0.0370 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.462 | JB | 0.0269 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.309 | JBQ | 0.0283 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.314 | JB | 0.0175 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.191 | JB | 0.0178 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.254 | JBQ | 0.0179 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0362 | JBQ | 0.0227 | MDL | 0.999 | PQL | ng/Kg | U | B |
| OCDF | 6.44 | JB | 0.0276 | MDL | 9.99 | PQL | ng/Kg | J | Z |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 8015M | Matrix: SO |

Sample ID: SL-822-SA5A-SB-0.0-0.5 Collected: 6/17/2013 2:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 2.0 | J | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|-----------|-------------------|
| Method Category: | SVOA | |
| Method: | 8270D SIM | Matrix: SO |

Sample ID: SL-1180-SA5A-SB-3.0-4.0 Collected: 6/17/2013 9:35:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 0.79 | J | 0.71 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-780-SA5A-SB-0.0-0.5 Collected: 6/17/2013 9:05:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 0.82 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-----------|-------------------|
| Method Category: | SVOA | |
| Method: | 8270D SIM | Matrix: SO |

Sample ID: SL-780-SA5A-SB-0.0-0.5 Collected: 6/17/2013 9:05:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)ANTHRACENE | 0.90 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 1.2 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 0.81 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 0.92 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 12 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 1.3 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-780-SA5A-SB-3.0-4.0 Collected: 6/17/2013 9:25:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 0.92 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-822-SA5A-SB-0.0-0.5 Collected: 6/17/2013 2:35:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 0.95 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 0.71 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 0.69 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | U | F |
| PHENANTHRENE | 1.1 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-823-SA5A-SB-0.0-0.5 Collected: 6/17/2013 10:05:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| FLUORANTHENE | 1.3 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 1.2 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 1.3 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 1.1 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-824-SA5A-SB-0.0-0.5 Collected: 6/17/2013 1:45:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 1.1 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 0.91 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 0.89 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 1.4 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-825-SA5A-SB-0.0-0.5 Collected: 6/17/2013 11:05:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)ANTHRACENE | 0.81 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 0.97 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 0.75 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---------------------------------|
| A | ICP Serial Dilution |
| B | Calibration Blank Contamination |
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Equipment Blank Contamination |
| F | Field Blank Contamination |
| FD | Field Duplicate Precision |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Enclosure I

Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

PH058

Method Blank Outlier Report

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|---------------------|--------------|-------------------------|
| BLK1770B372344 | 6/28/2013 11:44:00 PM | 1,2,3,4,6,7,8-HPCDD | 0.0684 ng/Kg | SL-1180-SA5A-SB-3.0-4.0 |
| | | 1,2,3,4,6,7,8-HPCDF | 0.0353 ng/Kg | SL-780-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,7,8,9-HPCDF | 0.0624 ng/Kg | SL-780-SA5A-SB-3.0-4.0 |
| | | 1,2,3,4,7,8-HXCDF | 0.0365 ng/Kg | SL-822-SA5A-SB-0.0-0.5 |
| | | 1,2,3,6,7,8-HXCDD | 0.0315 ng/Kg | SL-823-SA5A-SB-0.0-0.5 |
| | | 1,2,3,6,7,8-HXCDF | 0.0269 ng/Kg | SL-824-SA5A-SB-0.0-0.5 |
| | | 1,2,3,7,8,9-HXCDD | 0.0378 ng/Kg | SL-825-SA5A-SB-0.0-0.5 |
| | | 1,2,3,7,8,9-HXCDF | 0.0504 ng/Kg | |
| | | 1,2,3,7,8-PECDD | 0.0343 ng/Kg | |
| | | 1,2,3,7,8-PECDF | 0.0877 ng/Kg | |
| | | 2,3,4,6,7,8-HXCDF | 0.0180 ng/Kg | |
| | | 2,3,4,7,8-PECDF | 0.0375 ng/Kg | |
| | | 2,3,7,8-TCDD | 0.0397 ng/Kg | |
| | | OCDD | 0.316 ng/Kg | |
| | | OCDF | 0.0781 ng/Kg | |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|---------------------|-----------------|-----------------------|
| SL-1180-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.169 ng/Kg | 0.169U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0426 ng/Kg | 0.0426U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0502 ng/Kg | 0.0502U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0563 ng/Kg | 0.0563U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | 1,2,3,6,7,8-HXCDD | 0.0499 ng/Kg | 0.0499U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0448 ng/Kg | 0.0448U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8,9-HXCDD | 0.135 ng/Kg | 0.135U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0687 ng/Kg | 0.0687U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8-PECDD | 0.0770 ng/Kg | 0.0770U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8-PECDF | 0.0651 ng/Kg | 0.0651U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0378 ng/Kg | 0.0378U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | 2,3,4,7,8-PECDF | 0.0806 ng/Kg | 0.0806U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | 2,3,7,8-TCDD | 0.0525 ng/Kg | 0.0525U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | OCDD | 0.911 ng/Kg | 0.911U ng/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES) | OCDF | 0.142 ng/Kg | 0.142U ng/Kg |
| SL-780-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.307 ng/Kg | 0.307U ng/Kg |
| SL-780-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.106 ng/Kg | 0.106U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.117 ng/Kg | 0.117U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0414 ng/Kg | 0.0414U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0386 ng/Kg | 0.0386U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0351 ng/Kg | 0.0351U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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ADR version 1.7.0.207

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Method Blank Outlier Report

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-780-SA5A-SB-3.0-4.0(RES) | 1,2,3,6,7,8-HXCDD | 0.124 ng/Kg | 0.124U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0554 ng/Kg | 0.0554U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8,9-HXCDD | 0.179 ng/Kg | 0.179U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0953 ng/Kg | 0.0953U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8-PECDD | 0.0458 ng/Kg | 0.0458U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8-PECDF | 0.0358 ng/Kg | 0.0358U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0421 ng/Kg | 0.0421U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | 2,3,4,7,8-PECDF | 0.0468 ng/Kg | 0.0468U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | 2,3,7,8-TCDD | 0.0510 ng/Kg | 0.0510U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | OCDD | 0.415 ng/Kg | 0.415U ng/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES) | OCDF | 0.0766 ng/Kg | 0.0766U ng/Kg |
| SL-822-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.262 ng/Kg | 0.262U ng/Kg |
| SL-822-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.296 ng/Kg | 0.296U ng/Kg |
| SL-822-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.183 ng/Kg | 0.183U ng/Kg |
| SL-822-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0675 ng/Kg | 0.0675U ng/Kg |
| SL-823-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.136 ng/Kg | 0.136U ng/Kg |
| SL-823-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.338 ng/Kg | 0.338U ng/Kg |
| SL-823-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0438 ng/Kg | 0.0438U ng/Kg |
| SL-824-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.210 ng/Kg | 0.210U ng/Kg |
| SL-824-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.348 ng/Kg | 0.348U ng/Kg |
| SL-824-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0442 ng/Kg | 0.0442U ng/Kg |
| SL-825-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.163 ng/Kg | 0.163U ng/Kg |
| SL-825-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.314 ng/Kg | 0.314U ng/Kg |
| SL-825-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0362 ng/Kg | 0.0362U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|-----------|-------------|-------------------------|
| P17737AB221924 | 6/27/2013 7:24:00 PM | ALUMINUM | 11.5 mg/Kg | SL-1180-SA5A-SB-3.0-4.0 |
| | | BORON | 1.25 mg/Kg | SL-780-SA5A-SB-0.0-0.5 |
| | | CALCIUM | 20.1 mg/Kg | SL-780-SA5A-SB-3.0-4.0 |
| | | IRON | 4.06 mg/Kg | SL-822-SA5A-SB-0.0-0.5 |
| | | MAGNESIUM | 1.74 mg/Kg | SL-823-SA5A-SB-0.0-0.5 |
| | | TIN | 1.50 mg/Kg | SL-824-SA5A-SB-0.0-0.5 |
| | | ZINC | 0.300 mg/Kg | SL-825-SA5A-SB-0.0-0.5 |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

8/7/2013 11:03:46 AM

ADR version 1.7.0.207

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Method Blank Outlier Report

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|---------|-----------------|-----------------------|
| SL-1180-SA5A-SB-3.0-4.0(RES/TOT) | BORON | 1.38 mg/Kg | 1.38U mg/Kg |
| SL-1180-SA5A-SB-3.0-4.0(RES/TOT) | TIN | 4.13 mg/Kg | 4.13U mg/Kg |
| SL-780-SA5A-SB-0.0-0.5(RES/TOT) | BORON | 3.33 mg/Kg | 3.33U mg/Kg |
| SL-780-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.89 mg/Kg | 2.89U mg/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES/TOT) | BORON | 1.29 mg/Kg | 1.29U mg/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES/TOT) | TIN | 3.73 mg/Kg | 3.73U mg/Kg |
| SL-822-SA5A-SB-0.0-0.5(RES/TOT) | BORON | 3.81 mg/Kg | 3.81U mg/Kg |
| SL-822-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.77 mg/Kg | 2.77U mg/Kg |
| SL-823-SA5A-SB-0.0-0.5(RES/TOT) | BORON | 4.05 mg/Kg | 4.05U mg/Kg |
| SL-823-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.74 mg/Kg | 2.74U mg/Kg |
| SL-824-SA5A-SB-0.0-0.5(RES/TOT) | BORON | 2.70 mg/Kg | 2.70U mg/Kg |
| SL-824-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.87 mg/Kg | 2.87U mg/Kg |
| SL-825-SA5A-SB-0.0-0.5(RES/TOT) | BORON | 3.50 mg/Kg | 3.50U mg/Kg |
| SL-825-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.80 mg/Kg | 2.80U mg/Kg |

Method: 6020A
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|-----------|-------------|---|
| P17737AB220827A | 6/27/2013 8:27:00 AM | STRONTIUM | 0.128 mg/Kg | SL-1180-SA5A-SB-3.0-4.0 SL-780-SA5A-SB-0.0-0.5 SL-780-SA5A-SB-3.0-4.0 SL-822-SA5A-SB-0.0-0.5 SL-823-SA5A-SB-0.0-0.5 SL-824-SA5A-SB-0.0-0.5 SL-825-SA5A-SB-0.0-0.5 |

Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Equipment Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|---------------------------|----------------------|-------------------|----------------------------|---|
| EB1-061913(RES/TOT) | 6/19/2013 3:00:00 PM | MOLYBDENUM TIN | 0.0187 mg/L 0.0031 mg/L | SL-1180-SA5A-SB-3.0-4.0 SL-780-SA5A-SB-0.0-0.5 SL-780-SA5A-SB-3.0-4.0 SL-822-SA5A-SB-0.0-0.5 SL-823-SA5A-SB-0.0-0.5 SL-824-SA5A-SB-0.0-0.5 SL-825-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|------------|-----------------|-----------------------|
| SL-1180-SA5A-SB-3.0-4.0(RES/TOT) | MOLYBDENUM | 0.332 mg/Kg | 0.332U mg/Kg |
| SL-780-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.654 mg/Kg | 0.654U mg/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES/TOT) | MOLYBDENUM | 0.641 mg/Kg | 0.641U mg/Kg |
| SL-822-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.468 mg/Kg | 0.468U mg/Kg |
| SL-823-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.510 mg/Kg | 0.510U mg/Kg |
| SL-824-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.520 mg/Kg | 0.520U mg/Kg |
| SL-825-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.488 mg/Kg | 0.488U mg/Kg |

Field Blank Outlier Report

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|----------------------|----------------------------|---|
| FB-041113(REA2/TOT) | 4/11/2013 3:00:00 PM | COPPER MOLYBDENUM | 0.0036 mg/L 0.0036 mg/L | SL-1180-SA5A-SB-3.0-4.0 SL-780-SA5A-SB-0.0-0.5 SL-780-SA5A-SB-3.0-4.0 SL-822-SA5A-SB-0.0-0.5 SL-823-SA5A-SB-0.0-0.5 SL-824-SA5A-SB-0.0-0.5 SL-825-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|------------|-----------------|-----------------------|
| SL-1180-SA5A-SB-3.0-4.0(RES/TOT) | MOLYBDENUM | 0.332 mg/Kg | 0.332U mg/Kg |
| SL-780-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.654 mg/Kg | 0.654U mg/Kg |
| SL-780-SA5A-SB-3.0-4.0(RES/TOT) | MOLYBDENUM | 0.641 mg/Kg | 0.641U mg/Kg |
| SL-822-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.468 mg/Kg | 0.468U mg/Kg |
| SL-823-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.510 mg/Kg | 0.510U mg/Kg |
| SL-824-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.520 mg/Kg | 0.520U mg/Kg |
| SL-825-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.488 mg/Kg | 0.488U mg/Kg |

Method: 8270D SIM
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|--|---|---|
| FB-041113(RES) | 4/11/2013 3:00:00 PM | 1-Methylnaphthalene 2-METHYLNAPHTHALENE BIS(2-ETHYLHEXYL)PHTHALATE Diethylphthalate Di-n-butylphthalate NAPHTHALENE | 0.019 ug/L 0.024 ug/L 0.082 ug/L 0.18 ug/L 0.17 ug/L 0.17 ug/L | SL-1180-SA5A-SB-3.0-4.0 SL-780-SA5A-SB-0.0-0.5 SL-780-SA5A-SB-3.0-4.0 SL-822-SA5A-SB-0.0-0.5 SL-823-SA5A-SB-0.0-0.5 SL-824-SA5A-SB-0.0-0.5 SL-825-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|-------------|-----------------|-----------------------|
| SL-822-SA5A-SB-0.0-0.5(RES) | NAPHTHALENE | 0.69 ug/Kg | 1.7U ug/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8015M
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------|----------|-----------|--------------|-----------------|-----------------------|-----------------|
| SL-780-SA5A-SB-3.0-4.0MSD (SL-780-SA5A-SB-3.0-4.0) | EFH (C21-C30) | - | - | 49.00-123.00 | 23 (20.00) | EFH (C21-C30) | J (all detects) |

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|------------|----------|-----------|--------------|-----------------|-----------------------|---------------------------------------|
| SL-780-SA5A-SB-3.0-4.0MS (TOT) | ALUMINUM | 1599 | 1728 | 75.00-125.00 | - | ALUMINUM | J(all detects) |
| SL-780-SA5A-SB-3.0-4.0MSD (TOT) | POTASSIUM | 138 | 149 | 75.00-125.00 | - | POTASSIUM | |
| (SL-1180-SA5A-SB-3.0-4.0 SL-780-SA5A-SB-0.0-0.5 SL-780-SA5A-SB-3.0-4.0 SL-822-SA5A-SB-0.0-0.5 SL-823-SA5A-SB-0.0-0.5 SL-824-SA5A-SB-0.0-0.5 SL-825-SA5A-SB-0.0-0.5) | TITANIUM | 251 | 296 | 75.00-125.00 | - | TITANIUM | |
| SL-780-SA5A-SB-3.0-4.0MS (TOT) | IRON | -2088 | -864 | 75.00-125.00 | - | IRON | No Qual, >4x |
| SL-780-SA5A-SB-3.0-4.0MSD (TOT) | MAGNESIUM | -83 | 13 | 75.00-125.00 | - | MAGNESIUM | |
| (SL-1180-SA5A-SB-3.0-4.0 SL-780-SA5A-SB-0.0-0.5 SL-780-SA5A-SB-3.0-4.0 SL-822-SA5A-SB-0.0-0.5 SL-823-SA5A-SB-0.0-0.5 SL-824-SA5A-SB-0.0-0.5 SL-825-SA5A-SB-0.0-0.5) | | | | | | | |
| SL-780-SA5A-SB-3.0-4.0MS (TOT) | ANTIMONY | 62 | 63 | 75.00-125.00 | - | ANTIMONY | J(all detects) UJ(all non-detects) |
| SL-780-SA5A-SB-3.0-4.0MSD (TOT) | MANGANESE | - | 61 | 75.00-125.00 | - | MANGANESE | |
| (SL-1180-SA5A-SB-3.0-4.0 SL-780-SA5A-SB-0.0-0.5 SL-780-SA5A-SB-3.0-4.0 SL-822-SA5A-SB-0.0-0.5 SL-823-SA5A-SB-0.0-0.5 SL-824-SA5A-SB-0.0-0.5 SL-825-SA5A-SB-0.0-0.5) | PHOSPHORUS | 52 | 57 | 75.00-125.00 | - | PHOSPHORUS | |
| | | | | | | | Mn, P, No Qual, >4x |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|-----------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-780-SA5A-SB-3.0-4.0MS (TOT) (SL-1180-SA5A-SB-3.0-4.0 SL-780-SA5A-SB-0.0-0.5 SL-780-SA5A-SB-3.0-4.0 SL-822-SA5A-SB-0.0-0.5 SL-823-SA5A-SB-0.0-0.5 SL-824-SA5A-SB-0.0-0.5 SL-825-SA5A-SB-0.0-0.5) | STRONTIUM | 130 | - | 75.00-125.00 | - | STRONTIUM | J(all detects) |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|------------|------------|-----------|----------------------|
| SL-780-SA5A-SB-3.0-4.0DUP (TOT) | BORON | 200 | 20.00 | |
| (SL-1180-SA5A-SB-3.0-4.0 | CADMIUM | 200 | 20.00 | |
| SL-780-SA5A-SB-0.0-0.5 | COBALT | 27 | 20.00 | J (all detects) |
| SL-780-SA5A-SB-3.0-4.0 | MANGANESE | 29 | 20.00 | UJ (all non-detects) |
| SL-822-SA5A-SB-0.0-0.5 | MOLYBDENUM | 31 | 20.00 | |
| SL-823-SA5A-SB-0.0-0.5 | | | | B, Cd, Mo, |
| SL-824-SA5A-SB-0.0-0.5 | | | | No Qual, |
| SL-825-SA5A-SB-0.0-0.5) | | | | OK by Difference |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 160.3M
Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-780-SA5A-SB-3.0-4.0 | SL-1180-SA5A-SB-3.0-4.0 | | | |
| MOISTURE | 4.6 | 6.6 | 36 | | No Qualifiers Applied |

Method: 1613B
Matrix: SO

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-780-SA5A-SB-3.0-4.0 | SL-1180-SA5A-SB-3.0-4.0 | | | |
| 1,2,3,4,6,7,8-HPCDD | 0.117 | 0.169 | 36 | 50.00 | No Qualifiers Applied |
| 1,2,3,4,6,7,8-HPCDF | 0.0414 | 0.0426 | 3 | 50.00 | |
| 1,2,3,4,7,8,9-HPCDF | 0.0386 | 0.0502 | 26 | 50.00 | |
| 1,2,3,4,7,8-HxCDD | 0.0482 | 0.0407 | 17 | 50.00 | |
| 1,2,3,4,7,8-HxCDF | 0.0351 | 0.0563 | 46 | 50.00 | |
| 1,2,3,6,7,8-HxCDF | 0.0554 | 0.0448 | 21 | 50.00 | |
| 1,2,3,7,8,9-HxCDD | 0.179 | 0.135 | 28 | 50.00 | |
| 1,2,3,7,8,9-HxCDF | 0.0953 | 0.0687 | 32 | 50.00 | |
| 2,3,4,6,7,8-HxCDF | 0.0421 | 0.0378 | 11 | 50.00 | |
| 2,3,7,8-TCDD | 0.0510 | 0.0525 | 3 | 50.00 | |
| 1,2,3,6,7,8-HxCDD | 0.124 | 0.0499 | 85 | 50.00 | J(all detects) UJ(all non-detects) |
| 1,2,3,7,8-PECDD | 0.0458 | 0.0770 | 51 | 50.00 | |
| 1,2,3,7,8-PECDF | 0.0358 | 0.0651 | 58 | 50.00 | |
| 2,3,4,7,8-PECDF | 0.0468 | 0.0806 | 53 | 50.00 | |
| 2,3,7,8-TCDF | 1.04 U | 0.0192 | 200 | 50.00 | |
| OCDD | 0.415 | 0.911 | 75 | 50.00 | |
| OCDF | 0.0766 | 0.142 | 60 | 50.00 | |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-780-SA5A-SB-3.0-4.0 (TOT) | SL-1180-SA5A-SB-3.0-4.0 (TOT) | | | |
| ALUMINUM | 22700 | 27900 | 21 | 50.00 | No Qualifiers Applied |
| ARSENIC | 10.8 | 12.8 | 17 | 50.00 | |
| BARIUM | 126 | 171 | 30 | 50.00 | |
| BERYLLIUM | 1.08 | 1.47 | 31 | 50.00 | |
| BORON | 1.29 | 1.38 | 7 | 50.00 | |
| CALCIUM | 4440 | 6080 | 31 | 50.00 | |
| CHROMIUM | 36.2 | 49.7 | 31 | 50.00 | |
| COBALT | 8.66 | 12.8 | 39 | 50.00 | |
| COPPER | 17.9 | 27.4 | 42 | 50.00 | |
| IRON | 35600 | 44500 | 22 | 50.00 | |
| LEAD | 11.8 | 16.6 | 34 | 50.00 | |
| LITHIUM | 45.9 | 52.7 | 14 | 50.00 | |
| MAGNESIUM | 8040 | 10500 | 27 | 50.00 | |
| MANGANESE | 372 | 618 | 50 | 50.00 | |
| NICKEL | 23.3 | 32.2 | 32 | 50.00 | |
| PHOSPHORUS | 581 | 611 | 5 | 50.00 | |
| POTASSIUM | 2950 | 3110 | 5 | 50.00 | |
| SODIUM | 181 | 270 | 39 | 50.00 | |
| TIN | 3.73 | 4.13 | 10 | 50.00 | |
| TITANIUM | 1530 | 1730 | 12 | 50.00 | |
| VANADIUM | 59.6 | 78.1 | 27 | 50.00 | |
| ZINC | 86.7 | 102 | 16 | 50.00 | |
| Zirconium | 5.06 | 5.38 | 6 | 50.00 | |
| CADMIUM | 1.04 U | 0.103 | 200 | 50.00 | J(all detects) |
| MOLYBDENUM | 0.641 | 0.332 | 64 | 50.00 | UJ(all non-detects) |

Method: 6020A

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-780-SA5A-SB-3.0-4.0 (TOT) | SL-1180-SA5A-SB-3.0-4.0 (TOT) | | | |
| SELENIUM | 0.338 | 0.265 | 24 | 50.00 | No Qualifiers Applied |
| STRONTIUM | 32.8 | 47.4 | 36 | 50.00 | |
| THALLIUM | 0.360 | 0.393 | 9 | 50.00 | |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------------------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-780-SA5A-SB-3.0-4.0 | SL-1180-SA5A-SB-3.0-4.0 | | | |
| BENZO(B)FLUORANTHENE | 0.92 | 0.79 | 15 | 50.00 | No Qualifiers Applied |

Method: 9045M

Matrix: SO

| Analyte | Concentration (pH unit) | | Sample RPD | eQAPP RPD | Flag |
|---------|-------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-780-SA5A-SB-3.0-4.0 | SL-1180-SA5A-SB-3.0-4.0 | | | |
| PH | 6.93 | 6.78 | 2 | 50.00 | No Qualifiers Applied |

Reporting Limit Outliers

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1180-SA5A-SB-3.0-4.0 | 1,2,3,4,6,7,8-HPCDD | JB | 0.169 | 5.19 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0426 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0502 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0407 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0563 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.0499 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.0448 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.135 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.0687 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.0770 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0651 | 5.19 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0378 | 5.19 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0806 | 5.19 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JB | 0.0525 | 1.04 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0192 | 1.04 | PQL | ng/Kg | |
| | OCDD | JB | 0.911 | 10.4 | PQL | ng/Kg | |
| OCDF | JB | 0.142 | 10.4 | PQL | ng/Kg | | |
| SL-780-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 4.69 | 5.11 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.307 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | J | 1.16 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JB | 0.443 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 3.12 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.338 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 3.31 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.546 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.855 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.667 | 5.11 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 0.378 | 5.11 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.609 | 5.11 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JB | 0.106 | 1.02 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.280 | 1.02 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-780-SA5A-SB-3.0-4.0 | 1,2,3,4,6,7,8-HPCDD | JB | 0.117 | 5.19 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0414 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0386 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0482 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0351 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.124 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0554 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.179 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0953 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0458 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0358 | 5.19 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0421 | 5.19 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0468 | 5.19 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JB | 0.0510 | 1.04 | PQL | ng/Kg | |
| | OCDD | JB | 0.415 | 10.4 | PQL | ng/Kg | |
| OCDF | JBQ | 0.0766 | 10.4 | PQL | ng/Kg | | |
| SL-822-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 3.66 | 5.02 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.262 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.620 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.233 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 1.56 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.202 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 1.76 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.428 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.472 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.296 | 5.02 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.193 | 5.02 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.183 | 5.02 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0675 | 1.00 | PQL | ng/Kg | |
| 2,3,7,8-TCDF | JQ | 0.129 | 1.00 | PQL | ng/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-823-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.69 | 5.10 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.136 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.489 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.189 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 1.20 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.172 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 1.58 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.501 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.325 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.338 | 5.10 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.186 | 5.10 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.285 | 5.10 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0438 | 1.02 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.447 | 1.02 | PQL | ng/Kg | |
| OCDF | JB | 4.55 | 10.2 | PQL | ng/Kg | | |
| SL-824-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 2.73 | 5.00 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.210 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.362 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.256 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 0.988 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.222 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 1.04 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.308 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.403 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.348 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.223 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.266 | 5.00 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JB | 0.0442 | 1.00 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.179 | 1.00 | PQL | ng/Kg | |
| OCDF | JB | 8.46 | 10.0 | PQL | ng/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-825-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 2.15 | 5.00 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.163 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | J | 0.356 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.218 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.962 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.144 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 1.03 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.462 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.309 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.314 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.191 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.254 | 5.00 | PQL | ng/Kg | |
| 2,3,7,8-TCDD | JBQ | 0.0362 | 0.999 | PQL | ng/Kg | | |
| OCDF | JB | 6.44 | 9.99 | PQL | ng/Kg | | |

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1180-SA5A-SB-3.0-4.0 | BORON | J | 1.38 | 10.6 | PQL | mg/Kg | J (all detects) |
| | CADMIUM | J | 0.103 | 1.06 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.332 | 2.12 | PQL | mg/Kg | |
| | TIN | J | 4.13 | 10.6 | PQL | mg/Kg | |
| SL-780-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.599 | 1.01 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.33 | 10.1 | PQL | mg/Kg | |
| | CADMIUM | J | 0.301 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.654 | 2.03 | PQL | mg/Kg | |
| | SODIUM | J | 84.2 | 101 | PQL | mg/Kg | |
| | TIN | J | 2.89 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 4.04 | 5.07 | PQL | mg/Kg | |
| SL-780-SA5A-SB-3.0-4.0 | BORON | J | 1.29 | 10.4 | PQL | mg/Kg | J (all detects) |
| | MOLYBDENUM | J | 0.641 | 2.08 | PQL | mg/Kg | |
| | TIN | J | 3.73 | 10.4 | PQL | mg/Kg | |
| | Zirconium | J | 5.06 | 5.19 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-822-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.98 | 3.99 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.604 | 0.998 | PQL | mg/Kg | |
| | BORON | J | 3.81 | 9.98 | PQL | mg/Kg | |
| | CADMIUM | J | 0.289 | 0.998 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.468 | 2.00 | PQL | mg/Kg | |
| | SODIUM | J | 78.6 | 99.8 | PQL | mg/Kg | |
| | TIN | J | 2.77 | 9.98 | PQL | mg/Kg | |
| | Zirconium | J | 3.21 | 4.99 | PQL | mg/Kg | |
| SL-823-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.581 | 0.982 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.05 | 9.82 | PQL | mg/Kg | |
| | CADMIUM | J | 0.344 | 0.982 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.510 | 1.96 | PQL | mg/Kg | |
| | SODIUM | J | 79.6 | 98.2 | PQL | mg/Kg | |
| | TIN | J | 2.74 | 9.82 | PQL | mg/Kg | |
| | Zirconium | J | 3.28 | 4.91 | PQL | mg/Kg | |
| SL-824-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.628 | 0.988 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.70 | 9.88 | PQL | mg/Kg | |
| | CADMIUM | J | 0.252 | 0.988 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.520 | 1.98 | PQL | mg/Kg | |
| | SODIUM | J | 81.2 | 98.8 | PQL | mg/Kg | |
| | TIN | J | 2.87 | 9.88 | PQL | mg/Kg | |
| | Zirconium | J | 3.47 | 4.94 | PQL | mg/Kg | |
| SL-825-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.69 | 3.88 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.579 | 0.970 | PQL | mg/Kg | |
| | BORON | J | 3.50 | 9.70 | PQL | mg/Kg | |
| | CADMIUM | J | 0.344 | 0.970 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.488 | 1.94 | PQL | mg/Kg | |
| | SODIUM | J | 77.3 | 97.0 | PQL | mg/Kg | |
| | TIN | J | 2.80 | 9.70 | PQL | mg/Kg | |
| | Zirconium | J | 3.44 | 4.85 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1180-SA5A-SB-3.0-4.0 | SELENIUM | J | 0.265 | 0.424 | PQL | mg/Kg | J (all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-780-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.202 | 0.405 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0692 | 0.203 | PQL | mg/Kg | |
| SL-780-SA5A-SB-3.0-4.0 | SELENIUM | J | 0.338 | 0.415 | PQL | mg/Kg | J (all detects) |
| SL-822-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.201 | 0.399 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0707 | 0.200 | PQL | mg/Kg | |
| SL-823-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.226 | 0.393 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0601 | 0.196 | PQL | mg/Kg | |
| SL-824-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.196 | 0.395 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0558 | 0.198 | PQL | mg/Kg | |
| SL-825-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.160 | 0.388 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0529 | 0.194 | PQL | mg/Kg | |

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-780-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0139 | 0.0166 | PQL | mg/Kg | J (all detects) |
| SL-823-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0120 | 0.0167 | PQL | mg/Kg | J (all detects) |
| SL-824-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0107 | 0.0162 | PQL | mg/Kg | J (all detects) |
| SL-825-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0155 | 0.0164 | PQL | mg/Kg | J (all detects) |

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-822-SA5A-SB-0.0-0.5 | EFH (C15-C20) | J | 2.0 | 5.1 | PQL | mg/Kg | J (all detects) |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1180-SA5A-SB-3.0-4.0 | BENZO(B)FLUORANTHENE | J | 0.79 | 1.8 | PQL | ug/Kg | J (all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH058

Laboratory: LL

EDD Filename: PH058_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-780-SA5A-SB-0.0-0.5 | 2-METHYLNAPHTHALENE | J | 0.82 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)ANTHRACENE | J | 0.90 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 0.81 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 0.92 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 12 | 18 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| SL-780-SA5A-SB-3.0-4.0 | BENZO(B)FLUORANTHENE | J | 0.92 | 1.7 | PQL | ug/Kg | J (all detects) |
| SL-822-SA5A-SB-0.0-0.5 | BENZO(A)PYRENE | J | 0.95 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(G,H,I)PERYLENE | J | 0.71 | 1.7 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 0.69 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| SL-823-SA5A-SB-0.0-0.5 | FLUORANTHENE | J | 1.3 | 1.7 | PQL | ug/Kg | J (all detects) |
| | NAPHTHALENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| SL-824-SA5A-SB-0.0-0.5 | BENZO(A)PYRENE | J | 1.1 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(K)FLUORANTHENE | J | 0.91 | 1.7 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 0.89 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| SL-825-SA5A-SB-0.0-0.5 | BENZO(A)ANTHRACENE | J | 0.81 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)PYRENE | J | 0.97 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.75 | 1.7 | PQL | ug/Kg | |

LDC #: 30098A4

VALIDATION COMPLETENESS WORKSHEET

Date: 7/26/13

SDG #: PH058

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--------------------------------|
| I. | Technical holding times | - | Sampling dates: 6/17/13 |
| II. | ICP/MS Tune | - | |
| III. | Calibration | - | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | - | |
| VI. | Matrix Spike Analysis | SW | MS/D |
| VII. | Duplicate Sample Analysis | SW | DUP |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | SW | Cu = 28% D = J/JJ (A) |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | - | (2,3) |
| XV. | Field Blanks | SW | EB = EB1-061913 FB = FB-041113 |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

(PH060)

(PH029)

Validated Samples:

SOI

| | | | | | | | |
|----|---------------------------|----|--|----|--|----|--|
| 1 | SL-780-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-780-SA5A-SB-3.0-4.0 | 12 | | 22 | | 32 | |
| 3 | SL-1180-SA5A-SB-3.0-4.0 | 13 | | 23 | | 33 | |
| 4 | SL-823-SA5A-SB-0.0-0.5 | 14 | | 24 | | 34 | |
| 5 | SL-825-SA5A-SB-0.0-0.5 | 15 | | 25 | | 35 | |
| 6 | SL-822-SA5A-SB-0.0-0.5 | 16 | | 26 | | 36 | |
| 7 | SL-824-SA5A-SB-0.0-0.5 | 17 | | 27 | | 37 | |
| 8 | SL-780-SA5A-SB-3.0-4.0MS | 18 | | 28 | | 38 | |
| 9 | SL-780-SA5A-SB-3.0-4.0MSD | 19 | | 29 | | 39 | |
| 10 | SL-780-SA5A-SB-3.0-4.0DUP | 20 | | 30 | | 40 | |

Notes: _____

LDC #: 30098A4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x Reason: B
Associated Samples: All

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|------|------|------|------|------|------|------|--|--|--|
| Mo | | | 1.7 | 0.85 | 0.65 | 0.64 | 0.33 | 0.51 | 0.49 | 0.47 | 0.52 | | | |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/11/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|------------------------------|-----------------------|------|------|------|------|------|------|------|--|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 0.65 | 0.64 | 0.33 | 0.51 | 0.49 | 0.47 | 0.52 | | | |

Sampling date: 6/19/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|-------------------------------|-----------------------|------|------|------|------|------|------|------|--|--|--|
| | EB1-061913 (SDG: PH060) | Action Limit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | |
| Mo | 0.0187 | 9.35 | 0.65 | 0.64 | 0.33 | 0.51 | 0.49 | 0.47 | 0.52 | | | |
| Sn | 0.0031 | 1.55 | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

JL
LVT



Lancaster Laboratories



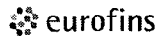
QUALITY ASSURANCE SUMMARY
 FORM 5A (MS/MSD)
 MATRIX SPIKE/MATRIX SPIKE DUPLICATE
 SDG No.: PH058
 Matrix: SOIL Level: LOW
 (low/med):

Background Lab Sample ID: 7096473BKG Matrix Spike Lab Sample ID: 7096474MS Matrix Spike Duplicate Lab Sample ID: 7096475MSD
 Batch Id(s): P17737A, P17838A

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | RPD | Control Limit | | M |
|-----------------------|------|-----------------------|---|-----------------------|---|-----------------------|---|---------------------|---------------------|-------|-----------------|---|-----------------|---|-----|---------------|-------|------|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | | %R | RPD | |
| Aluminum | | 21664.791 | | 24829.9089 | | 25085.7941 | | 198.0198 | 198.0198 | MG/KG | 1599 | | 1728 | | 1 | | | 20 P |
| Antimony | | 0.7327 | U | 30.4802 | | 31.3307 | | 49.5050 | 49.5050 | MG/KG | 62 | N | 63 | N | 3 | 75 - 125 | 20 P | |
| Arsenic | | 10.2901 | | 24.0822 | | 23.8525 | | 14.8515 | 14.8515 | MG/KG | 93 | | 91 | | 1 | 75 - 125 | 20 P | |
| Barium | | 119.9178 | | 311.4089 | | 319.5851 | | 198.0198 | 198.0198 | MG/KG | 97 | | 101 | | 3 | 75 - 125 | 20 P | |
| Beryllium | | 1.0297 | | 5.7871 | | 5.8812 | | 4.9505 | 4.9505 | MG/KG | 96 | | 98 | | 2 | 75 - 125 | 20 P | |
| Boron | | 1.2297 | B | 183.8515 | | 184.6752 | | 198.0198 | 198.0198 | MG/KG | 92 | | 93 | | 0 | 75 - 125 | 20 P | |
| Cadmium | | 0.0752 | U | 4.6545 | | 4.6683 | | 4.9505 | 4.9505 | MG/KG | 94 | | 94 | | 0 | 75 - 125 | 20 P | |
| Calcium | | 4233.9059 | | 4549.6564 | | 4611.2554 | | 396.0396 | 396.0396 | MG/KG | 80 | | 95 | | 1 | | 20 P | |
| Chromium | | 34.5584 | | 53.5109 | | 54.9396 | | 19.8020 | 19.8020 | MG/KG | 96 | | 103 | | 3 | 75 - 125 | 20 P | |
| Cobalt | | 8.2614 | | 53.5554 | | 52.5317 | | 49.5050 | 49.5050 | MG/KG | 91 | | 89 | | 2 | 75 - 125 | 20 P | |
| Copper | | 17.0950 | | 38.1218 | | 39.2822 | | 24.7525 | 24.7525 | MG/KG | 85 | | 90 | | 3 | 75 - 125 | 20 P | |
| Iron | | 34006.2871 | | 31938.7871 | | 33151.0396 | | 99.0099 | 99.0099 | MG/KG | 2088 | | 864 | | 4 | | 20 P | |
| Lead | | 11.2158 | | 24.2376 | | 24.3129 | | 14.8515 | 14.8515 | MG/KG | 88 | | 88 | | 0 | 75 - 125 | 20 P | |
| Lithium | | 43.7851 | | 141.2564 | | 140.6485 | | 99.0099 | 99.0099 | MG/KG | 98 | | 98 | | 0 | 75 - 125 | 20 P | |
| Magnesium | | 7674.5693 | | 7509.7564 | | 7700.5921 | | 198.0198 | 198.0198 | MG/KG | 83 | | 13 | | 3 | | 20 P | |
| Manganese | | 355.0149 | | 400.3842 | | 385.1059 | | 49.5050 | 49.5050 | MG/KG | 92 | | 61 | | 4 | | 20 P | |
| Mercury | | 0.0094 | U | 0.1793 | | 0.1808 | | 0.1561 | 0.1618 | MG/KG | 115 | | 112 | | 1 | 65 - 135 | 20 CV | |
| Molybdenum | | 0.6119 | B | 184.3218 | | 184.8960 | | 198.0198 | 198.0198 | MG/KG | 93 | | 93 | | 0 | 75 - 125 | 20 P | |
| Nickel | | 22.2287 | | 66.7535 | | 67.5079 | | 49.5050 | 49.5050 | MG/KG | 90 | | 91 | | 1 | 75 - 125 | 20 P | |
| Phosphorus | | 554.5891 | | 606.2921 | | 611.4624 | | 99.0099 | 99.0099 | MG/KG | 52 | | 57 | | 1 | | 20 P | |
| Potassium | | 2815.9762 | | 4178.3238 | | 4290.8653 | | 990.0990 | 990.0990 | MG/KG | 138 | N | 149 | N | 3 | 75 - 125 | 20 P | |
| Selenium | 78 | 0.3222 | B | 2.4554 | | 2.3248 | | 1.9802 | 1.9802 | MG/KG | 108 | | 101 | | 5 | 75 - 125 | 20 MS | |
| Silver | 107 | 0.0257 | U | 10.4416 | | 10.1465 | | 9.9010 | 9.9010 | MG/KG | 105 | | 102 | | 3 | 75 - 125 | 20 MS | |
| Sodium | | 172.9604 | | 1149.1723 | | 1138.0465 | | 990.0990 | 990.0990 | MG/KG | 99 | | 97 | | 1 | 75 - 125 | 20 P | |
| Strontium | 88 | 31.3069 | | 41.5842 | | 38.4554 | | 7.9208 | 7.9208 | MG/KG | 130 | N | 90 | | 8 | 75 - 125 | 20 MS | |
| Thallium | 203 | 0.3430 | | 0.7804 | | 0.7659 | | 0.3960 | 0.3960 | MG/KG | 110 | | 107 | | 2 | 75 - 125 | 20 MS | |

Note: Results shown are reported on an as-received basis.

| | | |
|--|--|--|
| METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry | CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence | CONCENTRATION QUALIFIERS: U= Below MDL, B= Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS |
|--|--|--|



Lancaster
Laboratories

QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: PH058

Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 7096473BKG Matrix Spike Lab Sample ID: 7096474MS Matrix Spike Duplicate Lab Sample ID: 7096475MSD
Batch Id(s): P17737A, P17838A

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | RPD | Control Limit | | | |
|---------------------|------|----------------------|---|----------------------|---|----------------------|---|--------------------|--------------------|------------------|----------------|---|----------------|---|-----|---------------|-----|----|---|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | | %R | RPD | M | |
| Tin | | 3.5614 | B | 342.8416 | | 343.1822 | | 396.0396 | 396.0396 | MG/KG | 86 | | 86 | | 0 | 75 - 125 | 20 | P | |
| Titanium | | 1459.7218 | | 1708.5723 | | 1752.4713 | | 99.0099 | 99.0099 | MG/KG | 251 | | 296 | | 3 | | | 20 | P |
| Vanadium | | 56.8941 | | 105.0079 | | 107.1020 | | 49.5050 | 49.5050 | MG/KG | 97 | | 101 | | 2 | 75 - 125 | 20 | P | |
| Zinc | | 82.7188 | | 124.9149 | | 126.9594 | | 49.5050 | 49.5050 | MG/KG | 85 | | 89 | | 2 | 75 - 125 | 20 | P | |
| Zirconium | | 4.8248 | B | 102.0960 | | 100.9228 | | 99.0099 | 99.0099 | MG/KG | 98 | | 97 | | 1 | 75 - 125 | 20 | P | |

Note: Results shown are reported on an as-received basis.

METHODS:

P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:

U= Below MDL, B= Below LOQ

FLAGS:

N = Matrix Spike OOS, * = Duplicate OOS

Background Lab Sample ID: 7096473BKG

Duplicate Lab Sample ID: 7096476DUP

Batch ID(s): P17737A, P17838A

Concentration Units: MG/KG

| Analyte | Mass | Control Limit | Samples (S) | C | Duplicate (D) | C | RPD | Q | M |
|-----------------------|------|---------------|-------------------|--------------|-------------------|--------------|----------------|---|--------------|
| Aluminum | | | 21664.4911 | | 21607.2030 | | 0 | | P |
| Antimony | | | 0.7327 | U | 0.7327 | U | | | P |
| Arsenic | | 4.0 | 10.2901 | | 10.6842 | | 4 | | P |
| Barium | | | 119.9178 | | 127.4693 | | 6 | | P |
| Beryllium | | 1.0 | 1.0297 | | 1.0554 | | 2 | | P |
| Boron | | | 1.2297 | B | 0.8317 | U | 200 | | P |
| Cadmium | | | 0.0752 | U | 0.1069 | U | 200 | | P |
| Calcium | | | 4233.9059 | | 4240.7891 | | 0 | | P |
| Chromium | | | 34.5584 | | 34.1158 | | 1 | | P |
| Cobalt | | | 8.2614 | | 10.8158 | | 27 | * | P |
| Copper | | | 17.0950 | | 16.6921 | | 2 | | P |
| Iron | | | 34006.2871 | | 35201.3020 | | 3 | | P |
| Lead | | 3.0 | 11.2158 | | 12.6248 | | 12 | | P |
| Lithium | | | 43.7851 | | 44.8069 | | 2 | | P |
| Magnesium | | | 7674.5693 | | 7717.8069 | | 1 | | P |
| Manganese | | | 355.0149 | | 476.1416 | | 29 | * | P |
| Mercury | | | 0.0094 | U | 0.0099 | U | | | CV |
| Molybdenum | | | 0.6119 | B | 0.4455 | B | 31 | | P |
| Nickel | | | 22.2287 | | 24.5010 | | 10 | | P |
| Phosphorus | | | 554.5891 | | 565.9436 | | 2 | | P |
| Potassium | | | 2815.9762 | | 2833.2079 | | 1 | | P |
| Selenium | 78 | | 0.3222 | B | 0.3127 | B | 3 | | MS |
| Silver | 107 | | 0.0257 | U | 0.0257 | U | | | MS |
| Sodium | | 99.0 | 172.9604 | | 176.9129 | | 2 | | P |
| Strontium | 88 | | 31.3069 | | 31.0099 | | 1 | | MS |
| Thallium | 203 | 0.2 | 0.3430 | | 0.3537 | | 3 | | MS |
| Tin | | | 3.5614 | B | 3.5822 | B | 1 | | P |
| Titanium | | | 1459.7218 | | 1451.3347 | | 1 | | P |
| Vanadium | | | 56.8941 | | 57.0663 | | 0 | | P |
| Zinc | | | 82.7188 | | 83.3743 | | 1 | | P |
| Zirconium | | 5.0 | 4.8248 | B | 5.1426 | | 6 | | P |

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).

The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

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Note: Results shown are reported on an as-received basis.

| | |
|--|--|
| <p>METHODS:</p> <p>P = ICP Atomic Emission Spectrometer</p> <p>MS = ICP Mass Spectrometry</p> <p>CV = Cold Vapor</p> <p>AF = Cold Vapor Atomic Fluorescence</p> | <p>CONCENTRATION QUALIFIERS:</p> <p>U= Below MDL</p> <p>B= Below LOQ</p> <p>FLAGS:</p> <p>PH058 Page 1377 of 1587</p> <p>* Duplicate Out of Spec</p> |
|--|--|

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|-----------------|-------------|-------------|-------------------|--------------|
| 18-Jun-2013 | TB-061813 | 7097884 | TB | 5030B | 8015M | III |
| 18-Jun-2013 | SL-854-SA5A-SB-0.0-0.5 | 7097885 | N | 3050B | 6010C | III |
| 18-Jun-2013 | SL-854-SA5A-SB-0.0-0.5 | 7097885 | N | 3050B | 6020A | III |
| 18-Jun-2013 | SL-854-SA5A-SB-0.0-0.5 | 7097885 | N | 3546 | 8015M | III |
| 18-Jun-2013 | SL-854-SA5A-SB-0.0-0.5 | 7097885 | N | 3546 | 8270D SIM | III |
| 18-Jun-2013 | SL-854-SA5A-SB-0.0-0.5 | 7097885 | N | METHOD | 1613B | III |
| 18-Jun-2013 | SL-854-SA5A-SB-0.0-0.5 | 7097885 | N | METHOD | 7471B | III |
| 18-Jun-2013 | SL-854-SA5A-SB-0.0-0.5MSD | P097885M321106A | MSD | 3546 | 8015M | III |
| 18-Jun-2013 | SL-854-SA5A-SB-0.0-0.5MS | P097885R321045A | MS | 3546 | 8015M | III |
| 18-Jun-2013 | SL-854-SA5A-SB-4.0-5.0 | 7097886 | N | 3050B | 6010C | III |
| 18-Jun-2013 | SL-854-SA5A-SB-4.0-5.0 | 7097886 | N | 3050B | 6020A | III |
| 18-Jun-2013 | SL-854-SA5A-SB-4.0-5.0 | 7097886 | N | 3546 | 8015M | III |
| 18-Jun-2013 | SL-854-SA5A-SB-4.0-5.0 | 7097886 | N | 3546 | 8270D SIM | III |
| 18-Jun-2013 | SL-854-SA5A-SB-4.0-5.0 | 7097886 | N | 5035A | 8015M | III |
| 18-Jun-2013 | SL-854-SA5A-SB-4.0-5.0 | 7097886 | N | METHOD | 1613B | III |
| 18-Jun-2013 | SL-854-SA5A-SB-4.0-5.0 | 7097886 | N | METHOD | 7471B | III |
| 18-Jun-2013 | SL-855-SA5A-SB-0.0-0.5 | 7097887 | N | 3050B | 6010C | III |
| 18-Jun-2013 | SL-855-SA5A-SB-0.0-0.5 | 7097887 | N | 3050B | 6020A | III |
| 18-Jun-2013 | SL-855-SA5A-SB-0.0-0.5 | 7097887 | N | 3546 | 8015M | III |
| 18-Jun-2013 | SL-855-SA5A-SB-0.0-0.5 | 7097887 | N | 3546 | 8270D SIM | III |
| 18-Jun-2013 | SL-855-SA5A-SB-0.0-0.5 | 7097887 | N | METHOD | 1613B | III |
| 18-Jun-2013 | SL-855-SA5A-SB-0.0-0.5 | 7097887 | N | METHOD | 7471B | III |
| 18-Jun-2013 | SL-860-SA5A-SB-0.0-0.5 | 7097888 | N | 3050B | 6010C | III |
| 18-Jun-2013 | SL-860-SA5A-SB-0.0-0.5 | 7097888 | N | 3050B | 6020A | III |
| 18-Jun-2013 | SL-860-SA5A-SB-0.0-0.5 | 7097888 | N | 3546 | 8015M | III |
| 18-Jun-2013 | SL-860-SA5A-SB-0.0-0.5 | 7097888 | N | 3546 | 8270D SIM | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|--------------------------|---------------|-------------|-------------|-------------------|--------------|
| 18-Jun-2013 | SL-860-SA5A-SB-0.0-0.5 | 7097888 | N | METHOD | 1613B | III |
| 18-Jun-2013 | SL-860-SA5A-SB-0.0-0.5 | 7097888 | N | METHOD | 7471B | III |
| 18-Jun-2013 | SL-860-SA5A-SB-4.0-5.0 | 7097889 | N | 3050B | 6010C | III |
| 18-Jun-2013 | SL-860-SA5A-SB-4.0-5.0 | 7097889 | N | 3050B | 6020A | III |
| 18-Jun-2013 | SL-860-SA5A-SB-4.0-5.0 | 7097889 | N | 3546 | 8015M | III |
| 18-Jun-2013 | SL-860-SA5A-SB-4.0-5.0 | 7097889 | N | 3546 | 8270D SIM | III |
| 18-Jun-2013 | SL-860-SA5A-SB-4.0-5.0 | 7097889 | N | 5035A | 8015M | III |
| 18-Jun-2013 | SL-860-SA5A-SB-4.0-5.0 | 7097889 | N | METHOD | 1613B | III |
| 18-Jun-2013 | SL-860-SA5A-SB-4.0-5.0 | 7097889 | N | METHOD | 7471B | III |
| 18-Jun-2013 | SL-860-SA5A-SB-10.5-11.5 | 7097890 | N | 3050B | 6010C | III |
| 18-Jun-2013 | SL-860-SA5A-SB-10.5-11.5 | 7097890 | N | 3050B | 6020A | III |
| 18-Jun-2013 | SL-860-SA5A-SB-10.5-11.5 | 7097890 | N | 3546 | 8015M | III |
| 18-Jun-2013 | SL-860-SA5A-SB-10.5-11.5 | 7097890 | N | 3546 | 8270D SIM | III |
| 18-Jun-2013 | SL-860-SA5A-SB-10.5-11.5 | 7097890 | N | 5035A | 8015M | III |
| 18-Jun-2013 | SL-860-SA5A-SB-10.5-11.5 | 7097890 | N | METHOD | 1613B | III |
| 18-Jun-2013 | SL-860-SA5A-SB-10.5-11.5 | 7097890 | N | METHOD | 7471B | III |
| 18-Jun-2013 | SL-864-SA5A-SB-0.0-0.5 | 7097891 | N | 3050B | 6010C | III |
| 18-Jun-2013 | SL-864-SA5A-SB-0.0-0.5 | 7097891 | N | 3050B | 6020A | III |
| 18-Jun-2013 | SL-864-SA5A-SB-0.0-0.5 | 7097891 | N | 3546 | 8015M | III |
| 18-Jun-2013 | SL-864-SA5A-SB-0.0-0.5 | 7097891 | N | 3546 | 8270D SIM | III |
| 18-Jun-2013 | SL-864-SA5A-SB-0.0-0.5 | 7097891 | N | METHOD | 1613B | III |
| 18-Jun-2013 | SL-864-SA5A-SB-0.0-0.5 | 7097891 | N | METHOD | 7471B | III |
| 18-Jun-2013 | SL-864-SA5A-SB-4.0-5.0 | 7097892 | N | 3050B | 6010C | III |
| 18-Jun-2013 | SL-864-SA5A-SB-4.0-5.0 | 7097892 | N | 3050B | 6020A | III |
| 18-Jun-2013 | SL-864-SA5A-SB-4.0-5.0 | 7097892 | N | 3546 | 8015M | III |
| 18-Jun-2013 | SL-864-SA5A-SB-4.0-5.0 | 7097892 | N | 3546 | 8270D SIM | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 18-Jun-2013 | SL-864-SA5A-SB-4.0-5.0 | 7097892 | N | 5035A | 8015M | III |
| 18-Jun-2013 | SL-864-SA5A-SB-4.0-5.0 | 7097892 | N | METHOD | 1613B | III |
| 18-Jun-2013 | SL-864-SA5A-SB-4.0-5.0 | 7097892 | N | METHOD | 7471B | III |

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-854-SA5A-SB-0.0-0.5 Collected: 6/18/2013 9:45:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ARSENIC | 2.00 | J | 0.712 | MDL | 4.07 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.511 | J | 0.0682 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 3.69 | J | 0.855 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.470 | J | 0.173 | MDL | 2.04 | PQL | mg/Kg | U | B, F, F |
| SODIUM | 81.0 | J | 17.0 | MDL | 102 | PQL | mg/Kg | J | Z |
| TIN | 2.19 | J | 0.224 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 1.74 | J | 0.855 | MDL | 5.09 | PQL | mg/Kg | J | Z |

Sample ID: SL-854-SA5A-SB-4.0-5.0 Collected: 6/18/2013 10:00:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| BERYLLIUM | 0.383 | J | 0.0670 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 2.07 | J | 0.840 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.360 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | B, F, F |
| TIN | 2.28 | J | 0.220 | MDL | 10.0 | PQL | mg/Kg | U | B |

Sample ID: SL-855-SA5A-SB-0.0-0.5 Collected: 6/18/2013 10:30:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ARSENIC | 2.39 | J | 0.688 | MDL | 3.93 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.564 | J | 0.0658 | MDL | 0.983 | PQL | mg/Kg | J | Z |
| BORON | 4.50 | J | 0.825 | MDL | 9.83 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.529 | J | 0.167 | MDL | 1.97 | PQL | mg/Kg | U | B, F, F |
| SODIUM | 74.4 | J | 16.4 | MDL | 98.3 | PQL | mg/Kg | J | Z |
| TIN | 2.66 | J | 0.216 | MDL | 9.83 | PQL | mg/Kg | U | B |
| Zirconium | 1.32 | J | 0.825 | MDL | 4.91 | PQL | mg/Kg | J | Z |

Sample ID: SL-860-SA5A-SB-0.0-0.5 Collected: 6/18/2013 12:40:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ARSENIC | 2.91 | J | 0.698 | MDL | 3.99 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.624 | J | 0.0669 | MDL | 0.998 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-860-SA5A-SB-0.0-0.5 Collected: 6/18/2013 12:40:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| BORON | 5.63 | J | 0.838 | MDL | 9.98 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.482 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | B, F, F |
| SODIUM | 81.2 | J | 16.7 | MDL | 99.8 | PQL | mg/Kg | J | Z |
| TIN | 2.46 | J | 0.220 | MDL | 9.98 | PQL | mg/Kg | U | B |

Sample ID: SL-860-SA5A-SB-10.5-11.5 Collected: 6/18/2013 1:00:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ARSENIC | 2.57 | J | 0.708 | MDL | 4.05 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.418 | J | 0.0678 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 2.45 | J | 0.850 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| TIN | 2.39 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 1.02 | J | 0.850 | MDL | 5.06 | PQL | mg/Kg | J | Z |

Sample ID: SL-860-SA5A-SB-4.0-5.0 Collected: 6/18/2013 12:50:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| BERYLLIUM | 0.809 | J | 0.0703 | MDL | 1.05 | PQL | mg/Kg | J | Z |
| BORON | 5.34 | J | 0.882 | MDL | 10.5 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.772 | J | 0.178 | MDL | 2.10 | PQL | mg/Kg | U | B, F, F |
| TIN | 3.03 | J | 0.231 | MDL | 10.5 | PQL | mg/Kg | U | B |
| Zirconium | 1.53 | J | 0.882 | MDL | 5.25 | PQL | mg/Kg | J | Z |

Sample ID: SL-864-SA5A-SB-0.0-0.5 Collected: 6/18/2013 1:55:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ARSENIC | 3.24 | J | 0.717 | MDL | 4.10 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.614 | J | 0.0686 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 4.70 | J | 0.861 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.552 | J | 0.174 | MDL | 2.05 | PQL | mg/Kg | U | B, F, F |
| SODIUM | 80.0 | J | 17.1 | MDL | 102 | PQL | mg/Kg | J | Z |
| TIN | 2.94 | J | 0.225 | MDL | 10.2 | PQL | mg/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-864-SA5A-SB-4.0-5.0 Collected: 6/18/2013 2:10:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 0.786 | J | 0.771 | MDL | 4.17 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.585 | J | 0.0698 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| BORON | 3.63 | J | 0.875 | MDL | 10.4 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.566 | J | 0.177 | MDL | 2.08 | PQL | mg/Kg | U | B, F, F |
| SODIUM | 95.6 | J | 17.4 | MDL | 104 | PQL | mg/Kg | J | Z |
| TIN | 2.95 | J | 0.229 | MDL | 10.4 | PQL | mg/Kg | U | B |
| Zirconium | 1.11 | J | 0.875 | MDL | 5.21 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-854-SA5A-SB-0.0-0.5 Collected: 6/18/2013 9:45:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.169 | J | 0.102 | MDL | 0.407 | PQL | mg/Kg | J | Z |

Sample ID: SL-854-SA5A-SB-0.0-0.5 Collected: 6/18/2013 9:45:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0548 | J | 0.0265 | MDL | 0.204 | PQL | mg/Kg | J | Z |

Sample ID: SL-854-SA5A-SB-4.0-5.0 Collected: 6/18/2013 10:00:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.160 | J | 0.100 | MDL | 0.400 | PQL | mg/Kg | J | Z |

Sample ID: SL-855-SA5A-SB-0.0-0.5 Collected: 6/18/2013 10:30:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.153 | J | 0.0983 | MDL | 0.393 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-855-SA5A-SB-0.0-0.5 Collected: 6/18/2013 10:30:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0785 | J | 0.0255 | MDL | 0.197 | PQL | mg/Kg | J | Z |

Sample ID: SL-860-SA5A-SB-0.0-0.5 Collected: 6/18/2013 12:40:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.175 | J | 0.0998 | MDL | 0.399 | PQL | mg/Kg | J | Z |

Sample ID: SL-860-SA5A-SB-0.0-0.5 Collected: 6/18/2013 12:40:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0661 | J | 0.0259 | MDL | 0.200 | PQL | mg/Kg | J | Z |

Sample ID: SL-860-SA5A-SB-4.0-5.0 Collected: 6/18/2013 12:50:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.111 | J | 0.105 | MDL | 0.420 | PQL | mg/Kg | J | Z |

Sample ID: SL-860-SA5A-SB-4.0-5.0 Collected: 6/18/2013 12:50:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0416 | J | 0.0273 | MDL | 0.210 | PQL | mg/Kg | J | Z |

Sample ID: SL-864-SA5A-SB-0.0-0.5 Collected: 6/18/2013 1:55:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.128 | J | 0.102 | MDL | 0.410 | PQL | mg/Kg | J | Z |

Sample ID: SL-864-SA5A-SB-0.0-0.5 Collected: 6/18/2013 1:55:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0674 | J | 0.0266 | MDL | 0.205 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-864-SA5A-SB-4.0-5.0 Collected: 6/18/2013 2:10:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.149 | J | 0.104 | MDL | 0.417 | PQL | mg/Kg | J | Z |

Sample ID: SL-864-SA5A-SB-4.0-5.0 Collected: 6/18/2013 2:10:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0294 | J | 0.0271 | MDL | 0.208 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 7471B | Matrix: SO |

Sample ID: SL-855-SA5A-SB-0.0-0.5 Collected: 6/18/2013 10:30:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0122 | J | 0.0096 | MDL | 0.0160 | PQL | mg/Kg | J | Z |

Sample ID: SL-860-SA5A-SB-0.0-0.5 Collected: 6/18/2013 12:40:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0102 | J | 0.0099 | MDL | 0.0165 | PQL | mg/Kg | J | Z |

Sample ID: SL-864-SA5A-SB-0.0-0.5 Collected: 6/18/2013 1:55:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0143 | J | 0.0096 | MDL | 0.0160 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|--------------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-854-SA5A-SB-0.0-0.5 Collected: 6/18/2013 9:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 1.96 | JB | 0.0258 | MDL | 4.96 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|-------|----------------|----|
| Method Category: | SVOA | Matrix: | SO |
| Method: | 1613B | | |

Sample ID: SL-854-SA5A-SB-0.0-0.5 Collected: 6/18/2013 9:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.166 | JBQ | 0.0366 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.260 | JBQ | 0.0686 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.172 | JB | 0.0331 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 0.840 | JB | 0.0720 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.142 | JB | 0.0301 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.910 | JB | 0.0669 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.322 | JBQ | 0.0360 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.255 | JBQ | 0.0499 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.394 | JB | 0.0329 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.205 | JBQ | 0.0298 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.131 | JB | 0.0327 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.132 | JBQ | 0.0418 | MDL | 0.992 | PQL | ng/Kg | U | B |
| OCDF | 7.00 | JB | 0.0439 | MDL | 9.92 | PQL | ng/Kg | J | Z |

Sample ID: SL-854-SA5A-SB-4.0-5.0 Collected: 6/18/2013 10:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.0890 | JBQ | 0.0246 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0304 | JBQ | 0.00967 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0215 | JBQ | 0.0151 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0233 | JBQ | 0.0113 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0179 | JBQ | 0.0106 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0304 | JBQ | 0.0132 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0597 | JBQ | 0.0362 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0434 | JBQ | 0.0202 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0173 | JBQ | 0.00967 | MDL | 5.10 | PQL | ng/Kg | U | B |
| OCDD | 0.363 | JB | 0.0284 | MDL | 10.2 | PQL | ng/Kg | U | B |
| OCDF | 0.104 | JB | 0.0348 | MDL | 10.2 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|------|----------------|-------|
| Method Category: | SVOA | Method: | 1613B |
| | | Matrix: | SO |

Sample ID: SL-855-SA5A-SB-0.0-0.5 Collected: 6/18/2013 10:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 4.25 | JB | 0.0306 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.286 | JBQ | 0.0471 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.487 | JB | 0.0802 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.316 | JB | 0.0381 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 1.88 | JB | 0.0858 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.276 | JB | 0.0371 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 1.77 | JBQ | 0.0901 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.335 | JB | 0.0432 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.480 | JB | 0.0373 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.317 | JBQ | 0.0353 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.461 | JBQ | 0.0374 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0416 | JBQ | 0.0400 | MDL | 1.01 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.215 | JB | 0.0641 | MDL | 1.01 | PQL | ng/Kg | J | Z |

Sample ID: SL-860-SA5A-SB-0.0-0.5 Collected: 6/18/2013 12:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 1.13 | JB | 0.0332 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.109 | JBQ | 0.0439 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.169 | JB | 0.0522 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.0852 | JB | 0.0259 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.541 | JB | 0.0582 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0996 | JBQ | 0.0235 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.537 | JBQ | 0.0541 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.260 | JB | 0.0281 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.424 | JB | 0.0299 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.103 | JBQ | 0.0233 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.246 | JBQ | 0.0283 | MDL | 5.10 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.211 | JB | 0.0471 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| OCDF | 3.80 | JB | 0.0336 | MDL | 10.2 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-860-SA5A-SB-10.5-11.5 Collected: 6/18/2013 1:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.125 | JB | 0.0265 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0546 | JBQ | 0.0135 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0523 | JBQ | 0.0194 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0426 | JB | 0.0218 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0517 | JBQ | 0.0154 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0619 | JBQ | 0.0146 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.0399 | JBQ | 0.0239 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0803 | JB | 0.0182 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.109 | JBQ | 0.0427 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.100 | JB | 0.0219 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0445 | JB | 0.0135 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0751 | JBQ | 0.0214 | MDL | 4.98 | PQL | ng/Kg | U | B |
| OCDD | 0.351 | JBQ | 0.0268 | MDL | 9.96 | PQL | ng/Kg | U | B |
| OCDF | 0.195 | JBQ | 0.0347 | MDL | 9.96 | PQL | ng/Kg | U | B |

Sample ID: SL-860-SA5A-SB-4.0-5.0 Collected: 6/18/2013 12:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 1.16 | JBQ | 0.0468 | MDL | 5.31 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.203 | JB | 0.0146 | MDL | 5.31 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0288 | JBQ | 0.0212 | MDL | 5.31 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0343 | JBQ | 0.0271 | MDL | 5.31 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0319 | JBQ | 0.0148 | MDL | 5.31 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.0526 | JBQ | 0.0290 | MDL | 5.31 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0340 | JBQ | 0.0126 | MDL | 5.31 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.0530 | JBQ | 0.0279 | MDL | 5.31 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0262 | JBQ | 0.0157 | MDL | 5.31 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0751 | JB | 0.0256 | MDL | 5.31 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0346 | JB | 0.0127 | MDL | 5.31 | PQL | ng/Kg | U | B |
| OCDF | 0.421 | JB | 0.0309 | MDL | 10.6 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-864-SA5A-SB-0.0-0.5 Collected: 6/18/2013 1:55:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.473 | JB | 0.0548 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 1.22 | JB | 0.103 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.555 | JBQ | 0.0450 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 2.95 | JB | 0.115 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.468 | JBQ | 0.0445 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 2.42 | JB | 0.108 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.365 | JBQ | 0.0480 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.658 | JBQ | 0.0852 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.745 | JB | 0.0488 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.514 | JBQ | 0.0424 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.870 | JB | 0.0436 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.411 | JB | 0.0667 | MDL | 1.01 | PQL | ng/Kg | J | Z |

Sample ID: SL-864-SA5A-SB-4.0-5.0 Collected: 6/18/2013 2:10:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 1.67 | JB | 0.0634 | MDL | 5.30 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.224 | JBQ | 0.0229 | MDL | 5.30 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.0574 | JBQ | 0.0458 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0715 | JBQ | 0.0185 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.130 | JBQ | 0.0503 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0764 | JB | 0.0168 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.245 | JBQ | 0.0458 | MDL | 5.30 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.0499 | JB | 0.0194 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.139 | JBQ | 0.0506 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.186 | JBQ | 0.0273 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0624 | JBQ | 0.0164 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0543 | JBQ | 0.0279 | MDL | 5.30 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0504 | JBQ | 0.0382 | MDL | 1.06 | PQL | ng/Kg | U | B |
| OCDF | 0.401 | JB | 0.0421 | MDL | 10.6 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 8015M **Matrix:** SO

Sample ID: SL-854-SA5A-SB-0.0-0.5 Collected: 6/18/2013 9:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 6.9 | | 2.1 | MDL | 5.1 | PQL | mg/Kg | J | Q |
| EFH (C30-C40) | 17 | | 4.1 | MDL | 10 | PQL | mg/Kg | J | Q, Q |

Sample ID: SL-860-SA5A-SB-0.0-0.5 Collected: 6/18/2013 12:40:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 5.2 | J | 4.1 | MDL | 10 | PQL | mg/Kg | J | Z |

Sample ID: SL-860-SA5A-SB-4.0-5.0 Collected: 6/18/2013 12:50:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 2.4 | J | 2.1 | MDL | 5.4 | PQL | mg/Kg | J | Z |

Sample ID: SL-864-SA5A-SB-0.0-0.5 Collected: 6/18/2013 1:55:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 2.3 | J | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Z |

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-854-SA5A-SB-0.0-0.5 Collected: 6/18/2013 9:45:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 1.5 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 0.96 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 1.0 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 1.5 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-855-SA5A-SB-0.0-0.5 Collected: 6/18/2013 10:30:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 1.2 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-----------|-------------------|
| Method Category: | SVOA | |
| Method: | 8270D SIM | Matrix: SO |

Sample ID: SL-855-SA5A-SB-0.0-0.5 Collected: 6/18/2013 10:30:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 0.44 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)ANTHRACENE | 0.86 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 1.4 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 0.77 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 1.4 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 7.0 | J | 6.0 | MDL | 18 | PQL | ug/Kg | J | Z |
| INDENO(1,2,3-CD)PYRENE | 0.71 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 1.4 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-860-SA5A-SB-0.0-0.5 Collected: 6/18/2013 12:40:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 0.85 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| CHRYSENE | 1.6 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-860-SA5A-SB-4.0-5.0 Collected: 6/18/2013 12:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 1-Methylnaphthalene | 0.93 | J | 0.71 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| 2-METHYLNAPHTHALENE | 1.1 | J | 0.71 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BENZO(B)FLUORANTHENE | 0.97 | J | 0.71 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-864-SA5A-SB-0.0-0.5 Collected: 6/18/2013 1:55:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 1-Methylnaphthalene | 1.4 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| ACENAPHTHYLENE | 0.60 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-864-SA5A-SB-4.0-5.0 Collected: 6/18/2013 2:10:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 0.42 | J | 0.35 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 0.72 | J | 0.71 | MDL | 1.8 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-864-SA5A-SB-4.0-5.0

Collected: 6/18/2013 2:10:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| PYRENE | 0.82 | J | 0.71 | MDL | 1.8 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---------------------------------|
| B | Calibration Blank Contamination |
| B | Method Blank Contamination |
| E | Matrix Spike Precision |
| F | Equipment Blank Contamination |
| F | Field Blank Contamination |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Enclosure I

Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

PH059

Method Blank Outlier Report

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|---------------------|--------------|--------------------------|
| BLK1750B371330 | 6/26/2013 1:30:00 PM | 1,2,3,4,6,7,8-HPCDD | 0.0996 ng/Kg | SL-854-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,6,7,8-HPCDF | 0.0351 ng/Kg | SL-854-SA5A-SB-4.0-5.0 |
| | | 1,2,3,4,7,8,9-HPCDF | 0.0615 ng/Kg | SL-855-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,7,8-HxCDD | 0.0308 ng/Kg | SL-860-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,7,8-HXCDF | 0.0286 ng/Kg | SL-860-SA5A-SB-10.5-11.5 |
| | | 1,2,3,6,7,8-HxCDD | 0.0519 ng/Kg | SL-860-SA5A-SB-4.0-5.0 |
| | | 1,2,3,6,7,8-HXCDF | 0.0359 ng/Kg | SL-864-SA5A-SB-0.0-0.5 |
| | | 1,2,3,7,8,9-HxCDD | 0.0471 ng/Kg | SL-864-SA5A-SB-4.0-5.0 |
| | | 1,2,3,7,8,9-HXCDF | 0.0245 ng/Kg | |
| | | 1,2,3,7,8-PECDD | 0.0611 ng/Kg | |
| | | 1,2,3,7,8-PECDF | 0.0700 ng/Kg | |
| | | 2,3,4,6,7,8-HXCDF | 0.0262 ng/Kg | |
| | | 2,3,4,7,8-PECDF | 0.0563 ng/Kg | |
| | | 2,3,7,8-TCDD | 0.0415 ng/Kg | |
| | | 2,3,7,8-TCDF | 0.0358 ng/Kg | |
| | | OCDD | 0.326 ng/Kg | |
| | | OCDF | 0.0789 ng/Kg | |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-854-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.166 ng/Kg | 0.166U ng/Kg |
| SL-854-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.142 ng/Kg | 0.142U ng/Kg |
| SL-854-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.255 ng/Kg | 0.255U ng/Kg |
| SL-854-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.131 ng/Kg | 0.131U ng/Kg |
| SL-854-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.132 ng/Kg | 0.132U ng/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.0890 ng/Kg | 0.0890U ng/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0304 ng/Kg | 0.0304U ng/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0215 ng/Kg | 0.0215U ng/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0233 ng/Kg | 0.0233U ng/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0179 ng/Kg | 0.0179U ng/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0304 ng/Kg | 0.0304U ng/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDD | 0.0597 ng/Kg | 0.0597U ng/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.0434 ng/Kg | 0.0434U ng/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0173 ng/Kg | 0.0173U ng/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES) | OCDD | 0.363 ng/Kg | 0.363U ng/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES) | OCDF | 0.104 ng/Kg | 0.104U ng/Kg |
| SL-855-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.286 ng/Kg | 0.286U ng/Kg |
| SL-855-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0416 ng/Kg | 0.0416U ng/Kg |
| SL-860-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.109 ng/Kg | 0.109U ng/Kg |
| SL-860-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0852 ng/Kg | 0.0852U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-------------------------------|---------------------|-----------------|-----------------------|
| SL-860-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0996 ng/Kg | 0.0996U ng/Kg |
| SL-860-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.103 ng/Kg | 0.103U ng/Kg |
| SL-860-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.246 ng/Kg | 0.246U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.125 ng/Kg | 0.125U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0546 ng/Kg | 0.0546U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0523 ng/Kg | 0.0523U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0426 ng/Kg | 0.0426U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0517 ng/Kg | 0.0517U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0619 ng/Kg | 0.0619U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | 1,2,3,7,8,9-HXCDD | 0.0399 ng/Kg | 0.0399U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | 1,2,3,7,8,9-HXCDF | 0.0803 ng/Kg | 0.0803U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | 1,2,3,7,8-PECDD | 0.109 ng/Kg | 0.109U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | 1,2,3,7,8-PECDF | 0.100 ng/Kg | 0.100U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0445 ng/Kg | 0.0445U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | 2,3,4,7,8-PECDF | 0.0751 ng/Kg | 0.0751U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | OCDD | 0.351 ng/Kg | 0.351U ng/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES) | OCDF | 0.195 ng/Kg | 0.195U ng/Kg |
| SL-860-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0288 ng/Kg | 0.0288U ng/Kg |
| SL-860-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HxCDD | 0.0343 ng/Kg | 0.0343U ng/Kg |
| SL-860-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0319 ng/Kg | 0.0319U ng/Kg |
| SL-860-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDD | 0.0526 ng/Kg | 0.0526U ng/Kg |
| SL-860-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0340 ng/Kg | 0.0340U ng/Kg |
| SL-860-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDD | 0.0530 ng/Kg | 0.0530U ng/Kg |
| SL-860-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0262 ng/Kg | 0.0262U ng/Kg |
| SL-860-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.0751 ng/Kg | 0.0751U ng/Kg |
| SL-860-SA5A-SB-4.0-5.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0346 ng/Kg | 0.0346U ng/Kg |
| SL-864-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HxCDD | 0.0574 ng/Kg | 0.0574U ng/Kg |
| SL-864-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0715 ng/Kg | 0.0715U ng/Kg |
| SL-864-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDD | 0.130 ng/Kg | 0.130U ng/Kg |
| SL-864-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0764 ng/Kg | 0.0764U ng/Kg |
| SL-864-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0499 ng/Kg | 0.0499U ng/Kg |
| SL-864-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDD | 0.139 ng/Kg | 0.139U ng/Kg |
| SL-864-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.186 ng/Kg | 0.186U ng/Kg |
| SL-864-SA5A-SB-4.0-5.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0624 ng/Kg | 0.0624U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|-----------------|-----------------|-----------------------|
| SL-864-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.0543 ng/Kg | 0.0543U ng/Kg |
| SL-864-SA5A-SB-4.0-5.0(RES) | 2,3,7,8-TCDD | 0.0504 ng/Kg | 0.0504U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

| | | | | |
|----------------|-----------------------|---------|------------|--|
| P17137AB221147 | 6/27/2013 11:47:00 AM | CALCIUM | 5.59 mg/Kg | SL-854-SA5A-SB-0.0-0.5 SL-854-SA5A-SB-4.0-5.0 SL-855-SA5A-SB-0.0-0.5 SL-860-SA5A-SB-0.0-0.5 SL-860-SA5A-SB-10.5-11.5 SL-860-SA5A-SB-4.0-5.0 SL-864-SA5A-SB-0.0-0.5 SL-864-SA5A-SB-4.0-5.0 |
| | | TIN | 1.44 mg/Kg | |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------------|---------|-----------------|-----------------------|
| SL-854-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.19 mg/Kg | 2.19U mg/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES/TOT) | TIN | 2.28 mg/Kg | 2.28U mg/Kg |
| SL-855-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.66 mg/Kg | 2.66U mg/Kg |
| SL-860-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.46 mg/Kg | 2.46U mg/Kg |
| SL-860-SA5A-SB-10.5-11.5(RES/TOT) | TIN | 2.39 mg/Kg | 2.39U mg/Kg |
| SL-860-SA5A-SB-4.0-5.0(RES/TOT) | TIN | 3.03 mg/Kg | 3.03U mg/Kg |
| SL-864-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.94 mg/Kg | 2.94U mg/Kg |
| SL-864-SA5A-SB-4.0-5.0(RES/TOT) | TIN | 2.95 mg/Kg | 2.95U mg/Kg |

Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Equipment Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|---------------------------|----------------------|-------------------|----------------------------|--|
| EB1-061913(RES/TOT) | 6/19/2013 3:00:00 PM | MOLYBDENUM TIN | 0.0187 mg/L 0.0031 mg/L | SL-854-SA5A-SB-0.0-0.5 SL-854-SA5A-SB-4.0-5.0 SL-855-SA5A-SB-0.0-0.5 SL-860-SA5A-SB-0.0-0.5 SL-860-SA5A-SB-10.5-11.5 SL-860-SA5A-SB-4.0-5.0 |
| EB2-061913(RES/TOT) | 6/19/2013 3:30:00 PM | MOLYBDENUM | 0.0062 mg/L | SL-864-SA5A-SB-0.0-0.5 SL-864-SA5A-SB-4.0-5.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|------------|-----------------|-----------------------|
| SL-854-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.470 mg/Kg | 0.470U mg/Kg |
| SL-854-SA5A-SB-4.0-5.0(RES/TOT) | MOLYBDENUM | 0.360 mg/Kg | 0.360U mg/Kg |
| SL-855-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.529 mg/Kg | 0.529U mg/Kg |
| SL-860-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.482 mg/Kg | 0.482U mg/Kg |
| SL-860-SA5A-SB-4.0-5.0(RES/TOT) | MOLYBDENUM | 0.772 mg/Kg | 0.772U mg/Kg |
| SL-864-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.552 mg/Kg | 0.552U mg/Kg |
| SL-864-SA5A-SB-4.0-5.0(RES/TOT) | MOLYBDENUM | 0.566 mg/Kg | 0.566U mg/Kg |

Field Blank Outlier Report

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|----------------------|----------------------------|--|
| FB-041113(REA2/TOT) | 4/11/2013 3:00:00 PM | COPPER MOLYBDENUM | 0.0036 mg/L 0.0036 mg/L | SL-854-SA5A-SB-0.0-0.5 SL-854-SA5A-SB-4.0-5.0 SL-855-SA5A-SB-0.0-0.5 SL-860-SA5A-SB-0.0-0.5 SL-860-SA5A-SB-10.5-11.5 SL-860-SA5A-SB-4.0-5.0 SL-864-SA5A-SB-0.0-0.5 SL-864-SA5A-SB-4.0-5.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|------------|-----------------|-----------------------|
| SL-854-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.470 mg/Kg | 0.470U mg/Kg |
| SL-854-SA5A-SB-4.0-5.0(REA/TOT) | MOLYBDENUM | 0.360 mg/Kg | 0.360U mg/Kg |
| SL-855-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.529 mg/Kg | 0.529U mg/Kg |
| SL-860-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.482 mg/Kg | 0.482U mg/Kg |
| SL-860-SA5A-SB-4.0-5.0(REA/TOT) | MOLYBDENUM | 0.772 mg/Kg | 0.772U mg/Kg |
| SL-864-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.552 mg/Kg | 0.552U mg/Kg |
| SL-864-SA5A-SB-4.0-5.0(REA/TOT) | MOLYBDENUM | 0.566 mg/Kg | 0.566U mg/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

8/7/2013 1:06:45 PM

ADR version 1.7.0.207

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Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8015M

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------|----------|-----------|--------------|-----------------|-----------------------|-----------------|
| SL-854-SA5A-SB-0.0-0.5MSD (SL-854-SA5A-SB-0.0-0.5) | EFH (C15-C20) | - | 134 | 49.00-123.00 | - | EFH (C15-C20) | J (all detects) |
| | EFH (C21-C30) | - | - | 49.00-123.00 | 22 (20.00) | EFH (C21-C30) | |
| | EFH (C30-C40) | - | 237 | 49.00-123.00 | 28 (20.00) | EFH (C30-C40) | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-854-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.96 | 4.96 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.166 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.260 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.172 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.840 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.142 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.910 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.322 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.255 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.394 | 4.96 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.205 | 4.96 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.131 | 4.96 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.132 | 0.992 | PQL | ng/Kg | |
| | OCDF | JB | 7.00 | 9.92 | PQL | ng/Kg | |
| SL-854-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.0890 | 5.10 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0304 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0215 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0233 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0179 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0304 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0597 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0434 | 5.10 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0173 | 5.10 | PQL | ng/Kg | |
| | OCDD | JB | 0.363 | 10.2 | PQL | ng/Kg | |
| | OCDF | JB | 0.104 | 10.2 | PQL | ng/Kg | |
| SL-855-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 4.25 | 5.03 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.286 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.487 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.316 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 1.88 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.276 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 1.77 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.335 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.480 | 5.03 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.317 | 5.03 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.461 | 5.03 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0416 | 1.01 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.215 | 1.01 | PQL | ng/Kg | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Reporting Limit Outliers

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-860-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.13 | 5.10 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.109 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.169 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.0852 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.541 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0996 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.537 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.260 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.424 | 5.10 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.103 | 5.10 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.246 | 5.10 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.211 | 1.02 | PQL | ng/Kg | |
| OCDF | JB | 3.80 | 10.2 | PQL | ng/Kg | | |
| SL-860-SA5A-SB-10.5-11.5 | 1,2,3,4,6,7,8-HPCDD | JB | 0.125 | 4.98 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0546 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0523 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.0426 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0517 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0619 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.0399 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.0803 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.109 | 4.98 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.100 | 4.98 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0445 | 4.98 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0751 | 4.98 | PQL | ng/Kg | |
| | OCDD | JBQ | 0.351 | 9.96 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.195 | 9.96 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-860-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 1.16 | 5.31 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.203 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0288 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0343 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0319 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.0526 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.0340 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.0530 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.0262 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.0751 | 5.31 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 0.0346 | 5.31 | PQL | ng/Kg | |
| OCDF | JB | 0.421 | 10.6 | PQL | ng/Kg | | |
| SL-864-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 0.473 | 5.03 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | JB | 1.22 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.555 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 2.95 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.468 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 2.42 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.365 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.658 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.745 | 5.03 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.514 | 5.03 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.870 | 5.03 | PQL | ng/Kg | |
| 2,3,7,8-TCDF | JB | 0.411 | 1.01 | PQL | ng/Kg | | |
| SL-864-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JB | 1.67 | 5.30 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.224 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0574 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0715 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.130 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.0764 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.245 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.0499 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.139 | 5.30 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.186 | 5.30 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0624 | 5.30 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0543 | 5.30 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0504 | 1.06 | PQL | ng/Kg | |
| | OCDF | JB | 0.401 | 10.6 | PQL | ng/Kg | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Reporting Limit Outliers

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-854-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.00 | 4.07 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.511 | 1.02 | PQL | mg/Kg | |
| | BORON | J | 3.69 | 10.2 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.470 | 2.04 | PQL | mg/Kg | |
| | SODIUM | J | 81.0 | 102 | PQL | mg/Kg | |
| | TIN | J | 2.19 | 10.2 | PQL | mg/Kg | |
| | Zirconium | J | 1.74 | 5.09 | PQL | mg/Kg | |
| SL-854-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.383 | 1.00 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.07 | 10.0 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.360 | 2.00 | PQL | mg/Kg | |
| | TIN | J | 2.28 | 10.0 | PQL | mg/Kg | |
| SL-855-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.39 | 3.93 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.564 | 0.983 | PQL | mg/Kg | |
| | BORON | J | 4.50 | 9.83 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.529 | 1.97 | PQL | mg/Kg | |
| | SODIUM | J | 74.4 | 98.3 | PQL | mg/Kg | |
| | TIN | J | 2.66 | 9.83 | PQL | mg/Kg | |
| | Zirconium | J | 1.32 | 4.91 | PQL | mg/Kg | |
| SL-860-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.91 | 3.99 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.624 | 0.998 | PQL | mg/Kg | |
| | BORON | J | 5.63 | 9.98 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.482 | 2.00 | PQL | mg/Kg | |
| | SODIUM | J | 81.2 | 99.8 | PQL | mg/Kg | |
| | TIN | J | 2.46 | 9.98 | PQL | mg/Kg | |
| SL-860-SA5A-SB-10.5-11.5 | ARSENIC | J | 2.57 | 4.05 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.418 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 2.45 | 10.1 | PQL | mg/Kg | |
| | TIN | J | 2.39 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 1.02 | 5.06 | PQL | mg/Kg | |
| SL-860-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.809 | 1.05 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 5.34 | 10.5 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.772 | 2.10 | PQL | mg/Kg | |
| | TIN | J | 3.03 | 10.5 | PQL | mg/Kg | |
| | Zirconium | J | 1.53 | 5.25 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-864-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.24 | 4.10 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.614 | 1.02 | PQL | mg/Kg | |
| | BORON | J | 4.70 | 10.2 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.552 | 2.05 | PQL | mg/Kg | |
| | SODIUM | J | 80.0 | 102 | PQL | mg/Kg | |
| | TIN | J | 2.94 | 10.2 | PQL | mg/Kg | |
| SL-864-SA5A-SB-4.0-5.0 | ANTIMONY | J | 0.786 | 4.17 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.585 | 1.04 | PQL | mg/Kg | |
| | BORON | J | 3.63 | 10.4 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.566 | 2.08 | PQL | mg/Kg | |
| | SODIUM | J | 95.6 | 104 | PQL | mg/Kg | |
| | TIN | J | 2.95 | 10.4 | PQL | mg/Kg | |
| | Zirconium | J | 1.11 | 5.21 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-854-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.169 | 0.407 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0548 | 0.204 | PQL | mg/Kg | |
| SL-854-SA5A-SB-4.0-5.0 | SELENIUM | J | 0.160 | 0.400 | PQL | mg/Kg | J (all detects) |
| SL-855-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.153 | 0.393 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0785 | 0.197 | PQL | mg/Kg | |
| SL-860-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.175 | 0.399 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0661 | 0.200 | PQL | mg/Kg | |
| SL-860-SA5A-SB-4.0-5.0 | SELENIUM | J | 0.111 | 0.420 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0416 | 0.210 | PQL | mg/Kg | |
| SL-864-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.128 | 0.410 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0674 | 0.205 | PQL | mg/Kg | |
| SL-864-SA5A-SB-4.0-5.0 | SELENIUM | J | 0.149 | 0.417 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0294 | 0.208 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-855-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0122 | 0.0160 | PQL | mg/Kg | J (all detects) |
| SL-860-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0102 | 0.0165 | PQL | mg/Kg | J (all detects) |
| SL-864-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0143 | 0.0160 | PQL | mg/Kg | J (all detects) |

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-860-SA5A-SB-0.0-0.5 | EFH (C15-C20) | J | 5.2 | 10 | PQL | mg/Kg | J (all detects) |
| SL-860-SA5A-SB-4.0-5.0 | EFH (C21-C30) | J | 2.4 | 5.4 | PQL | mg/Kg | J (all detects) |
| SL-864-SA5A-SB-0.0-0.5 | EFH (C15-C20) | J | 2.3 | 5.1 | PQL | mg/Kg | J (all detects) |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-854-SA5A-SB-0.0-0.5 | CHRYSENE | J | 1.5 | 1.7 | PQL | ug/Kg | J (all detects) |
| | NAPHTHALENE | J | 0.96 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.0 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.5 | 1.7 | PQL | ug/Kg | |
| SL-855-SA5A-SB-0.0-0.5 | 2-METHYLNAPHTHALENE | J | 1.2 | 1.7 | PQL | ug/Kg | J (all detects) |
| | ANTHRACENE | J | 0.44 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)ANTHRACENE | J | 0.86 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 0.77 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 7.0 | 18 | PQL | ug/Kg | |
| | INDENO(1,2,3-CD)PYRENE | J | 0.71 | 1.7 | PQL | ug/Kg | |
| NAPHTHALENE | J | 1.4 | 1.7 | PQL | ug/Kg | | |
| SL-860-SA5A-SB-0.0-0.5 | BENZO(A)PYRENE | J | 0.85 | 1.7 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 1.6 | 1.7 | PQL | ug/Kg | |
| SL-860-SA5A-SB-4.0-5.0 | 1-Methylnaphthalene | J | 0.93 | 1.8 | PQL | ug/Kg | J (all detects) |
| | 2-METHYLNAPHTHALENE | J | 1.1 | 1.8 | PQL | ug/Kg | |
| | BENZO(B)FLUORANTHENE | J | 0.97 | 1.8 | PQL | ug/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH059

Laboratory: LL

EDD Filename: PH059_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-864-SA5A-SB-0.0-0.5 | 1-Methylnaphthalene | J | 1.4 | 1.7 | PQL | ug/Kg | J (all detects) |
| | ACENAPHTHYLENE | J | 0.60 | 1.7 | PQL | ug/Kg | |
| SL-864-SA5A-SB-4.0-5.0 | CHRYSENE | J | 0.42 | 1.8 | PQL | ug/Kg | J (all detects) |
| | FLUORANTHENE | J | 0.72 | 1.8 | PQL | ug/Kg | |
| | PYRENE | J | 0.82 | 1.8 | PQL | ug/Kg | |

LDC #: 30098B4

VALIDATION COMPLETENESS WORKSHEET

Date: 7/26/13

SDG #: PH059

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|---|
| I. | Technical holding times | — | Sampling dates: 6/18/13 |
| II. | ICP/MS Tune | — | |
| III. | Calibration | — | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | — | |
| VI. | Matrix Spike Analysis | N | CS |
| VII. | Duplicate Sample Analysis | N | ↓ |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | N | |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | N | |
| XV. | Field Blanks | SW | EB=EBI-061913 / PH060 FB=FB-041113 =EB2-061913 / (PH029) |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

soil

| | | | | | | | |
|----|--------------------------|----|--|----|--|----|--|
| 1 | SL-854-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-854-SA5A-SB-4.0-5.0 | 12 | | 22 | | 32 | |
| 3 | SL-855-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 | |
| 4 | SL-860-SA5A-SB-0.0-0.5 | 14 | | 24 | | 34 | |
| 5 | SL-860-SA5A-SB-4.0-5.0 | 15 | | 25 | | 35 | |
| 6 | SL-860-SA5A-SB-10.5-11.5 | 16 | | 26 | | 36 | |
| 7 | SL-864-SA5A-SB-0.0-0.5 | 17 | | 27 | | 37 | |
| 8 | SL-864-SA5A-SB-4.0-5.0 | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

LDC #: 30098B4

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: CA
2nd Reviewer: [Signature]

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x Reason: B
Associated Samples: All

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 1 | 2 | 3 | 4 | 5 | 7 | 8 | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|------|------|------|------|------|------|------|--|--|--|
| Mo | | | 2.0 | 1 | 0.47 | 0.36 | 0.53 | 0.48 | 0.77 | 0.55 | 0.57 | | | |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F
Sampling date: 4/11/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|---------------------------|-----------------------|------|------|------|------|------|------|------|--|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 1 | 2 | 3 | 4 | 5 | 7 | 8 | | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 0.47 | 0.36 | 0.53 | 0.48 | 0.77 | 0.55 | 0.57 | | | |

Sampling date: 6/19/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 1-6

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|----------------------------|-----------------------|------|------|------|------|------|--|--|--|--|--|
| | EB1-061913 (SDG: PH060) | Action Limit | 1 | 2 | 3 | 4 | 5 | | | | | |
| Mo | 0.0187 | 9.35 | 0.47 | 0.36 | 0.53 | 0.48 | 0.77 | | | | | |
| Sn | 0.0031 | 1.55 | | | | | | | | | | |

Sampling date: 6/19/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 7, 8

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|----------------------------|-----------------------|------|------|--|--|--|--|--|--|--|--|
| | EB2-061913 (SDG: PH060) | Action Limit | 7 | 8 | | | | | | | | |
| Mo | 0.0062 | 3.1 | 0.55 | 0.57 | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|----------------|-------------|-------------|-------------------|--------------|
| 19-Jun-2013 | TB-061913 | 7099656 | TB | 5030B | 8015M | III |
| 19-Jun-2013 | SL-863-SA5A-SB-0.0-0.5 | 7099658 | N | 3050B | 6010C | III |
| 19-Jun-2013 | SL-863-SA5A-SB-0.0-0.5 | 7099658 | N | 3050B | 6020A | III |
| 19-Jun-2013 | SL-863-SA5A-SB-0.0-0.5 | 7099658 | N | 3546 | 8015M | III |
| 19-Jun-2013 | SL-863-SA5A-SB-0.0-0.5 | 7099658 | N | 3546 | 8270D SIM | III |
| 19-Jun-2013 | SL-863-SA5A-SB-0.0-0.5 | 7099658 | N | METHOD | 1613B | III |
| 19-Jun-2013 | SL-863-SA5A-SB-0.0-0.5 | 7099658 | N | METHOD | 7471B | III |
| 19-Jun-2013 | SL-863-SA5A-SB-4.0-5.0 | 7099659 | N | 3050B | 6010C | III |
| 19-Jun-2013 | SL-863-SA5A-SB-4.0-5.0 | 7099659 | N | 3050B | 6020A | III |
| 19-Jun-2013 | SL-863-SA5A-SB-4.0-5.0 | 7099659 | N | 3546 | 8015M | III |
| 19-Jun-2013 | SL-863-SA5A-SB-4.0-5.0 | 7099659 | N | 3546 | 8270D SIM | III |
| 19-Jun-2013 | SL-863-SA5A-SB-4.0-5.0 | 7099659 | N | 5035A | 8015M | III |
| 19-Jun-2013 | SL-863-SA5A-SB-4.0-5.0 | 7099659 | N | METHOD | 1613B | III |
| 19-Jun-2013 | SL-863-SA5A-SB-4.0-5.0 | 7099659 | N | METHOD | 7471B | III |
| 19-Jun-2013 | SL-859-SA5A-SB-0.0-0.5 | 7099657 | N | 3050B | 6010C | III |
| 19-Jun-2013 | SL-859-SA5A-SB-0.0-0.5 | 7099657 | N | 3050B | 6020A | III |
| 19-Jun-2013 | SL-859-SA5A-SB-0.0-0.5 | 7099657 | N | 3546 | 8015M | III |
| 19-Jun-2013 | SL-859-SA5A-SB-0.0-0.5 | 7099657 | N | 3546 | 8270D SIM | III |
| 19-Jun-2013 | SL-859-SA5A-SB-0.0-0.5 | 7099657 | N | METHOD | 1613B | III |
| 19-Jun-2013 | SL-859-SA5A-SB-0.0-0.5 | 7099657 | N | METHOD | 7471B | III |
| 19-Jun-2013 | SL-859-SA5A-SB-0.0-0.5MSD | P099657M261810 | MSD | 3546 | 8270D SIM | III |
| 19-Jun-2013 | SL-859-SA5A-SB-0.0-0.5MS | P099657R261738 | MS | 3546 | 8270D SIM | III |
| 19-Jun-2013 | SL-866-SA5A-SB-0.0-0.5 | 7099660 | N | 3050B | 6010C | III |
| 19-Jun-2013 | SL-866-SA5A-SB-0.0-0.5 | 7099660 | N | 3050B | 6020A | III |
| 19-Jun-2013 | SL-866-SA5A-SB-0.0-0.5 | 7099660 | N | 3546 | 8015M | III |
| 19-Jun-2013 | SL-866-SA5A-SB-0.0-0.5 | 7099660 | N | 3546 | 8270D SIM | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|-------------------------|---------------|-------------|-------------|-------------------|--------------|
| 19-Jun-2013 | SL-866-SA5A-SB-0.0-0.5 | 7099660 | N | METHOD | 1613B | III |
| 19-Jun-2013 | SL-866-SA5A-SB-0.0-0.5 | 7099660 | N | METHOD | 7471B | III |
| 19-Jun-2013 | SL-866-SA5A-SB-5.5-6.5 | 7099661 | N | 3050B | 6010C | III |
| 19-Jun-2013 | SL-866-SA5A-SB-5.5-6.5 | 7099661 | N | 3050B | 6020A | III |
| 19-Jun-2013 | SL-866-SA5A-SB-5.5-6.5 | 7099661 | N | 3546 | 8015M | III |
| 19-Jun-2013 | SL-866-SA5A-SB-5.5-6.5 | 7099661 | N | 3546 | 8270D SIM | III |
| 19-Jun-2013 | SL-866-SA5A-SB-5.5-6.5 | 7099661 | N | 5035A | 8015M | III |
| 19-Jun-2013 | SL-866-SA5A-SB-5.5-6.5 | 7099661 | N | METHOD | 1613B | III |
| 19-Jun-2013 | SL-866-SA5A-SB-5.5-6.5 | 7099661 | N | METHOD | 7471B | III |
| 19-Jun-2013 | SL-865-SA5A-SB-0.0-0.5 | 7099662 | N | 3050B | 6010C | III |
| 19-Jun-2013 | SL-865-SA5A-SB-0.0-0.5 | 7099662 | N | 3050B | 6020A | III |
| 19-Jun-2013 | SL-865-SA5A-SB-0.0-0.5 | 7099662 | N | 3546 | 8015M | III |
| 19-Jun-2013 | SL-865-SA5A-SB-0.0-0.5 | 7099662 | N | 3546 | 8270D SIM | III |
| 19-Jun-2013 | SL-865-SA5A-SB-0.0-0.5 | 7099662 | N | METHOD | 1613B | III |
| 19-Jun-2013 | SL-865-SA5A-SB-0.0-0.5 | 7099662 | N | METHOD | 7471B | III |
| 19-Jun-2013 | SL-865-SA5A-SB-4.0-5.0 | 7099663 | N | 3050B | 6010C | III |
| 19-Jun-2013 | SL-865-SA5A-SB-4.0-5.0 | 7099663 | N | 3050B | 6020A | III |
| 19-Jun-2013 | SL-865-SA5A-SB-4.0-5.0 | 7099663 | N | 3546 | 8015M | III |
| 19-Jun-2013 | SL-865-SA5A-SB-4.0-5.0 | 7099663 | N | 3546 | 8270D SIM | III |
| 19-Jun-2013 | SL-865-SA5A-SB-4.0-5.0 | 7099663 | N | 5035A | 8015M | III |
| 19-Jun-2013 | SL-865-SA5A-SB-4.0-5.0 | 7099663 | N | METHOD | 1613B | III |
| 19-Jun-2013 | SL-865-SA5A-SB-4.0-5.0 | 7099663 | N | METHOD | 7471B | III |
| 19-Jun-2013 | SL-865-SA5A-SB-9.0-10.0 | 7099664 | N | 3050B | 6010C | III |
| 19-Jun-2013 | SL-865-SA5A-SB-9.0-10.0 | 7099664 | N | 3050B | 6020A | III |
| 19-Jun-2013 | SL-865-SA5A-SB-9.0-10.0 | 7099664 | N | 3546 | 8015M | III |
| 19-Jun-2013 | SL-865-SA5A-SB-9.0-10.0 | 7099664 | N | 3546 | 8270D SIM | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|-------------------------|---------------|-------------|-------------|-------------------|--------------|
| 19-Jun-2013 | SL-865-SA5A-SB-9.0-10.0 | 7099664 | N | 5035A | 8015M | III |
| 19-Jun-2013 | SL-865-SA5A-SB-9.0-10.0 | 7099664 | N | METHOD | 1613B | III |
| 19-Jun-2013 | SL-865-SA5A-SB-9.0-10.0 | 7099664 | N | METHOD | 7471B | III |
| 19-Jun-2013 | EB1-061913 | 7099654 | EB | 3005A | 6010C | III |
| 19-Jun-2013 | EB1-061913 | 7099654 | EB | 3510C | 8015M | III |
| 19-Jun-2013 | EB1-061913 | 7099654 | EB | 3510C | 8270D SIM | III |
| 19-Jun-2013 | EB1-061913 | 7099654 | EB | 5030B | 8015M | III |
| 19-Jun-2013 | EB1-061913 | 7099654 | EB | M3010A | 6020A | III |
| 19-Jun-2013 | EB1-061913 | 7099654 | EB | METHOD | 1613B | III |
| 19-Jun-2013 | EB1-061913 | 7099654 | EB | METHOD | 7470A | III |
| 19-Jun-2013 | EB2-061913 | 7099655 | EB | 3005A | 6010C | III |
| 19-Jun-2013 | EB2-061913 | 7099655 | EB | 3510C | 8015M | III |
| 19-Jun-2013 | EB2-061913 | 7099655 | EB | 3510C | 8270D SIM | III |
| 19-Jun-2013 | EB2-061913 | 7099655 | EB | 5030B | 8015M | III |
| 19-Jun-2013 | EB2-061913 | 7099655 | EB | M3010A | 6020A | III |
| 19-Jun-2013 | EB2-061913 | 7099655 | EB | METHOD | 1613B | III |
| 19-Jun-2013 | EB2-061913 | 7099655 | EB | METHOD | 7470A | III |

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: AQ |

| Sample ID: EB1-061913 | Collected: 6/19/2013 3:00:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|-----------------------|------------------------------|------------------------|-------------|---------|--------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MOLYBDENUM | 0.0187 | J | 0.0017 | MDL | 0.0200 | PQL | mg/L | U | B |
| TIN | 0.0031 | J | 0.0029 | MDL | 0.0400 | PQL | mg/L | J | Z |

| Sample ID: EB2-061913 | Collected: 6/19/2013 3:30:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|-----------------------|------------------------------|------------------------|-------------|---------|--------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MOLYBDENUM | 0.0062 | J | 0.0017 | MDL | 0.0200 | PQL | mg/L | U | B |

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

| Sample ID: SL-859-SA5A-SB-0.0-0.5 | Collected: 6/19/2013 9:50:00 | Analysis Type: REA/TOT | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.02 | U | 0.745 | MDL | 4.02 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.623 | J | 0.0674 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 4.72 | J | 0.845 | MDL | 10.1 | PQL | mg/Kg | U | B |
| CADMIUM | 0.432 | J | 0.0765 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| COBALT | 6.05 | | 0.0996 | MDL | 1.01 | PQL | mg/Kg | J | E |
| COPPER | 12.4 | | 0.292 | MDL | 2.01 | PQL | mg/Kg | J | A |
| MANGANESE | 328 | | 0.0835 | MDL | 1.01 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.486 | J | 0.171 | MDL | 2.01 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 4770 | | 8.39 | MDL | 101 | PQL | mg/Kg | J | Q |
| SODIUM | 78.1 | J | 16.8 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 3.22 | J | 0.221 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 3.89 | J | 0.845 | MDL | 5.03 | PQL | mg/Kg | J | Z |

| Sample ID: SL-863-SA5A-SB-0.0-0.5 | Collected: 6/19/2013 9:00:00 | Analysis Type: REA/TOT | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.08 | U | 0.754 | MDL | 4.08 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.73 | J | 0.713 | MDL | 4.08 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.445 | J | 0.0683 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 2.46 | J | 0.856 | MDL | 10.2 | PQL | mg/Kg | U | B |
| CADMIUM | 0.255 | J | 0.0775 | MDL | 1.02 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-863-SA5A-SB-0.0-0.5 Collected: 6/19/2013 9:00:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| COBALT | 4.41 | | 0.101 | MDL | 1.02 | PQL | mg/Kg | J | E |
| COPPER | 7.83 | | 0.296 | MDL | 2.04 | PQL | mg/Kg | J | A |
| MANGANESE | 258 | | 0.0846 | MDL | 1.02 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.406 | J | 0.173 | MDL | 2.04 | PQL | mg/Kg | U | F, F |
| POTASSIUM | 2620 | | 8.50 | MDL | 102 | PQL | mg/Kg | J | Q |
| SODIUM | 58.4 | J | 17.0 | MDL | 102 | PQL | mg/Kg | J | Z |
| TIN | 2.88 | J | 0.224 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 1.87 | J | 0.856 | MDL | 5.10 | PQL | mg/Kg | J | Z |

Sample ID: SL-863-SA5A-SB-4.0-5.0 Collected: 6/19/2013 9:20:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.15 | U | 0.767 | MDL | 4.15 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.781 | J | 0.0695 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| BORON | 1.66 | J | 0.871 | MDL | 10.4 | PQL | mg/Kg | U | B |
| CADMIUM | 0.103 | J | 0.0788 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| COBALT | 5.95 | | 0.103 | MDL | 1.04 | PQL | mg/Kg | J | E |
| COPPER | 8.78 | | 0.301 | MDL | 2.07 | PQL | mg/Kg | J | A |
| MANGANESE | 324 | | 0.0861 | MDL | 1.04 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.507 | J | 0.176 | MDL | 2.07 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 2850 | | 8.65 | MDL | 104 | PQL | mg/Kg | J | Q |
| SODIUM | 89.9 | J | 17.3 | MDL | 104 | PQL | mg/Kg | J | Z |
| TIN | 2.99 | J | 0.228 | MDL | 10.4 | PQL | mg/Kg | U | B |
| Zirconium | 3.81 | J | 0.871 | MDL | 5.18 | PQL | mg/Kg | J | Z |

Sample ID: SL-865-SA5A-SB-0.0-0.5 Collected: 6/19/2013 1:40:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.00 | U | 0.740 | MDL | 4.00 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.679 | J | 0.0670 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 3.03 | J | 0.840 | MDL | 10.0 | PQL | mg/Kg | U | B |
| CADMIUM | 0.188 | J | 0.0760 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| COBALT | 5.60 | | 0.0990 | MDL | 1.00 | PQL | mg/Kg | J | E |
| COPPER | 8.13 | | 0.290 | MDL | 2.00 | PQL | mg/Kg | J | A |
| MANGANESE | 294 | | 0.0830 | MDL | 1.00 | PQL | mg/Kg | J | E |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-865-SA5A-SB-0.0-0.5

Collected: 6/19/2013 1:40:00

Analysis Type: REA/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| MOLYBDENUM | 0.666 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 3300 | | 8.34 | MDL | 100 | PQL | mg/Kg | J | Q |
| TIN | 2.99 | J | 0.220 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 3.89 | J | 0.840 | MDL | 5.00 | PQL | mg/Kg | J | Z |

Sample ID: SL-865-SA5A-SB-4.0-5.0

Collected: 6/19/2013 1:55:00

Analysis Type: REA/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.11 | U | 0.761 | MDL | 4.11 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.646 | J | 0.0689 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| BORON | 3.25 | J | 0.864 | MDL | 10.3 | PQL | mg/Kg | U | B |
| CADMIUM | 0.228 | J | 0.0781 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| COBALT | 5.75 | | 0.102 | MDL | 1.03 | PQL | mg/Kg | J | E |
| COPPER | 9.88 | | 0.298 | MDL | 2.06 | PQL | mg/Kg | J | A |
| MANGANESE | 352 | | 0.0853 | MDL | 1.03 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.481 | J | 0.175 | MDL | 2.06 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 3730 | | 8.57 | MDL | 103 | PQL | mg/Kg | J | Q |
| SODIUM | 94.0 | J | 17.2 | MDL | 103 | PQL | mg/Kg | J | Z |
| TIN | 2.98 | J | 0.226 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 3.03 | J | 0.864 | MDL | 5.14 | PQL | mg/Kg | J | Z |

Sample ID: SL-865-SA5A-SB-9.0-10.0

Collected: 6/19/2013 2:10:00

Analysis Type: REA/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.16 | U | 0.769 | MDL | 4.16 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.973 | J | 0.0696 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.235 | J | 0.0790 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| COBALT | 7.46 | | 0.103 | MDL | 1.04 | PQL | mg/Kg | J | E |
| COPPER | 20.5 | | 0.301 | MDL | 2.08 | PQL | mg/Kg | J | A |
| MANGANESE | 336 | | 0.0863 | MDL | 1.04 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 1.34 | J | 0.177 | MDL | 2.08 | PQL | mg/Kg | U | F, F |
| POTASSIUM | 2220 | | 8.67 | MDL | 104 | PQL | mg/Kg | J | Q |
| TIN | 3.21 | J | 0.229 | MDL | 10.4 | PQL | mg/Kg | U | B |
| Zirconium | 4.30 | J | 0.873 | MDL | 5.20 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-866-SA5A-SB-0.0-0.5 Collected: 6/19/2013 10:40:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.03 | U | 0.746 | MDL | 4.03 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.700 | J | 0.0676 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 2.82 | J | 0.847 | MDL | 10.1 | PQL | mg/Kg | U | B |
| CADMIUM | 0.207 | J | 0.0767 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| COBALT | 5.76 | | 0.0999 | MDL | 1.01 | PQL | mg/Kg | J | E |
| COPPER | 8.86 | | 0.293 | MDL | 2.02 | PQL | mg/Kg | J | A |
| MANGANESE | 304 | | 0.0837 | MDL | 1.01 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.469 | J | 0.171 | MDL | 2.02 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 3590 | | 8.41 | MDL | 101 | PQL | mg/Kg | J | Q |
| SODIUM | 82.0 | J | 16.8 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 2.91 | J | 0.222 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 3.73 | J | 0.847 | MDL | 5.04 | PQL | mg/Kg | J | Z |

Sample ID: SL-866-SA5A-SB-5.5-6.5 Collected: 6/19/2013 11:15:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.17 | U | 0.771 | MDL | 4.17 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.752 | J | 0.0698 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| BORON | 1.67 | J | 0.875 | MDL | 10.4 | PQL | mg/Kg | U | B |
| CADMIUM | 0.185 | J | 0.0792 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| COBALT | 7.46 | | 0.103 | MDL | 1.04 | PQL | mg/Kg | J | E |
| COPPER | 12.1 | | 0.302 | MDL | 2.08 | PQL | mg/Kg | J | A |
| MANGANESE | 357 | | 0.0865 | MDL | 1.04 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.434 | J | 0.177 | MDL | 2.08 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 3140 | | 8.69 | MDL | 104 | PQL | mg/Kg | J | Q |
| SODIUM | 90.8 | J | 17.4 | MDL | 104 | PQL | mg/Kg | J | Z |
| TIN | 3.01 | J | 0.229 | MDL | 10.4 | PQL | mg/Kg | U | B |
| Zirconium | 3.87 | J | 0.875 | MDL | 5.21 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS
Method: 6020A **Matrix:** SO

Sample ID: SL-859-SA5A-SB-0.0-0.5 Collected: 6/19/2013 9:50:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.173 | J | 0.0262 | MDL | 0.201 | PQL | mg/Kg | J | Z |
| STRONTIUM | 33.6 | | 0.0523 | MDL | 0.402 | PQL | mg/Kg | J | Q |

Sample ID: SL-859-SA5A-SB-0.0-0.5 Collected: 6/19/2013 9:50:00 Analysis Type: REA3/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.187 | J | 0.101 | MDL | 0.402 | PQL | mg/Kg | J | Z |

Sample ID: SL-863-SA5A-SB-0.0-0.5 Collected: 6/19/2013 9:00:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0615 | J | 0.0265 | MDL | 0.204 | PQL | mg/Kg | J | Z |
| STRONTIUM | 15.4 | | 0.0530 | MDL | 0.408 | PQL | mg/Kg | J | Q |

Sample ID: SL-863-SA5A-SB-0.0-0.5 Collected: 6/19/2013 9:00:00 Analysis Type: REA3/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.157 | J | 0.102 | MDL | 0.408 | PQL | mg/Kg | J | Z |

Sample ID: SL-863-SA5A-SB-4.0-5.0 Collected: 6/19/2013 9:20:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0547 | J | 0.0270 | MDL | 0.207 | PQL | mg/Kg | J | Z |
| STRONTIUM | 30.2 | | 0.0539 | MDL | 0.415 | PQL | mg/Kg | J | Q |

Sample ID: SL-863-SA5A-SB-4.0-5.0 Collected: 6/19/2013 9:20:00 Analysis Type: REA3/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.143 | J | 0.104 | MDL | 0.415 | PQL | mg/Kg | J | Z |

Sample ID: SL-865-SA5A-SB-0.0-0.5 Collected: 6/19/2013 1:40:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0803 | J | 0.0260 | MDL | 0.200 | PQL | mg/Kg | J | Z |
| STRONTIUM | 39.7 | | 0.0520 | MDL | 0.400 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

| Sample ID: SL-865-SA5A-SB-0.0-0.5 | Collected: 6/19/2013 1:40:00 | Analysis Type: REA3/TOT | Dilution: 2 | | | | | | |
|--|-------------------------------------|--------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.263 | J | 0.100 | MDL | 0.400 | PQL | mg/Kg | J | Z |

| Sample ID: SL-865-SA5A-SB-4.0-5.0 | Collected: 6/19/2013 1:55:00 | Analysis Type: REA2/TOT | Dilution: 2 | | | | | | |
|--|-------------------------------------|--------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0888 | J | 0.0267 | MDL | 0.206 | PQL | mg/Kg | J | Z |
| STRONTIUM | 40.8 | | 0.0535 | MDL | 0.411 | PQL | mg/Kg | J | Q |

| Sample ID: SL-865-SA5A-SB-4.0-5.0 | Collected: 6/19/2013 1:55:00 | Analysis Type: REA3/TOT | Dilution: 2 | | | | | | |
|--|-------------------------------------|--------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.244 | J | 0.103 | MDL | 0.411 | PQL | mg/Kg | J | Z |

| Sample ID: SL-865-SA5A-SB-9.0-10.0 | Collected: 6/19/2013 2:10:00 | Analysis Type: REA2/TOT | Dilution: 2 | | | | | | |
|---|-------------------------------------|--------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.129 | J | 0.0270 | MDL | 0.208 | PQL | mg/Kg | J | Z |
| STRONTIUM | 23.0 | | 0.0541 | MDL | 0.416 | PQL | mg/Kg | J | Q |

| Sample ID: SL-865-SA5A-SB-9.0-10.0 | Collected: 6/19/2013 2:10:00 | Analysis Type: REA3/TOT | Dilution: 2 | | | | | | |
|---|-------------------------------------|--------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.278 | J | 0.104 | MDL | 0.416 | PQL | mg/Kg | J | Z |

| Sample ID: SL-866-SA5A-SB-0.0-0.5 | Collected: 6/19/2013 10:40:00 | Analysis Type: REA2/TOT | Dilution: 2 | | | | | | |
|--|--------------------------------------|--------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0779 | J | 0.0262 | MDL | 0.202 | PQL | mg/Kg | J | Z |
| STRONTIUM | 31.6 | | 0.0524 | MDL | 0.403 | PQL | mg/Kg | J | Q |

| Sample ID: SL-866-SA5A-SB-0.0-0.5 | Collected: 6/19/2013 10:40:00 | Analysis Type: REA3/TOT | Dilution: 2 | | | | | | |
|--|--------------------------------------|--------------------------------|--------------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.228 | J | 0.101 | MDL | 0.403 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-866-SA5A-SB-5.5-6.5 Collected: 6/19/2013 11:15:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0839 | J | 0.0271 | MDL | 0.208 | PQL | mg/Kg | J | Z |
| STRONTIUM | 34.0 | | 0.0542 | MDL | 0.417 | PQL | mg/Kg | J | Q |

Sample ID: SL-866-SA5A-SB-5.5-6.5 Collected: 6/19/2013 11:15:00 Analysis Type: REA3/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.237 | J | 0.104 | MDL | 0.417 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 7471B | Matrix: SO |

Sample ID: SL-866-SA5A-SB-0.0-0.5 Collected: 6/19/2013 10:40:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0162 | J | 0.0102 | MDL | 0.0170 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: AQ |

Sample ID: EB1-061913 Collected: 6/19/2013 3:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.753 | JBQ | 0.248 | MDL | 9.72 | PQL | pg/L | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.592 | JB | 0.143 | MDL | 9.72 | PQL | pg/L | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.684 | JBQ | 0.159 | MDL | 9.72 | PQL | pg/L | U | B |
| 1,2,3,4,7,8-HxCDD | 0.339 | JBQ | 0.236 | MDL | 9.72 | PQL | pg/L | U | B |
| 1,2,3,4,7,8-HxCDF | 0.304 | JBQ | 0.105 | MDL | 9.72 | PQL | pg/L | U | B |
| 1,2,3,6,7,8-HxCDF | 0.337 | JBQ | 0.110 | MDL | 9.72 | PQL | pg/L | U | B |
| 1,2,3,7,8,9-HxCDD | 0.315 | JBQ | 0.251 | MDL | 9.72 | PQL | pg/L | U | B |
| 1,2,3,7,8,9-HxCDF | 0.450 | JBQ | 0.112 | MDL | 9.72 | PQL | pg/L | U | B |
| 1,2,3,7,8-PECDF | 0.410 | JBQ | 0.198 | MDL | 9.72 | PQL | pg/L | U | B |
| 2,3,4,6,7,8-HxCDF | 0.349 | JBQ | 0.0919 | MDL | 9.72 | PQL | pg/L | U | B |
| 2,3,4,7,8-PECDF | 0.602 | JBQ | 0.170 | MDL | 9.72 | PQL | pg/L | U | B |
| OCDD | 2.25 | JBQ | 0.425 | MDL | 19.4 | PQL | pg/L | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 1613B **Matrix:** AQ

Sample ID: EB1-061913 Collected: 6/19/2013 3:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| OCDF | 1.38 | JBQ | 0.378 | MDL | 19.4 | PQL | pg/L | U | B |

Sample ID: EB2-061913 Collected: 6/19/2013 3:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.584 | JB | 0.238 | MDL | 9.70 | PQL | pg/L | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.378 | JBQ | 0.0729 | MDL | 9.70 | PQL | pg/L | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.126 | JB | 0.0807 | MDL | 9.70 | PQL | pg/L | U | B |
| 1,2,3,4,7,8-HXCDF | 0.292 | JBQ | 0.0978 | MDL | 9.70 | PQL | pg/L | U | B |
| 1,2,3,6,7,8-HXCDF | 0.241 | JBQ | 0.0996 | MDL | 9.70 | PQL | pg/L | U | B |
| 1,2,3,7,8,9-HXCDD | 0.240 | JBQ | 0.206 | MDL | 9.70 | PQL | pg/L | U | B |
| 1,2,3,7,8-PECDD | 0.341 | JBQ | 0.301 | MDL | 9.70 | PQL | pg/L | U | B |
| 1,2,3,7,8-PECDF | 0.326 | JB | 0.176 | MDL | 9.70 | PQL | pg/L | U | B |
| 2,3,4,7,8-PECDF | 0.333 | JBQ | 0.151 | MDL | 9.70 | PQL | pg/L | U | B |
| 2,3,7,8-TCDF | 0.250 | JQ | 0.218 | MDL | 1.94 | PQL | pg/L | J | Z |
| OCDD | 1.05 | JB | 0.252 | MDL | 19.4 | PQL | pg/L | U | B |
| OCDF | 0.721 | JBQ | 0.231 | MDL | 19.4 | PQL | pg/L | U | B |

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-859-SA5A-SB-0.0-0.5 Collected: 6/19/2013 9:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 2.12 | JB | 0.0589 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 2.93 | JB | 0.0610 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 1.58 | JB | 0.0612 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 1.04 | J | 0.0676 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 1.72 | JB | 0.0678 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 2.01 | J | 0.0596 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 2.67 | JB | 0.0667 | MDL | 5.02 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.723 | JQ | 0.0664 | MDL | 1.00 | PQL | ng/Kg | J | Z |
| OCDD | 14700 | BE | 0.152 | MDL | 10.0 | PQL | ng/Kg | J | *XI |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-863-SA5A-SB-0.0-0.5 Collected: 6/19/2013 9:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.352 | JB | 0.0363 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.955 | J | 0.0548 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.482 | JB | 0.0351 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 2.35 | J | 0.0590 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.432 | JB | 0.0348 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 2.09 | JB | 0.0575 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.326 | J | 0.0362 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.764 | JQ | 0.0651 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.726 | JB | 0.0442 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.484 | J | 0.0331 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.781 | JB | 0.0405 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0892 | J | 0.0373 | MDL | 1.03 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.398 | JB | 0.0637 | MDL | 1.03 | PQL | ng/Kg | J | Z |

Sample ID: SL-863-SA5A-SB-4.0-5.0 Collected: 6/19/2013 9:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 2.79 | JB | 0.0484 | MDL | 5.15 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.335 | JQ | 0.0193 | MDL | 5.15 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0369 | JBQ | 0.0251 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0605 | JQ | 0.0356 | MDL | 5.15 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.0506 | JBQ | 0.0212 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.190 | J | 0.0359 | MDL | 5.15 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0276 | JBQ | 0.0193 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.262 | JB | 0.0352 | MDL | 5.15 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.182 | JQ | 0.0223 | MDL | 5.15 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.0448 | JQ | 0.0425 | MDL | 5.15 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.106 | JB | 0.0240 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0396 | JQ | 0.0192 | MDL | 5.15 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.0681 | JBQ | 0.0238 | MDL | 5.15 | PQL | ng/Kg | U | B |
| OCDF | 0.684 | JB | 0.0374 | MDL | 10.3 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | |
|-------------------------|-------|----------------|----|
| Method Category: | SVOA | | |
| Method: | 1613B | Matrix: | SO |

Sample ID: SL-865-SA5A-SB-0.0-0.5 Collected: 6/19/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.591 | JBQ | 0.0368 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 1.87 | J | 0.0597 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.968 | JB | 0.0412 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 4.94 | J | 0.0626 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.815 | JB | 0.0443 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 2.48 | JB | 0.0604 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.666 | J | 0.0402 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.524 | JQ | 0.0935 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.877 | JB | 0.0502 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 1.07 | J | 0.0393 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 1.29 | JB | 0.0484 | MDL | 5.10 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0853 | JQ | 0.0391 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.270 | JB | 0.0713 | MDL | 1.02 | PQL | ng/Kg | J | Z |

Sample ID: SL-865-SA5A-SB-4.0-5.0 Collected: 6/19/2013 1:55:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 4.15 | JB | 0.0567 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.870 | J | 0.0157 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0476 | JBQ | 0.0261 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0890 | JQ | 0.0379 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.0914 | JBQ | 0.0246 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.310 | JQ | 0.0414 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.125 | JBQ | 0.0222 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.352 | JB | 0.0378 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.207 | J | 0.0237 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.0742 | JQ | 0.0332 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.355 | JBQ | 0.0295 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.132 | JQ | 0.0228 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.353 | JBQ | 0.0301 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.108 | JBQ | 0.0467 | MDL | 0.998 | PQL | ng/Kg | U | B |
| OCDF | 2.51 | JB | 0.0648 | MDL | 9.98 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-865-SA5A-SB-9.0-10.0

Collected: 6/19/2013 2:10:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.128 | JB | 0.0307 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0695 | JQ | 0.00803 | MDL | 5.34 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0206 | JBQ | 0.0151 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0489 | JQ | 0.0233 | MDL | 5.34 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.107 | JB | 0.0138 | MDL | 5.34 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 0.0932 | J | 0.0248 | MDL | 5.34 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0764 | JB | 0.0131 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.0636 | JB | 0.0234 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0690 | J | 0.0140 | MDL | 5.34 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.105 | JQ | 0.0427 | MDL | 5.34 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.118 | JBQ | 0.0198 | MDL | 5.34 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.0525 | JQ | 0.0121 | MDL | 5.34 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.109 | JBQ | 0.0195 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0354 | JBQ | 0.0278 | MDL | 1.07 | PQL | ng/Kg | U | B |
| OCDD | 0.792 | JB | 0.0299 | MDL | 10.7 | PQL | ng/Kg | U | B |
| OCDF | 0.0850 | JBQ | 0.0528 | MDL | 10.7 | PQL | ng/Kg | U | B |

Sample ID: SL-866-SA5A-SB-0.0-0.5

Collected: 6/19/2013 10:40:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 5.05 | J | 0.0278 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.230 | JB | 0.0340 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.497 | J | 0.0664 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.344 | JB | 0.0372 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 1.28 | J | 0.0707 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.275 | JB | 0.0365 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 0.971 | JBQ | 0.0669 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.329 | J | 0.0378 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.249 | J | 0.0557 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.389 | JB | 0.0423 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.323 | J | 0.0336 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.506 | JB | 0.0401 | MDL | 5.14 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0781 | J | 0.0389 | MDL | 1.03 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.166 | JB | 0.0632 | MDL | 1.03 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-866-SA5A-SB-0.0-0.5 Collected: 6/19/2013 10:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| OCDF | 6.80 | JB | 0.0425 | MDL | 10.3 | PQL | ng/Kg | J | Z |

Sample ID: SL-866-SA5A-SB-5.5-6.5 Collected: 6/19/2013 11:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 4.15 | JB | 0.0413 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.483 | J | 0.0243 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0465 | JB | 0.0323 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.109 | J | 0.0432 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDF | 0.0467 | JBQ | 0.0223 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.191 | JQ | 0.0467 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDF | 0.0516 | JBQ | 0.0209 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.155 | JBQ | 0.0430 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDF | 0.0722 | J | 0.0199 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.0650 | JQ | 0.0391 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.0730 | JBQ | 0.0243 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HxCDF | 0.0561 | JQ | 0.0200 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.0843 | JBQ | 0.0248 | MDL | 5.03 | PQL | ng/Kg | U | B |
| OCDF | 0.782 | JB | 0.0378 | MDL | 10.1 | PQL | ng/Kg | J | Z |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 8015M | Matrix: SO |

Sample ID: SL-865-SA5A-SB-0.0-0.5 Collected: 6/19/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 4.6 | J | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Z |
| EFH (C30-C40) | 9.9 | J | 4.1 | MDL | 10 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** AQ

Sample ID: EB1-061913 Collected: 6/19/2013 3:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 0.011 | J | 0.011 | MDL | 0.053 | PQL | ug/L | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 0.14 | J | 0.053 | MDL | 1.1 | PQL | ug/L | U | B |
| Diethylphthalate | 0.16 | J | 0.053 | MDL | 1.1 | PQL | ug/L | J | Z |
| Di-n-butylphthalate | 0.17 | J | 0.053 | MDL | 1.1 | PQL | ug/L | J | Z, E |

Sample ID: EB2-061913 Collected: 6/19/2013 3:30:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 0.011 | J | 0.010 | MDL | 0.052 | PQL | ug/L | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 0.15 | J | 0.052 | MDL | 1.0 | PQL | ug/L | U | B |
| Diethylphthalate | 0.15 | J | 0.052 | MDL | 1.0 | PQL | ug/L | J | Z |
| Di-n-butylphthalate | 0.17 | J | 0.052 | MDL | 1.0 | PQL | ug/L | J | Z, E |

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-859-SA5A-SB-0.0-0.5 Collected: 6/19/2013 9:50:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| ANTHRACENE | 3.8 | J | 3.4 | MDL | 17 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 7.6 | J | 6.7 | MDL | 17 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 7.9 | J | 6.7 | MDL | 17 | PQL | ug/Kg | J | Z |

Sample ID: SL-863-SA5A-SB-0.0-0.5 Collected: 6/19/2013 9:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 7.5 | J | 6.9 | MDL | 17 | PQL | ug/Kg | J | Z |

Sample ID: SL-863-SA5A-SB-4.0-5.0 Collected: 6/19/2013 9:20:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.5 | J | 0.70 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| CHRYSENE | 0.55 | J | 0.35 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-865-SA5A-SB-0.0-0.5 **Collected:** 6/19/2013 1:40:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|----|---------|-----|---------|-------|------------------|-------------|
| Di-n-octylphthalate | 160 | J | 61 | MDL | 180 | PQL | ug/Kg | J | Z |

Sample ID: SL-865-SA5A-SB-4.0-5.0 **Collected:** 6/19/2013 1:55:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 1.4 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 0.74 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-866-SA5A-SB-0.0-0.5 **Collected:** 6/19/2013 10:40:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 7.6 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |
| CHRYSENE | 10 | J | 3.4 | MDL | 17 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 14 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |
| PYRENE | 15 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |

Sample ID: SL-866-SA5A-SB-5.5-6.5 **Collected:** 6/19/2013 11:15:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.2 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| CHRYSENE | 0.73 | J | 0.35 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---------------------------------|
| *XI | Exceeded Calibration Range |
| A | ICP Serial Dilution |
| B | Calibration Blank Contamination |
| B | Method Blank Contamination |
| E | Laboratory Control Precision |
| E | Laboratory Duplicate Precision |
| F | Equipment Blank Contamination |
| F | Field Blank Contamination |
| L | Laboratory Control Precision |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Enclosure I

Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

PH060

Method Blank Outlier Report

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|---------------------|------------|--------------------|
| BLK1750B371752 | 6/25/2013 5:52:00 PM | 1,2,3,4,6,7,8-HPCDD | 0.662 pg/L | EB1-061913 |
| | | 1,2,3,4,6,7,8-HPCDF | 0.488 pg/L | EB2-061913 |
| | | 1,2,3,4,7,8,9-HPCDF | 0.650 pg/L | |
| | | 1,2,3,4,7,8-HxCDD | 0.302 pg/L | |
| | | 1,2,3,4,7,8-HXCDF | 0.472 pg/L | |
| | | 1,2,3,6,7,8-HXCDD | 0.363 pg/L | |
| | | 1,2,3,6,7,8-HXCDF | 0.342 pg/L | |
| | | 1,2,3,7,8,9-HXCDD | 0.412 pg/L | |
| | | 1,2,3,7,8,9-HXCDF | 0.509 pg/L | |
| | | 1,2,3,7,8-PECDD | 0.425 pg/L | |
| | | 1,2,3,7,8-PECDF | 0.995 pg/L | |
| | | 2,3,4,6,7,8-HXCDF | 0.235 pg/L | |
| | | 2,3,4,7,8-PECDF | 0.342 pg/L | |
| | | OCDD | 2.17 pg/L | |
| | | OCDF | 1.36 pg/L | |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------|---------------------|-----------------|-----------------------|
| EB1-061913(RES) | 1,2,3,4,6,7,8-HPCDD | 0.753 pg/L | 0.753U pg/L |
| EB1-061913(RES) | 1,2,3,4,6,7,8-HPCDF | 0.592 pg/L | 0.592U pg/L |
| EB1-061913(RES) | 1,2,3,4,7,8,9-HPCDF | 0.684 pg/L | 0.684U pg/L |
| EB1-061913(RES) | 1,2,3,4,7,8-HxCDD | 0.339 pg/L | 0.339U pg/L |
| EB1-061913(RES) | 1,2,3,4,7,8-HXCDF | 0.304 pg/L | 0.304U pg/L |
| EB1-061913(RES) | 1,2,3,6,7,8-HXCDF | 0.337 pg/L | 0.337U pg/L |
| EB1-061913(RES) | 1,2,3,7,8,9-HXCDD | 0.315 pg/L | 0.315U pg/L |
| EB1-061913(RES) | 1,2,3,7,8,9-HXCDF | 0.450 pg/L | 0.450U pg/L |
| EB1-061913(RES) | 1,2,3,7,8-PECDF | 0.410 pg/L | 0.410U pg/L |
| EB1-061913(RES) | 2,3,4,6,7,8-HXCDF | 0.349 pg/L | 0.349U pg/L |
| EB1-061913(RES) | 2,3,4,7,8-PECDF | 0.602 pg/L | 0.602U pg/L |
| EB1-061913(RES) | OCDD | 2.25 pg/L | 2.25U pg/L |
| EB1-061913(RES) | OCDF | 1.38 pg/L | 1.38U pg/L |
| EB2-061913(RES) | 1,2,3,4,6,7,8-HPCDD | 0.584 pg/L | 0.584U pg/L |
| EB2-061913(RES) | 1,2,3,4,6,7,8-HPCDF | 0.378 pg/L | 0.378U pg/L |
| EB2-061913(RES) | 1,2,3,4,7,8,9-HPCDF | 0.126 pg/L | 0.126U pg/L |
| EB2-061913(RES) | 1,2,3,4,7,8-HXCDF | 0.292 pg/L | 0.292U pg/L |
| EB2-061913(RES) | 1,2,3,6,7,8-HXCDF | 0.241 pg/L | 0.241U pg/L |
| EB2-061913(RES) | 1,2,3,7,8,9-HXCDD | 0.240 pg/L | 0.240U pg/L |
| EB2-061913(RES) | 1,2,3,7,8-PECDD | 0.341 pg/L | 0.341U pg/L |
| EB2-061913(RES) | 1,2,3,7,8-PECDF | 0.326 pg/L | 0.326U pg/L |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------|-----------------|-----------------|-----------------------|
| EB2-061913(RES) | 2,3,4,7,8-PECDF | 0.333 pg/L | 0.333U pg/L |
| EB2-061913(RES) | OCDD | 1.05 pg/L | 1.05U pg/L |
| EB2-061913(RES) | OCDF | 0.721 pg/L | 0.721U pg/L |

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

| | | | | |
|----------------|----------------------|---------------------|--------------|---|
| BLK1780B370438 | 6/29/2013 4:38:00 AM | 1,2,3,4,6,7,8-HPCDD | 0.0676 ng/Kg | SL-859-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,7,8-HPCDF | 0.0365 ng/Kg | SL-863-SA5A-SB-0.0-0.5 |
| | | 1,2,3,4,7,8-HXCDF | 0.0184 ng/Kg | SL-863-SA5A-SB-4.0-5.0 |
| | | 1,2,3,6,7,8-HXCDF | 0.0297 ng/Kg | SL-865-SA5A-SB-0.0-0.5 |
| | | 1,2,3,7,8,9-HXCDD | 0.0247 ng/Kg | SL-865-SA5A-SB-4.0-5.0 |
| | | 1,2,3,7,8-PECDF | 0.0218 ng/Kg | SL-865-SA5A-SB-9.0-10.0 |
| | | 2,3,4,7,8-PECDF | 0.0399 ng/Kg | SL-866-SA5A-SB-0.0-0.5 |
| | | 2,3,7,8-TCDF | 0.0378 ng/Kg | SL-866-SA5A-SB-5.5-6.5 |
| | | OCDD | 0.289 ng/Kg | |
| | | OCDF | 0.102 ng/Kg | |
| BLK1780B372318 | 7/1/2013 11:18:00 PM | 2,3,7,8-TCDF | 0.0323 ng/Kg | SL-859-SA5A-SB-0.0-0.5 SL-863-SA5A-SB-0.0-0.5 SL-863-SA5A-SB-4.0-5.0 SL-865-SA5A-SB-0.0-0.5 SL-865-SA5A-SB-4.0-5.0 SL-865-SA5A-SB-9.0-10.0 SL-866-SA5A-SB-0.0-0.5 SL-866-SA5A-SB-5.5-6.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-863-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0369 ng/Kg | 0.0369U ng/Kg |
| SL-863-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0506 ng/Kg | 0.0506U ng/Kg |
| SL-863-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0276 ng/Kg | 0.0276U ng/Kg |
| SL-863-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.106 ng/Kg | 0.106U ng/Kg |
| SL-863-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.0681 ng/Kg | 0.0681U ng/Kg |
| SL-865-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0476 ng/Kg | 0.0476U ng/Kg |
| SL-865-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0914 ng/Kg | 0.0914U ng/Kg |
| SL-865-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.125 ng/Kg | 0.125U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|---------------------|-----------------|-----------------------|
| SL-865-SA5A-SB-4.0-5.0(RES) | 2,3,7,8-TCDF | 0.108 ng/Kg | 0.108U ng/Kg |
| SL-865-SA5A-SB-9.0-10.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.128 ng/Kg | 0.128U ng/Kg |
| SL-865-SA5A-SB-9.0-10.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0206 ng/Kg | 0.0206U ng/Kg |
| SL-865-SA5A-SB-9.0-10.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0764 ng/Kg | 0.0764U ng/Kg |
| SL-865-SA5A-SB-9.0-10.0(RES) | 1,2,3,7,8,9-HXCDD | 0.0636 ng/Kg | 0.0636U ng/Kg |
| SL-865-SA5A-SB-9.0-10.0(RES) | 2,3,4,7,8-PECDF | 0.109 ng/Kg | 0.109U ng/Kg |
| SL-865-SA5A-SB-9.0-10.0(RES) | 2,3,7,8-TCDF | 0.0354 ng/Kg | 0.0354U ng/Kg |
| SL-865-SA5A-SB-9.0-10.0(RES) | OCDD | 0.792 ng/Kg | 0.792U ng/Kg |
| SL-865-SA5A-SB-9.0-10.0(RES) | OCDF | 0.0850 ng/Kg | 0.0850U ng/Kg |
| SL-866-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDF | 0.166 ng/Kg | 0.166U ng/Kg |
| SL-866-SA5A-SB-5.5-6.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0465 ng/Kg | 0.0465U ng/Kg |
| SL-866-SA5A-SB-5.5-6.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0467 ng/Kg | 0.0467U ng/Kg |
| SL-866-SA5A-SB-5.5-6.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0516 ng/Kg | 0.0516U ng/Kg |
| SL-866-SA5A-SB-5.5-6.5(RES) | 1,2,3,7,8-PECDF | 0.0730 ng/Kg | 0.0730U ng/Kg |
| SL-866-SA5A-SB-5.5-6.5(RES) | 2,3,4,7,8-PECDF | 0.0843 ng/Kg | 0.0843U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|-----------|-------------|-------------------------|
| P17737AB221924 | 6/27/2013 7:24:00 PM | ALUMINUM | 11.5 mg/Kg | SL-859-SA5A-SB-0.0-0.5 |
| | | BORON | 1.25 mg/Kg | SL-863-SA5A-SB-0.0-0.5 |
| | | CALCIUM | 20.1 mg/Kg | SL-863-SA5A-SB-4.0-5.0 |
| | | IRON | 4.06 mg/Kg | SL-865-SA5A-SB-0.0-0.5 |
| | | MAGNESIUM | 1.74 mg/Kg | SL-865-SA5A-SB-4.0-5.0 |
| | | TIN | 1.50 mg/Kg | SL-865-SA5A-SB-9.0-10.0 |
| | | ZINC | 0.300 mg/Kg | SL-866-SA5A-SB-0.0-0.5 |
| | | | | SL-866-SA5A-SB-5.5-6.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|---------|-----------------|-----------------------|
| SL-859-SA5A-SB-0.0-0.5(REA/TOT) | BORON | 4.72 mg/Kg | 4.72U mg/Kg |
| SL-859-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 3.22 mg/Kg | 3.22U mg/Kg |
| SL-863-SA5A-SB-0.0-0.5(REA/TOT) | BORON | 2.46 mg/Kg | 2.46U mg/Kg |
| SL-863-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 2.88 mg/Kg | 2.88U mg/Kg |
| SL-863-SA5A-SB-4.0-5.0(REA/TOT) | BORON | 1.66 mg/Kg | 1.66U mg/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|---------|-----------------|-----------------------|
| SL-863-SA5A-SB-4.0-5.0(REA/TOT) | TIN | 2.99 mg/Kg | 2.99U mg/Kg |
| SL-865-SA5A-SB-0.0-0.5(REA/TOT) | BORON | 3.03 mg/Kg | 3.03U mg/Kg |
| SL-865-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 2.99 mg/Kg | 2.99U mg/Kg |
| SL-865-SA5A-SB-4.0-5.0(REA/TOT) | BORON | 3.25 mg/Kg | 3.25U mg/Kg |
| SL-865-SA5A-SB-4.0-5.0(REA/TOT) | TIN | 2.98 mg/Kg | 2.98U mg/Kg |
| SL-865-SA5A-SB-9.0-10.0(REA/TOT) | TIN | 3.21 mg/Kg | 3.21U mg/Kg |
| SL-866-SA5A-SB-0.0-0.5(REA/TOT) | BORON | 2.82 mg/Kg | 2.82U mg/Kg |
| SL-866-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 2.91 mg/Kg | 2.91U mg/Kg |
| SL-866-SA5A-SB-5.5-6.5(REA/TOT) | BORON | 1.67 mg/Kg | 1.67U mg/Kg |
| SL-866-SA5A-SB-5.5-6.5(REA/TOT) | TIN | 3.01 mg/Kg | 3.01U mg/Kg |

Method: 6020A
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|-----------|-------------|---|
| P17737AB220827A | 6/27/2013 8:27:00 AM | STRONTIUM | 0.128 mg/Kg | SL-859-SA5A-SB-0.0-0.5 SL-863-SA5A-SB-0.0-0.5 SL-863-SA5A-SB-4.0-5.0 SL-865-SA5A-SB-0.0-0.5 SL-865-SA5A-SB-4.0-5.0 SL-865-SA5A-SB-9.0-10.0 SL-866-SA5A-SB-0.0-0.5 SL-866-SA5A-SB-5.5-6.5 |

Method: 8270D SIM
Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|----------------------------|------------|--------------------------|
| PLKWE17B262344 | 6/26/2013 11:44:00 PM | BIS(2-ETHYLHEXYL)PHTHALATE | 0.077 ug/L | EB1-061913 EB2-061913 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------|----------------------------|-----------------|-----------------------|
| EB1-061913(RES) | BIS(2-ETHYLHEXYL)PHTHALATE | 0.14 ug/L | 1.1U ug/L |
| EB2-061913(RES) | BIS(2-ETHYLHEXYL)PHTHALATE | 0.15 ug/L | 1.0U ug/L |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

8/7/2013 3:35:32 PM

ADR version 1.7.0.207

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Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Equipment Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|---------------------------|----------------------|-------------------|----------------------------|--|
| EB1-061913(RES/TOT) | 6/19/2013 3:00:00 PM | MOLYBDENUM TIN | 0.0187 mg/L 0.0031 mg/L | SL-865-SA5A-SB-0.0-0.5 SL-865-SA5A-SB-4.0-5.0 SL-865-SA5A-SB-9.0-10.0 |
| EB2-061913(RES/TOT) | 6/19/2013 3:30:00 PM | MOLYBDENUM | 0.0062 mg/L | SL-859-SA5A-SB-0.0-0.5 SL-863-SA5A-SB-0.0-0.5 SL-863-SA5A-SB-4.0-5.0 SL-866-SA5A-SB-0.0-0.5 SL-866-SA5A-SB-5.5-6.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|------------|-----------------|-----------------------|
| SL-859-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.486 mg/Kg | 0.486U mg/Kg |
| SL-863-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.406 mg/Kg | 0.406U mg/Kg |
| SL-863-SA5A-SB-4.0-5.0(REA/TOT) | MOLYBDENUM | 0.507 mg/Kg | 0.507U mg/Kg |
| SL-865-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.666 mg/Kg | 0.666U mg/Kg |
| SL-865-SA5A-SB-4.0-5.0(REA/TOT) | MOLYBDENUM | 0.481 mg/Kg | 0.481U mg/Kg |
| SL-865-SA5A-SB-9.0-10.0(REA/TOT) | MOLYBDENUM | 1.34 mg/Kg | 1.34U mg/Kg |
| SL-866-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.469 mg/Kg | 0.469U mg/Kg |
| SL-866-SA5A-SB-5.5-6.5(REA/TOT) | MOLYBDENUM | 0.434 mg/Kg | 0.434U mg/Kg |

Field Blank Outlier Report

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|----------------------|----------------------------|---|
| FB-041113(REA2/TOT) | 4/11/2013 3:00:00 PM | COPPER MOLYBDENUM | 0.0036 mg/L 0.0036 mg/L | SL-859-SA5A-SB-0.0-0.5 SL-863-SA5A-SB-0.0-0.5 SL-863-SA5A-SB-4.0-5.0 SL-865-SA5A-SB-0.0-0.5 SL-865-SA5A-SB-4.0-5.0 SL-865-SA5A-SB-9.0-10.0 SL-866-SA5A-SB-0.0-0.5 SL-866-SA5A-SB-5.5-6.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|------------|-----------------|-----------------------|
| SL-859-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.486 mg/Kg | 0.486U mg/Kg |
| SL-863-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.406 mg/Kg | 0.406U mg/Kg |
| SL-863-SA5A-SB-4.0-5.0(REA/TOT) | MOLYBDENUM | 0.507 mg/Kg | 0.507U mg/Kg |
| SL-865-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.666 mg/Kg | 0.666U mg/Kg |
| SL-865-SA5A-SB-4.0-5.0(REA/TOT) | MOLYBDENUM | 0.481 mg/Kg | 0.481U mg/Kg |
| SL-865-SA5A-SB-9.0-10.0(REA/TOT) | MOLYBDENUM | 1.34 mg/Kg | 1.34U mg/Kg |
| SL-866-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.469 mg/Kg | 0.469U mg/Kg |
| SL-866-SA5A-SB-5.5-6.5(REA/TOT) | MOLYBDENUM | 0.434 mg/Kg | 0.434U mg/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

8/7/2013 3:49:02 PM

ADR version 1.7.0.207

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Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------------------|----------|--------------|--------------|-----------------|--------------------------|-------------------------|
| SL-859-SA5A-SB-0.0-0.5MS SL-859-SA5A-SB-0.0-0.5MSD (SL-859-SA5A-SB-0.0-0.5) | BIS(2-ETHYLHEXYL)PHTHALAT | 0 | 0 | 39.00-167.00 | - | BIS(2-ETHYLHEXYL)PHTHALA | No Qual, Diluted Out |
| | Butylbenzylphthalate | 0 | 0 | 59.00-153.00 | - | Butylbenzylphthalate | |
| | Diethylphthalate | 0 | 0 | 76.00-127.00 | - | Diethylphthalate | |
| | Dimethylphthalate | 0 | 0 | 62.00-136.00 | - | Dimethylphthalate | |
| | Di-n-butylphthalate | 0 | 0 | 62.00-154.00 | - | Di-n-butylphthalate | |
| | Di-n-octylphthalate | 0 | 0 | 52.00-162.00 | - | Di-n-octylphthalate | |
| | FLUORANTHENE | -148 | -162 | 47.00-135.00 | - | FLUORANTHENE | |
| | PHENANTHRENE | -96 | -111 | 29.00-142.00 | - | PHENANTHRENE | |
| PYRENE | -83 | -95 | 26.00-143.00 | - | PYRENE | | |
| SL-859-SA5A-SB-0.0-0.5MSD (SL-859-SA5A-SB-0.0-0.5) | CHRYSENE | - | 28 | 29.00-148.00 | - | CHRYSENE | No Qual, Diluted Out |

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM

Matrix: AQ

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|---------------------|-----------|------------|--------------|-----------------|-----------------------|---|
| P5WELCSY260043 (EB1-061913 EB2-061913) | Di-n-butylphthalate | - | - | 70.00-145.00 | 34 (30.00) | Di-n-butylphthalate | J (all detects) UJ (all non-detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| EB1-061913 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.753 | 9.72 | PQL | pg/L | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.592 | 9.72 | PQL | pg/L | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.684 | 9.72 | PQL | pg/L | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.339 | 9.72 | PQL | pg/L | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.304 | 9.72 | PQL | pg/L | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.337 | 9.72 | PQL | pg/L | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.315 | 9.72 | PQL | pg/L | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.450 | 9.72 | PQL | pg/L | |
| | 1,2,3,7,8-PECDF | JBQ | 0.410 | 9.72 | PQL | pg/L | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.349 | 9.72 | PQL | pg/L | |
| | 2,3,4,7,8-PECDF | JBQ | 0.602 | 9.72 | PQL | pg/L | |
| | OCDD | JBQ | 2.25 | 19.4 | PQL | pg/L | |
| | OCDF | JBQ | 1.38 | 19.4 | PQL | pg/L | |
| EB2-061913 | 1,2,3,4,6,7,8-HPCDD | JB | 0.584 | 9.70 | PQL | pg/L | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.378 | 9.70 | PQL | pg/L | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.126 | 9.70 | PQL | pg/L | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.292 | 9.70 | PQL | pg/L | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.241 | 9.70 | PQL | pg/L | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.240 | 9.70 | PQL | pg/L | |
| | 1,2,3,7,8-PECDD | JBQ | 0.341 | 9.70 | PQL | pg/L | |
| | 1,2,3,7,8-PECDF | JB | 0.326 | 9.70 | PQL | pg/L | |
| | 2,3,4,7,8-PECDF | JBQ | 0.333 | 9.70 | PQL | pg/L | |
| | 2,3,7,8-TCDF | JQ | 0.250 | 1.94 | PQL | pg/L | |
| | OCDD | JB | 1.05 | 19.4 | PQL | pg/L | |
| | OCDF | JBQ | 0.721 | 19.4 | PQL | pg/L | |

Method: 6010C
Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| EB1-061913 | MOLYBDENUM | J | 0.0187 | 0.0200 | PQL | mg/L | J (all detects) |
| | TIN | J | 0.0031 | 0.0400 | PQL | mg/L | |
| EB2-061913 | MOLYBDENUM | J | 0.0062 | 0.0200 | PQL | mg/L | J (all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM
Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| EB1-061913 | 2-METHYLNAPHTHALENE | J | 0.011 | 0.053 | PQL | ug/L | J (all detects) |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 0.14 | 1.1 | PQL | ug/L | |
| | Diethylphthalate | J | 0.16 | 1.1 | PQL | ug/L | |
| | Di-n-butylphthalate | J | 0.17 | 1.1 | PQL | ug/L | |
| EB2-061913 | 2-METHYLNAPHTHALENE | J | 0.011 | 0.052 | PQL | ug/L | J (all detects) |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 0.15 | 1.0 | PQL | ug/L | |
| | Diethylphthalate | J | 0.15 | 1.0 | PQL | ug/L | |
| | Di-n-butylphthalate | J | 0.17 | 1.0 | PQL | ug/L | |

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-859-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 2.12 | 5.02 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HXCDF | JB | 2.93 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 1.58 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | J | 1.04 | 5.02 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 1.72 | 5.02 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | J | 2.01 | 5.02 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 2.67 | 5.02 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.723 | 1.00 | PQL | ng/Kg | |
| SL-863-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 0.352 | 5.14 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | J | 0.955 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.482 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | J | 2.35 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.432 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 2.09 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | J | 0.326 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.764 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.726 | 5.14 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | J | 0.484 | 5.14 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.781 | 5.14 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | J | 0.0892 | 1.03 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.398 | 1.03 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-863-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JB | 2.79 | 5.15 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JQ | 0.335 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0369 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0605 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0506 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | J | 0.190 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.0276 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.262 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JQ | 0.182 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.0448 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.106 | 5.15 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JQ | 0.0396 | 5.15 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0681 | 5.15 | PQL | ng/Kg | |
| | OCDF | JB | 0.684 | 10.3 | PQL | ng/Kg | |
| SL-865-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.591 | 5.10 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | J | 1.87 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JB | 0.968 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | J | 4.94 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.815 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 2.48 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | J | 0.666 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.524 | 5.10 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.877 | 5.10 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | J | 1.07 | 5.10 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 1.29 | 5.10 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0853 | 1.02 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.270 | 1.02 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-865-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JB | 4.15 | 4.99 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | J | 0.870 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0476 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0890 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0914 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JQ | 0.310 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.125 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.352 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | J | 0.207 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.0742 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.355 | 4.99 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JQ | 0.132 | 4.99 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.353 | 4.99 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.108 | 0.998 | PQL | ng/Kg | |
| | OCDF | JB | 2.51 | 9.98 | PQL | ng/Kg | |
| SL-865-SA5A-SB-9.0-10.0 | 1,2,3,4,6,7,8-HPCDD | JB | 0.128 | 5.34 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JQ | 0.0695 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0206 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0489 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JB | 0.107 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | J | 0.0932 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.0764 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.0636 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | J | 0.0690 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.105 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.118 | 5.34 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JQ | 0.0525 | 5.34 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.109 | 5.34 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0354 | 1.07 | PQL | ng/Kg | |
| | OCDD | JB | 0.792 | 10.7 | PQL | ng/Kg | |
| OCDF | JBQ | 0.0850 | 10.7 | PQL | ng/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-866-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | J | 5.05 | 5.14 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.230 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | J | 0.497 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.344 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | J | 1.28 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.275 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.971 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | J | 0.329 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | J | 0.249 | 5.14 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.389 | 5.14 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | J | 0.323 | 5.14 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.506 | 5.14 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | J | 0.0781 | 1.03 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.166 | 1.03 | PQL | ng/Kg | |
| | OCDF | JB | 6.80 | 10.3 | PQL | ng/Kg | |
| SL-866-SA5A-SB-5.5-6.5 | 1,2,3,4,6,7,8-HPCDD | JB | 4.15 | 5.03 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | J | 0.483 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0465 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | J | 0.109 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0467 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JQ | 0.191 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0516 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.155 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | J | 0.0722 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.0650 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0730 | 5.03 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JQ | 0.0561 | 5.03 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0843 | 5.03 | PQL | ng/Kg | |
| | OCDF | JB | 0.782 | 10.1 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------------------|-----------|--------|-----------------|---------|-------|-----------------|
| SL-859-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.623 | 1.01 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.72 | 10.1 | PQL | mg/Kg | |
| | CADMIUM | J | 0.432 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.486 | 2.01 | PQL | mg/Kg | |
| | SODIUM | J | 78.1 | 101 | PQL | mg/Kg | |
| | TIN | J | 3.22 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 3.89 | 5.03 | PQL | mg/Kg | |
| SL-863-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.73 | 4.08 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.445 | 1.02 | PQL | mg/Kg | |
| | BORON | J | 2.46 | 10.2 | PQL | mg/Kg | |
| | CADMIUM | J | 0.255 | 1.02 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.406 | 2.04 | PQL | mg/Kg | |
| | SODIUM | J | 58.4 | 102 | PQL | mg/Kg | |
| | TIN | J | 2.88 | 10.2 | PQL | mg/Kg | |
| Zirconium | J | 1.87 | 5.10 | PQL | mg/Kg | | |
| SL-863-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.781 | 1.04 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 1.66 | 10.4 | PQL | mg/Kg | |
| | CADMIUM | J | 0.103 | 1.04 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.507 | 2.07 | PQL | mg/Kg | |
| | SODIUM | J | 89.9 | 104 | PQL | mg/Kg | |
| | TIN | J | 2.99 | 10.4 | PQL | mg/Kg | |
| | Zirconium | J | 3.81 | 5.18 | PQL | mg/Kg | |
| SL-865-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.679 | 1.00 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.03 | 10.0 | PQL | mg/Kg | |
| | CADMIUM | J | 0.188 | 1.00 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.666 | 2.00 | PQL | mg/Kg | |
| | TIN | J | 2.99 | 10.0 | PQL | mg/Kg | |
| | Zirconium | J | 3.89 | 5.00 | PQL | mg/Kg | |
| | SL-865-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.646 | 1.03 | PQL | |
| BORON | | J | 3.25 | 10.3 | PQL | mg/Kg | |
| CADMIUM | | J | 0.228 | 1.03 | PQL | mg/Kg | |
| MOLYBDENUM | | J | 0.481 | 2.06 | PQL | mg/Kg | |
| SODIUM | | J | 94.0 | 103 | PQL | mg/Kg | |
| TIN | | J | 2.98 | 10.3 | PQL | mg/Kg | |
| Zirconium | | J | 3.03 | 5.14 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-865-SA5A-SB-9.0-10.0 | BERYLLIUM | J | 0.973 | 1.04 | PQL | mg/Kg | J (all detects) |
| | CADMIUM | J | 0.235 | 1.04 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 1.34 | 2.08 | PQL | mg/Kg | |
| | TIN | J | 3.21 | 10.4 | PQL | mg/Kg | |
| | Zirconium | J | 4.30 | 5.20 | PQL | mg/Kg | |
| SL-866-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.700 | 1.01 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.82 | 10.1 | PQL | mg/Kg | |
| | CADMIUM | J | 0.207 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.469 | 2.02 | PQL | mg/Kg | |
| | SODIUM | J | 82.0 | 101 | PQL | mg/Kg | |
| | TIN | J | 2.91 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 3.73 | 5.04 | PQL | mg/Kg | |
| SL-866-SA5A-SB-5.5-6.5 | BERYLLIUM | J | 0.752 | 1.04 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 1.67 | 10.4 | PQL | mg/Kg | |
| | CADMIUM | J | 0.185 | 1.04 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.434 | 2.08 | PQL | mg/Kg | |
| | SODIUM | J | 90.8 | 104 | PQL | mg/Kg | |
| | TIN | J | 3.01 | 10.4 | PQL | mg/Kg | |
| | Zirconium | J | 3.87 | 5.21 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-859-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.187 | 0.402 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.173 | 0.201 | PQL | mg/Kg | |
| SL-863-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.157 | 0.408 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0615 | 0.204 | PQL | mg/Kg | |
| SL-863-SA5A-SB-4.0-5.0 | SELENIUM | J | 0.143 | 0.415 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0547 | 0.207 | PQL | mg/Kg | |
| SL-865-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.263 | 0.400 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0803 | 0.200 | PQL | mg/Kg | |
| SL-865-SA5A-SB-4.0-5.0 | SELENIUM | J | 0.244 | 0.411 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0888 | 0.206 | PQL | mg/Kg | |
| SL-865-SA5A-SB-9.0-10.0 | SELENIUM | J | 0.278 | 0.416 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.129 | 0.208 | PQL | mg/Kg | |

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Reporting Limit Outliers

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-866-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.228 | 0.403 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0779 | 0.202 | PQL | mg/Kg | |
| SL-866-SA5A-SB-5.5-6.5 | SELENIUM | J | 0.237 | 0.417 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0839 | 0.208 | PQL | mg/Kg | |

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-866-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0162 | 0.0170 | PQL | mg/Kg | J (all detects) |

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-865-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 4.6 | 5.1 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 9.9 | 10 | PQL | mg/Kg | |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-859-SA5A-SB-0.0-0.5 | ANTHRACENE | J | 3.8 | 17 | PQL | ug/Kg | J (all detects) |
| | BENZO(G,H,I)PERYLENE | J | 7.6 | 17 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 7.9 | 17 | PQL | ug/Kg | |
| SL-863-SA5A-SB-0.0-0.5 | BENZO(A)PYRENE | J | 7.5 | 17 | PQL | ug/Kg | J (all detects) |
| SL-863-SA5A-SB-4.0-5.0 | BENZO(B)FLUORANTHENE | J | 1.5 | 1.7 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 0.55 | 1.7 | PQL | ug/Kg | |
| SL-865-SA5A-SB-0.0-0.5 | Di-n-octylphthalate | J | 160 | 180 | PQL | ug/Kg | J (all detects) |
| SL-865-SA5A-SB-4.0-5.0 | CHRYSENE | J | 1.4 | 1.7 | PQL | ug/Kg | J (all detects) |
| | FLUORANTHENE | J | 0.74 | 1.7 | PQL | ug/Kg | |
| SL-866-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 7.6 | 17 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 10 | 17 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 14 | 17 | PQL | ug/Kg | |
| | PYRENE | J | 15 | 17 | PQL | ug/Kg | |

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Reporting Limit Outliers

Lab Reporting Batch ID: PH060

Laboratory: LL

EDD Filename: PrepPH060_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 8270D SIM

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-866-SA5A-SB-5.5-6.5 | BENZO(B)FLUORANTHENE | J | 1.2 | 1.7 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 0.73 | 1.7 | PQL | ug/Kg | |

LDC #: 30098C4

VALIDATION COMPLETENESS WORKSHEET

Date: 7/26/13

SDG #: PH060

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|-------------------------------|
| I. | Technical holding times | - | Sampling dates: 6/19/13 |
| II. | ICP/MS Tune | - | |
| III. | Calibration | - | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | - | |
| VI. | Matrix Spike Analysis | N | MS/D (from PH058) |
| VII. | Duplicate Sample Analysis | N | Dup ↓ |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | SW | (from PH058) (Cu: 28% : J/UT) |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | N | |
| XV. | Field Blanks | SW | EB=1,2 FB=FB-041113 |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

(PH029)

Validated Samples:

Soil/Water

| | | | | | | | | |
|----|-------------------------|---|----|--|----|--|----|--|
| 1 | EB1-061913 | W | 11 | | 21 | | 31 | |
| 2 | EB2-061913 | W | 12 | | 22 | | 32 | |
| 3 | SL-859-SA5A-SB-0.0-0.5 | | 13 | | 23 | | 33 | |
| 4 | SL-863-SA5A-SB-0.0-0.5 | | 14 | | 24 | | 34 | |
| 5 | SL-863-SA5A-SB-4.0-5.0 | | 15 | | 25 | | 35 | |
| 6 | SL-866-SA5A-SB-0.0-0.5 | | 16 | | 26 | | 36 | |
| 7 | SL-866-SA5A-SB-5.5-6.5 | | 17 | | 27 | | 37 | |
| 8 | SL-865-SA5A-SB-0.0-0.5 | | 18 | | 28 | | 38 | |
| 9 | SL-865-SA5A-SB-4.0-5.0 | | 19 | | 29 | | 39 | |
| 10 | SL-865-SA5A-SB-9.0-10.0 | | 20 | | 30 | | 40 | |

Notes: _____

**VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES**

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
 Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x Reason: B
 Associated Samples: All Soil

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 3 | 5 | 6 | 7 | 8 | 9 | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|------|------|------|------|------|------|--|--|--|--|
| Sb | | | 3.8 | 1.9 | | | | | | | | | | |
| Mo | | | 1.7 | 0.85 | 0.49 | 0.51 | 0.47 | 0.43 | 0.67 | 0.48 | | | | |

Sample Concentration units, unless otherwise noted: mg/L Associated Samples: All Water

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 1 | 2 | | | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|--------|--------|--|--|--|--|--|--|--|--|
| Mo | | | 7.2 | 0.036 | 0.0187 | 0.0062 | | | | | | | | |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
 Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/11/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|------------------------------|-----------------------|------|-------------------|------|------|------|------|------|-----|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 0.49 | 0.91 ^u | 0.51 | 0.47 | 0.43 | 0.67 | 0.48 | 1.3 | | |

Sampling date: 6/19/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 8-10

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|-------------------------------|-----------------------|------|------|-----|--|--|--|--|--|--|--|
| | EB1-061913 (SDG: PH060) | Action Limit | 8 | 9 | 10 | | | | | | | |
| Mo | 0.0187 | 9.35 | 0.67 | 0.48 | 1.3 | | | | | | | |
| Sn | 0.0031 | 1.55 | | | | | | | | | | |

Sampling date: 6/19/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 3-7

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|-------------------------------|-----------------------|------|-------------------|------|------|------|--|--|--|--|--|
| | EB2-061913 (SDG: PH060) | Action Limit | 3 | 4 | 5 | 6 | 7 | | | | | |
| Mo | 0.0062 | 3.1 | 0.49 | 0.91 ^u | 0.51 | 0.47 | 0.43 | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Attachment I

Sample ID Cross Reference and Data Review Level

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 20-Jun-2013 | TB-062013 | 7102685 | TB | 5030B | 8015M | III |
| 20-Jun-2013 | SL-867-SA5A-SB-0.0-0.5 | 7102686 | N | 3050B | 6010C | III |
| 20-Jun-2013 | SL-867-SA5A-SB-0.0-0.5 | 7102686 | N | 3050B | 6020A | III |
| 20-Jun-2013 | SL-867-SA5A-SB-0.0-0.5 | 7102686 | N | 3546 | 8015M | III |
| 20-Jun-2013 | SL-867-SA5A-SB-0.0-0.5 | 7102686 | N | 3546 | 8270D SIM | III |
| 20-Jun-2013 | SL-867-SA5A-SB-0.0-0.5 | 7102686 | N | METHOD | 1613B | III |
| 20-Jun-2013 | SL-867-SA5A-SB-0.0-0.5 | 7102686 | N | METHOD | 7471B | III |
| 20-Jun-2013 | SL-867-SA5A-SB-3.5-4.5 | 7102687 | N | 3050B | 6010C | III |
| 20-Jun-2013 | SL-867-SA5A-SB-3.5-4.5 | 7102687 | N | 3050B | 6020A | III |
| 20-Jun-2013 | SL-867-SA5A-SB-3.5-4.5 | 7102687 | N | 3546 | 8015M | III |
| 20-Jun-2013 | SL-867-SA5A-SB-3.5-4.5 | 7102687 | N | 3546 | 8270D SIM | III |
| 20-Jun-2013 | SL-867-SA5A-SB-3.5-4.5 | 7102687 | N | 5035A | 8015M | III |
| 20-Jun-2013 | SL-867-SA5A-SB-3.5-4.5 | 7102687 | N | METHOD | 1613B | III |
| 20-Jun-2013 | SL-867-SA5A-SB-3.5-4.5 | 7102687 | N | METHOD | 7471B | III |
| 20-Jun-2013 | SL-868-SA5A-SB-0.0-0.5 | 7102688 | N | 3050B | 6010C | III |
| 20-Jun-2013 | SL-868-SA5A-SB-0.0-0.5 | 7102688 | N | 3050B | 6020A | III |
| 20-Jun-2013 | SL-868-SA5A-SB-0.0-0.5 | 7102688 | N | 3546 | 8015M | III |
| 20-Jun-2013 | SL-868-SA5A-SB-0.0-0.5 | 7102688 | N | 3546 | 8270D SIM | III |
| 20-Jun-2013 | SL-868-SA5A-SB-0.0-0.5 | 7102688 | N | METHOD | 1613B | III |
| 20-Jun-2013 | SL-868-SA5A-SB-0.0-0.5 | 7102688 | N | METHOD | 7471B | III |
| 20-Jun-2013 | SL-868-SA5A-SB-4.0-5.0 | 7102689 | N | 3050B | 6010C | III |
| 20-Jun-2013 | SL-868-SA5A-SB-4.0-5.0 | 7102689 | N | 3050B | 6020A | III |
| 20-Jun-2013 | SL-868-SA5A-SB-4.0-5.0 | 7102689 | N | 3546 | 8015M | III |
| 20-Jun-2013 | SL-868-SA5A-SB-4.0-5.0 | 7102689 | N | 3546 | 8270D SIM | III |
| 20-Jun-2013 | SL-868-SA5A-SB-4.0-5.0 | 7102689 | N | 5035A | 8015M | III |
| 20-Jun-2013 | SL-868-SA5A-SB-4.0-5.0 | 7102689 | N | METHOD | 1613B | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 20-Jun-2013 | SL-868-SA5A-SB-4.0-5.0 | 7102689 | N | METHOD | 7471B | III |

Attachment II

Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PrepPH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-867-SA5A-SB-0.0-0.5

Collected: 6/20/2013 8:25:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 3.97 | U | 0.735 | MDL | 3.97 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.808 | J | 0.0666 | MDL | 0.994 | PQL | mg/Kg | J | Z |
| BORON | 2.10 | J | 0.835 | MDL | 9.94 | PQL | mg/Kg | U | B |
| CADMIUM | 0.162 | J | 0.0755 | MDL | 0.994 | PQL | mg/Kg | J | Z |
| COBALT | 6.50 | | 0.0984 | MDL | 0.994 | PQL | mg/Kg | J | E |
| COPPER | 8.50 | | 0.288 | MDL | 1.99 | PQL | mg/Kg | J | A |
| MANGANESE | 310 | | 0.0825 | MDL | 0.994 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.622 | J | 0.169 | MDL | 1.99 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 3810 | | 8.29 | MDL | 99.4 | PQL | mg/Kg | J | Q |
| SODIUM | 93.1 | J | 16.6 | MDL | 99.4 | PQL | mg/Kg | J | Z |
| TIN | 3.10 | J | 0.219 | MDL | 9.94 | PQL | mg/Kg | U | B |
| Zirconium | 4.10 | J | 0.835 | MDL | 4.97 | PQL | mg/Kg | J | Z |

Sample ID: SL-867-SA5A-SB-3.5-4.5

Collected: 6/20/2013 8:50:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.12 | U | 0.762 | MDL | 4.12 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.670 | J | 0.0690 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| BORON | 2.11 | J | 0.865 | MDL | 10.3 | PQL | mg/Kg | U | B |
| CADMIUM | 0.214 | J | 0.0783 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| COBALT | 6.27 | | 0.102 | MDL | 1.03 | PQL | mg/Kg | J | E |
| COPPER | 10.2 | | 0.299 | MDL | 2.06 | PQL | mg/Kg | J | A |
| MANGANESE | 319 | | 0.0855 | MDL | 1.03 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.400 | J | 0.175 | MDL | 2.06 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 3540 | | 8.59 | MDL | 103 | PQL | mg/Kg | J | Q |
| SODIUM | 89.5 | J | 17.2 | MDL | 103 | PQL | mg/Kg | J | Z |
| TIN | 3.05 | J | 0.227 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 2.89 | J | 0.865 | MDL | 5.15 | PQL | mg/Kg | J | Z |

Sample ID: SL-868-SA5A-SB-0.0-0.5

Collected: 6/20/2013 9:50:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 3.95 | U | 0.730 | MDL | 3.95 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.766 | J | 0.0661 | MDL | 0.987 | PQL | mg/Kg | J | Z |
| BORON | 3.01 | J | 0.829 | MDL | 9.87 | PQL | mg/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PrepPH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-868-SA5A-SB-0.0-0.5 Collected: 6/20/2013 9:50:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| CADMIUM | 0.185 | J | 0.0750 | MDL | 0.987 | PQL | mg/Kg | J | Z |
| COBALT | 5.90 | | 0.0977 | MDL | 0.987 | PQL | mg/Kg | J | E |
| COPPER | 9.09 | | 0.286 | MDL | 1.97 | PQL | mg/Kg | J | A |
| MANGANESE | 277 | | 0.0819 | MDL | 0.987 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.560 | J | 0.168 | MDL | 1.97 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 2870 | | 8.23 | MDL | 98.7 | PQL | mg/Kg | J | Q |
| SODIUM | 87.8 | J | 16.5 | MDL | 98.7 | PQL | mg/Kg | J | Z |
| TIN | 2.98 | J | 0.217 | MDL | 9.87 | PQL | mg/Kg | U | B |
| Zirconium | 3.41 | J | 0.829 | MDL | 4.93 | PQL | mg/Kg | J | Z |

Sample ID: SL-868-SA5A-SB-4.0-5.0 Collected: 6/20/2013 10:25:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.04 | U | 0.747 | MDL | 4.04 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.726 | J | 0.0676 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 1.69 | J | 0.848 | MDL | 10.1 | PQL | mg/Kg | U | B |
| CADMIUM | 0.198 | J | 0.0767 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| COBALT | 6.69 | | 0.100 | MDL | 1.01 | PQL | mg/Kg | J | E |
| COPPER | 12.2 | | 0.293 | MDL | 2.02 | PQL | mg/Kg | J | A |
| MANGANESE | 322 | | 0.0838 | MDL | 1.01 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.354 | J | 0.172 | MDL | 2.02 | PQL | mg/Kg | U | B, F, F |
| POTASSIUM | 3000 | | 8.42 | MDL | 101 | PQL | mg/Kg | J | Q |
| SODIUM | 89.9 | J | 16.9 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 3.02 | J | 0.222 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 3.60 | J | 0.848 | MDL | 5.05 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

Sample ID: SL-867-SA5A-SB-0.0-0.5 Collected: 6/20/2013 8:25:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.281 | J | 0.0994 | MDL | 0.397 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PrepPH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

| Sample ID: SL-867-SA5A-SB-0.0-0.5 | | Collected: 6/20/2013 8:25:00 | | Analysis Type: RES/TOT | | Dilution: 2 | | | |
|--|------------|-------------------------------------|--------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0960 | J | 0.0258 | MDL | 0.199 | PQL | mg/Kg | J | Z |
| STRONTIUM | 38.8 | | 0.0517 | MDL | 0.397 | PQL | mg/Kg | J | Q |

| Sample ID: SL-867-SA5A-SB-3.5-4.5 | | Collected: 6/20/2013 8:50:00 | | Analysis Type: REA/TOT | | Dilution: 2 | | | |
|--|------------|-------------------------------------|-------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.186 | J | 0.103 | MDL | 0.412 | PQL | mg/Kg | J | Z |

| Sample ID: SL-867-SA5A-SB-3.5-4.5 | | Collected: 6/20/2013 8:50:00 | | Analysis Type: RES/TOT | | Dilution: 2 | | | |
|--|------------|-------------------------------------|--------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0452 | J | 0.0268 | MDL | 0.206 | PQL | mg/Kg | J | Z |
| STRONTIUM | 19.0 | | 0.0536 | MDL | 0.412 | PQL | mg/Kg | J | Q |

| Sample ID: SL-868-SA5A-SB-0.0-0.5 | | Collected: 6/20/2013 9:50:00 | | Analysis Type: REA/TOT | | Dilution: 2 | | | |
|--|------------|-------------------------------------|--------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.237 | J | 0.0987 | MDL | 0.395 | PQL | mg/Kg | J | Z |

| Sample ID: SL-868-SA5A-SB-0.0-0.5 | | Collected: 6/20/2013 9:50:00 | | Analysis Type: RES/TOT | | Dilution: 2 | | | |
|--|------------|-------------------------------------|--------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0722 | J | 0.0257 | MDL | 0.197 | PQL | mg/Kg | J | Z |
| STRONTIUM | 28.8 | | 0.0513 | MDL | 0.395 | PQL | mg/Kg | J | Q |

| Sample ID: SL-868-SA5A-SB-4.0-5.0 | | Collected: 6/20/2013 10:25:00 | | Analysis Type: REA/TOT | | Dilution: 2 | | | |
|--|------------|--------------------------------------|-------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.248 | J | 0.101 | MDL | 0.404 | PQL | mg/Kg | J | Z |

| Sample ID: SL-868-SA5A-SB-4.0-5.0 | | Collected: 6/20/2013 10:25:00 | | Analysis Type: RES/TOT | | Dilution: 2 | | | |
|--|------------|--------------------------------------|--------|-------------------------------|-------|--------------------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0684 | J | 0.0263 | MDL | 0.202 | PQL | mg/Kg | J | Z |
| STRONTIUM | 34.4 | | 0.0525 | MDL | 0.404 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PrepPH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 7471B | Matrix: SO |

Sample ID: SL-867-SA5A-SB-0.0-0.5 Collected: 6/20/2013 8:25:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0155 | J | 0.0099 | MDL | 0.0166 | PQL | mg/Kg | J | Z |

Sample ID: SL-868-SA5A-SB-0.0-0.5 Collected: 6/20/2013 9:50:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0156 | J | 0.010 | MDL | 0.0166 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-867-SA5A-SB-0.0-0.5 Collected: 6/20/2013 8:25:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.867 | JB | 0.0383 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 1.74 | J | 0.0536 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 1.24 | JB | 0.0449 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 3.73 | J | 0.0563 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.852 | JB | 0.0448 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 2.78 | JB | 0.0536 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.746 | JQ | 0.0644 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.958 | JB | 0.0456 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.978 | J | 0.0411 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.702 | JB | 0.0441 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.0729 | JQ | 0.0286 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.328 | JB | 0.0656 | MDL | 1.02 | PQL | ng/Kg | J | Z |

Sample ID: SL-867-SA5A-SB-3.5-4.5 Collected: 6/20/2013 8:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 0.869 | J | 0.0129 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0409 | JB | 0.0179 | MDL | 4.91 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0955 | JQ | 0.0327 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.115 | JBQ | 0.0170 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 0.227 | JQ | 0.0361 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0421 | JBQ | 0.0157 | MDL | 4.91 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PrepPH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-867-SA5A-SB-3.5-4.5 Collected: 6/20/2013 8:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,7,8,9-HXCDD | 0.210 | JB | 0.0349 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.147 | JQ | 0.0184 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.0489 | J | 0.0246 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.138 | JB | 0.0171 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.0594 | JQ | 0.0143 | MDL | 4.91 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.0837 | JBQ | 0.0171 | MDL | 4.91 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0288 | JQ | 0.0230 | MDL | 0.983 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.0263 | JB | 0.0256 | MDL | 0.983 | PQL | ng/Kg | U | B |
| OCDF | 1.28 | JB | 0.0262 | MDL | 9.83 | PQL | ng/Kg | J | Z |

Sample ID: SL-868-SA5A-SB-0.0-0.5 Collected: 6/20/2013 9:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.848 | JB | 0.0431 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 1.64 | J | 0.0676 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 1.18 | JB | 0.0388 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 3.21 | J | 0.0706 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.816 | JB | 0.0358 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 2.48 | JB | 0.0659 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.618 | J | 0.0593 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.997 | JB | 0.0416 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.996 | J | 0.0331 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.426 | JB | 0.0404 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.167 | JQ | 0.0294 | MDL | 1.00 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.218 | JB | 0.0547 | MDL | 1.00 | PQL | ng/Kg | J | Z |

Sample ID: SL-868-SA5A-SB-4.0-5.0 Collected: 6/20/2013 10:25:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 4.93 | JB | 0.0543 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.636 | JQ | 0.0159 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0687 | JBQ | 0.0237 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0870 | J | 0.0395 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.0839 | JBQ | 0.0194 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.193 | JQ | 0.0434 | MDL | 5.11 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PrepPH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 1613B | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-868-SA5A-SB-4.0-5.0 Collected: 6/20/2013 10:25:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,6,7,8-HXCDF | 0.0479 | JBQ | 0.0179 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.221 | JBQ | 0.0423 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.111 | J | 0.0209 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.0377 | JQ | 0.0348 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.113 | JBQ | 0.0218 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.0641 | JQ | 0.0173 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.0812 | JBQ | 0.0218 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0357 | JBQ | 0.0303 | MDL | 1.02 | PQL | ng/Kg | U | B |
| OCDF | 0.918 | JB | 0.0309 | MDL | 10.2 | PQL | ng/Kg | J | Z |

| | | | | | |
|-------------------------|------|----------------|-----------|----------------|----|
| Method Category: | SVOA | Method: | 8270D SIM | Matrix: | SO |
|-------------------------|------|----------------|-----------|----------------|----|

Sample ID: SL-867-SA5A-SB-0.0-0.5 Collected: 6/20/2013 8:25:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| CHRYSENE | 4.9 | J | 3.4 | MDL | 17 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 14 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 7.7 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |
| PYRENE | 11 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |

Sample ID: SL-867-SA5A-SB-3.5-4.5 Collected: 6/20/2013 8:50:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.0 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 6.4 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | Z |
| CHRYSENE | 0.35 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-868-SA5A-SB-0.0-0.5 Collected: 6/20/2013 9:50:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| CHRYSENE | 5.9 | J | 3.3 | MDL | 17 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 12 | J | 6.7 | MDL | 17 | PQL | ug/Kg | J | Z |
| PYRENE | 10 | J | 6.7 | MDL | 17 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Data Qualifier Summary

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PrepPH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-868-SA5A-SB-4.0-5.0

Collected: 6/20/2013 10:25:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.3 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| CHRYSENE | 0.73 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 1.1 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 0.85 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Data Qualifier Summary

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PrepPH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---------------------------------|
| A | ICP Serial Dilution |
| B | Calibration Blank Contamination |
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| F | Equipment Blank Contamination |
| F | Field Blank Contamination |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Enclosure I

Level III ADR Outliers (including Manual Review Outliers)

Quality Control Outlier Reports

PH061

Method Blank Outlier Report

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|---|--|--|
| BLK1780B370438 | 6/29/2013 4:38:00 AM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8-PECDF 2,3,4,7,8-PECDF 2,3,7,8-TCDF OCDD OCDF | 0.0676 ng/Kg 0.0365 ng/Kg 0.0184 ng/Kg 0.0297 ng/Kg 0.0247 ng/Kg 0.0218 ng/Kg 0.0399 ng/Kg 0.0378 ng/Kg 0.289 ng/Kg 0.102 ng/Kg | SL-867-SA5A-SB-0.0-0.5 SL-867-SA5A-SB-3.5-4.5 SL-868-SA5A-SB-0.0-0.5 SL-868-SA5A-SB-4.0-5.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-867-SA5A-SB-3.5-4.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0409 ng/Kg | 0.0409U ng/Kg |
| SL-867-SA5A-SB-3.5-4.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0421 ng/Kg | 0.0421U ng/Kg |
| SL-867-SA5A-SB-3.5-4.5(RES) | 2,3,4,7,8-PECDF | 0.0837 ng/Kg | 0.0837U ng/Kg |
| SL-867-SA5A-SB-3.5-4.5(RES) | 2,3,7,8-TCDF | 0.0263 ng/Kg | 0.0263U ng/Kg |
| SL-868-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0687 ng/Kg | 0.0687U ng/Kg |
| SL-868-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0839 ng/Kg | 0.0839U ng/Kg |
| SL-868-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0479 ng/Kg | 0.0479U ng/Kg |
| SL-868-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.0812 ng/Kg | 0.0812U ng/Kg |
| SL-868-SA5A-SB-4.0-5.0(RES) | 2,3,7,8-TCDF | 0.0357 ng/Kg | 0.0357U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|--|---|--|
| P17737AB221924 | 6/27/2013 7:24:00 PM | ALUMINUM BORON CALCIUM IRON MAGNESIUM TIN ZINC | 11.5 mg/Kg 1.25 mg/Kg 20.1 mg/Kg 4.06 mg/Kg 1.74 mg/Kg 1.50 mg/Kg 0.300 mg/Kg | SL-867-SA5A-SB-0.0-0.5 SL-867-SA5A-SB-3.5-4.5 SL-868-SA5A-SB-0.0-0.5 SL-868-SA5A-SB-4.0-5.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|---------|-----------------|-----------------------|
| SL-867-SA5A-SB-0.0-0.5(RES/TOT) | BORON | 2.10 mg/Kg | 2.10U mg/Kg |
| SL-867-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 3.10 mg/Kg | 3.10U mg/Kg |
| SL-867-SA5A-SB-3.5-4.5(RES/TOT) | BORON | 2.11 mg/Kg | 2.11U mg/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

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Method Blank Outlier Report

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|---------|-----------------|-----------------------|
| SL-867-SA5A-SB-3.5-4.5(RES/TOT) | TIN | 3.05 mg/Kg | 3.05U mg/Kg |
| SL-868-SA5A-SB-0.0-0.5(RES/TOT) | BORON | 3.01 mg/Kg | 3.01U mg/Kg |
| SL-868-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.98 mg/Kg | 2.98U mg/Kg |
| SL-868-SA5A-SB-4.0-5.0(RES/TOT) | BORON | 1.69 mg/Kg | 1.69U mg/Kg |
| SL-868-SA5A-SB-4.0-5.0(RES/TOT) | TIN | 3.02 mg/Kg | 3.02U mg/Kg |

Method: 6020A
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|-----------|-------------|--|
| P17737AB220827A | 6/27/2013 8:27:00 AM | STRONTIUM | 0.128 mg/Kg | SL-867-SA5A-SB-0.0-0.5 SL-867-SA5A-SB-3.5-4.5 SL-868-SA5A-SB-0.0-0.5 SL-868-SA5A-SB-4.0-5.0 |

Equipment Rinsate Blank Outlier Report

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Equipment Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|---------------------------|----------------------|------------|-------------|--|
| EB2-061913(RES/TOT) | 6/19/2013 3:30:00 PM | MOLYBDENUM | 0.0062 mg/L | SL-867-SA5A-SB-0.0-0.5 SL-867-SA5A-SB-3.5-4.5 SL-868-SA5A-SB-0.0-0.5 SL-868-SA5A-SB-4.0-5.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|------------|-----------------|-----------------------|
| SL-867-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.622 mg/Kg | 0.622U mg/Kg |
| SL-867-SA5A-SB-3.5-4.5(RES/TOT) | MOLYBDENUM | 0.400 mg/Kg | 0.400U mg/Kg |
| SL-868-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.560 mg/Kg | 0.560U mg/Kg |
| SL-868-SA5A-SB-4.0-5.0(RES/TOT) | MOLYBDENUM | 0.354 mg/Kg | 0.354U mg/Kg |

Field Blank Outlier Report

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|----------------------|----------------------------|--|
| FB-041113(REA2/TOT) | 4/11/2013 3:00:00 PM | COPPER MOLYBDENUM | 0.0036 mg/L 0.0036 mg/L | SL-867-SA5A-SB-0.0-0.5 SL-867-SA5A-SB-3.5-4.5 SL-868-SA5A-SB-0.0-0.5 SL-868-SA5A-SB-4.0-5.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|---------------------------------|------------|-----------------|-----------------------|
| SL-867-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.622 mg/Kg | 0.622U mg/Kg |
| SL-867-SA5A-SB-3.5-4.5(RES/TOT) | MOLYBDENUM | 0.400 mg/Kg | 0.400U mg/Kg |
| SL-868-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.560 mg/Kg | 0.560U mg/Kg |
| SL-868-SA5A-SB-4.0-5.0(RES/TOT) | MOLYBDENUM | 0.354 mg/Kg | 0.354U mg/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

8/8/2013 11:37:43 AM

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Reporting Limit Outliers

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-867-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 0.867 | 5.09 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | J | 1.74 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 1.24 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | J | 3.73 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.852 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 2.78 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.746 | 5.09 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.958 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | J | 0.978 | 5.09 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.702 | 5.09 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0729 | 1.02 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.328 | 1.02 | PQL | ng/Kg | |
| SL-867-SA5A-SB-3.5-4.5 | 1,2,3,4,6,7,8-HPCDF | J | 0.869 | 4.91 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0409 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0955 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.115 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JQ | 0.227 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0421 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.210 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JQ | 0.147 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | J | 0.0489 | 4.91 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.138 | 4.91 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JQ | 0.0594 | 4.91 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0837 | 4.91 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0288 | 0.983 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.0263 | 0.983 | PQL | ng/Kg | |
| | OCDF | JB | 1.28 | 9.83 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-868-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 0.848 | 5.00 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | J | 1.64 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 1.18 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | J | 3.21 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.816 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 2.48 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | J | 0.618 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.997 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | J | 0.996 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.426 | 5.00 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.167 | 1.00 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JB | 0.218 | 1.00 | PQL | ng/Kg | |
| SL-868-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JB | 4.93 | 5.11 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JQ | 0.636 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0687 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | J | 0.0870 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0839 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JQ | 0.193 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0479 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.221 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | J | 0.111 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.0377 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.113 | 5.11 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JQ | 0.0641 | 5.11 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0812 | 5.11 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JBQ | 0.0357 | 1.02 | PQL | ng/Kg | |
| | OCDF | JB | 0.918 | 10.2 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-867-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.808 | 0.994 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.10 | 9.94 | PQL | mg/Kg | |
| | CADMIUM | J | 0.162 | 0.994 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.622 | 1.99 | PQL | mg/Kg | |
| | SODIUM | J | 93.1 | 99.4 | PQL | mg/Kg | |
| | TIN | J | 3.10 | 9.94 | PQL | mg/Kg | |
| | Zirconium | J | 4.10 | 4.97 | PQL | mg/Kg | |
| SL-867-SA5A-SB-3.5-4.5 | BERYLLIUM | J | 0.670 | 1.03 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.11 | 10.3 | PQL | mg/Kg | |
| | CADMIUM | J | 0.214 | 1.03 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.400 | 2.06 | PQL | mg/Kg | |
| | SODIUM | J | 89.5 | 103 | PQL | mg/Kg | |
| | TIN | J | 3.05 | 10.3 | PQL | mg/Kg | |
| | Zirconium | J | 2.89 | 5.15 | PQL | mg/Kg | |
| SL-868-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.766 | 0.987 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.01 | 9.87 | PQL | mg/Kg | |
| | CADMIUM | J | 0.185 | 0.987 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.560 | 1.97 | PQL | mg/Kg | |
| | SODIUM | J | 87.8 | 98.7 | PQL | mg/Kg | |
| | TIN | J | 2.98 | 9.87 | PQL | mg/Kg | |
| | Zirconium | J | 3.41 | 4.93 | PQL | mg/Kg | |
| SL-868-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.726 | 1.01 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 1.69 | 10.1 | PQL | mg/Kg | |
| | CADMIUM | J | 0.198 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.354 | 2.02 | PQL | mg/Kg | |
| | SODIUM | J | 89.9 | 101 | PQL | mg/Kg | |
| | TIN | J | 3.02 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 3.60 | 5.05 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-867-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.281 | 0.397 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0960 | 0.199 | PQL | mg/Kg | |
| SL-867-SA5A-SB-3.5-4.5 | SELENIUM | J | 0.186 | 0.412 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0452 | 0.206 | PQL | mg/Kg | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3 Subarea 5A

Reporting Limit Outliers

Lab Reporting Batch ID: PH061

Laboratory: LL

EDD Filename: PH061_v1

eQAPP Name: CDM_SSFL_130705_Lan

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-868-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.237 | 0.395 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0722 | 0.197 | PQL | mg/Kg | |
| SL-868-SA5A-SB-4.0-5.0 | SELENIUM | J | 0.248 | 0.404 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0684 | 0.202 | PQL | mg/Kg | |

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-867-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0155 | 0.0166 | PQL | mg/Kg | J (all detects) |
| SL-868-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0156 | 0.0166 | PQL | mg/Kg | J (all detects) |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-867-SA5A-SB-0.0-0.5 | CHRYSENE | J | 4.9 | 17 | PQL | ug/Kg | J (all detects) |
| | FLUORANTHENE | J | 14 | 17 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 7.7 | 17 | PQL | ug/Kg | |
| | PYRENE | J | 11 | 17 | PQL | ug/Kg | |
| SL-867-SA5A-SB-3.5-4.5 | BENZO(B)FLUORANTHENE | J | 1.0 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 6.4 | 18 | PQL | ug/Kg | |
| | CHRYSENE | J | 0.35 | 1.7 | PQL | ug/Kg | |
| SL-868-SA5A-SB-0.0-0.5 | CHRYSENE | J | 5.9 | 17 | PQL | ug/Kg | J (all detects) |
| | FLUORANTHENE | J | 12 | 17 | PQL | ug/Kg | |
| | PYRENE | J | 10 | 17 | PQL | ug/Kg | |
| SL-868-SA5A-SB-4.0-5.0 | BENZO(B)FLUORANTHENE | J | 1.3 | 1.7 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 0.73 | 1.7 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 0.85 | 1.7 | PQL | ug/Kg | |

LDC #: 30098D4

VALIDATION COMPLETENESS WORKSHEET

Date: 7/26/13

SDG #: PH061

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: a

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|---|
| I. | Technical holding times | - | Sampling dates: 6/20/13 |
| II. | ICP/MS Tune | - | |
| III. | Calibration | - | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | - | |
| VI. | Matrix Spike Analysis | N | MS/D (from PH058) |
| VII. | Duplicate Sample Analysis | N | DUP ↓ |
| VIII. | Laboratory Control Samples (LCS) | N | |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | SW | from PH058 (Cu: 28%: J/UJ) |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | N | |
| XV. | Field Blanks | SW | EB = EB2-061913 (P1+060) FB = FB-041113 (PH029) |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

soil

| | | | | | | | |
|----|------------------------|----|--|----|--|----|--|
| 1 | SL-867-SA5A-SB-0.-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-867-SA5A-SB-3.5-4.5 | 12 | | 22 | | 32 | |
| 3 | SL-868-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 | |
| 4 | SL-868-SA5A-SB-4.0-5.0 | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

LDC #: 30098D4

VALIDATION FINDINGS WORKSHEET
 PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
 Reviewer: *[Signature]*
 2nd Reviewer: *[Signature]*

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
 Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x Reason: B
 Associated Samples: All

| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 1 | 2 | 3 | 4 | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|------|------|------|------|--|--|--|--|--|--|
| Sb | | | 3.8 | 1.9 | | | | | | | | | | |
| Mo | | | 1.7 | 0.85 | 0.62 | 0.40 | 0.56 | 0.35 | | | | | | |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F
Sampling date: 4/11/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|---------------------------|-----------------------|------|------|------|------|--|--|--|--|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 1 | 2 | 3 | 4 | | | | | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 0.62 | 0.40 | 0.56 | 0.35 | | | | | | |

Sampling date: 6/19/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|----------------------------|-----------------------|------|------|------|------|--|--|--|--|--|--|
| | EB2-061913 (SDG: PH060) | Action Limit | 1 | 2 | 3 | 4 | | | | | | |
| Mo | 0.0062 | 3.1 | 0.62 | 0.40 | 0.56 | 0.35 | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".



CDM
555 17th Street, Suite 1100
Denver, CO 80202
ATTN: Mrs. Cherie Zakowski

September 19, 2013

SUBJECT: Santa Susana Field Laboratory, Data Validation

Dear Mrs. Zakowski,

Enclosed is the final validation report for the fractions listed below. This SDG was received on August 30, 2013. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 30329:

| <u>SDG #</u> | <u>Fraction</u> |
|---------------------|---|
| PH077 | Semivolatiles, Polychlorinated Biphenyls, Metals, Total Petroleum Hydrocarbons as Gasoline, Total Petroleum Hydrocarbons as Extractables, Dioxins/Dibenzofurans |

The data validation was performed under Level III Guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan for Santa Susana Field Laboratory, RCRA Facility Investigation, Surficial Media Operable Unit, March 2009, Revision 4
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, January 2010
- Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. McKellar', written in a cursive style.

Shauna McKellar
Project Manager/Chemist

| 90/10 ADR/IV | | LDC #30329 (CDM Federal Programs-Chantilly VA / Santa Susana Field Laboratory, Subarea 5A) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|-------|---|--------------------|-------------------------|---|-----------------|---|---------------------------|---|------------------|---|------------------|---|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| LDC | SDG# | DATE REC'D | (4) DATE DUE | SVOA (8270D -SIM) | | PCBs (8082A) | | Metals & Hg (SW846) | | TPH-G (8015M) | | TPH-E (8015M) | | Dioxins (1613B) | | | | | | | | | | | | | | | | | | | | | |
| | | | | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S |
| A | PH077 | 08/30/13 | 09/30/13 | 0 | 4 | 0 | 2 | 0 | 4 | 1 | 1 | 0 | 4 | 0 | 4 | | | | | | | | | | | | | | | | | | | | |
| Matrix: Water/Soil | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | | T/SM | | 0 | 4 | 0 | 2 | 0 | 4 | 1 | 1 | 0 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |

**Data Validation Report
Santa Susana Field Laboratory**

Area 5a

SDG: PH077

Prepared for

CDM
555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

Laboratory Data Consultants, Inc
7750 El Camino Real, Suite 2L
Carlsbad, California 92009

September 19, 2013

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected from July 29th, 2013. Data validation was performed in accordance with the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005), and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles by EPA SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A, and 7471B
Total Petroleum Hydrocarbons as Gasoline (TPH-G) by EPA SW 846 Method 8015M
Total Petroleum Hydrocarbons as Extractables (TPH-E) by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks, and field blanks. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the internal standard, and interference check samples, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of two blanks for dioxins and metals. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks with the following exceptions:

| SDG/ Method | Method Blank ID | Analyte | Maximum Concentration | Associated Samples |
|------------------------|-----------------|------------|-----------------------|--|
| PH077 (6010C/6020A) | ICB/CCB | Molybdenum | 2.0 ug/L | SL-853-SA5A-SB-3.5-4.5 SL-851-SA5A-SB-0.0-0.5 SL-849-SA5A-SB-0.0-0.5 |

Sample concentrations were compared to concentrations detected in the initial and continuing blanks. The sample concentrations were not detected or were significantly greater than the concentrations found in the associated blanks with the following exceptions:

| SDG/Method | Sample | Compound | Reported Concentration | Modified Final Concentration |
|------------------------|------------------------|------------|------------------------|------------------------------|
| PH077 (6010C/6020A) | SL-853-SA5A-SB-3.5-4.5 | Molybdenum | 0.938 mg/Kg | 0.938U mg/Kg |
| PH077 (6010C/6020A) | SL-851-SA5A-SB-0.0-0.5 | Molybdenum | 0.689 mg/Kg | 0.689U mg/Kg |
| PH077 (6010C/6020A) | SL-849-SA5A-SB-0.0-0.5 | Molybdenum | 0.532 mg/Kg | 0.532U mg/Kg |

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of two MS/MSD pairs for semivolatiles and metals. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the exception one DUP for metals. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

IX. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one LCS/LCSD pair for semivolatiles. The associated sample results were qualified as detected estimated (J) as applicable. The details regarding the qualification of data are provided in Enclosure I.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

| SDG/Method | Diluted Sample | Analyte | %D (Limits) | Associated Samples | Flag | A or P |
|------------------------|------------------------|---------|-------------|--|---|--------|
| PH077 (6010C/6020A) | SL-853-SA5A-SB-3.5-4.5 | Nickel | 11 (≤10) | SL-853-SA5A-SB-3.5-4.5 SL-851-SA5A-SB-0.0-0.5 SL-849-SA5A-SB-0.0-0.5 | J (all detects) UJ (all non-detects) | A |

XI. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--|-----------------|--------|
| All samples in SDG PH077 | All compounds reported as detected below the RL. | J (all detects) | A |

XII. Field Duplicate Samples

No field duplicates were identified in this SDG.

XIII. Field Blank Samples

One trip blank was collected and analyzed for TPH-G. No contaminants were found in the trip blank.

One equipment blank (from SDG PH079) was collected and analyzed for semivolatiles, PCBs, metals, TPH-G, TPH-E, and dioxins. The equipment blanks had several detections for semivolatiles, metals, and dioxins. The associated sample results were qualified as non-detected (U) due to equipment blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the equipment blanks were not qualified. The equipment blank outlier reports are presented in Enclosure I.

One field blank (from SDG PH029) was collected and analyzed for semivolatiles, PCBs, metals, TPH-G, TPH-E, and dioxins. The field blank had detections for several semivolatiles, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XIV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|-----------------|-------------|-------------|-------------------|--------------|
| 29-Jul-2013 | TB2-072913 | 7143794 | TB | 5030B | 8015M | III |
| 29-Jul-2013 | SL-853-SA5A-SB-0.0-0.5 | 7143795 | N | 3050B | 6010C | III |
| 29-Jul-2013 | SL-853-SA5A-SB-0.0-0.5 | 7143795 | N | 3050B | 6020A | III |
| 29-Jul-2013 | SL-853-SA5A-SB-0.0-0.5 | 7143795 | N | 3546 | 8015M | III |
| 29-Jul-2013 | SL-853-SA5A-SB-0.0-0.5 | 7143795 | N | 3546 | 8082A | III |
| 29-Jul-2013 | SL-853-SA5A-SB-0.0-0.5 | 7143795 | N | 3546 | 8270D SIM | III |
| 29-Jul-2013 | SL-853-SA5A-SB-0.0-0.5 | 7143795 | N | METHOD | 1613B | III |
| 29-Jul-2013 | SL-853-SA5A-SB-0.0-0.5 | 7143795 | N | METHOD | 7471B | III |
| 29-Jul-2013 | SL-853-SA5A-SB-0.0-0.5DUP | P143795D220431 | DUP | METHOD | 7471B | III |
| 29-Jul-2013 | SL-853-SA5A-SB-0.0-0.5MSD | P143795M220435 | MSD | METHOD | 7471B | III |
| 29-Jul-2013 | SL-853-SA5A-SB-0.0-0.5MSD | P143795M240049A | MSD | 3546 | 8082A | III |
| 29-Jul-2013 | SL-853-SA5A-SB-0.0-0.5MS | P143795R220433 | MS | METHOD | 7471B | III |
| 29-Jul-2013 | SL-853-SA5A-SB-0.0-0.5MS | P143795R240031A | MS | 3546 | 8082A | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5 | 7143796 | N | 3050B | 6010C | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5 | 7143796 | N | 3050B | 6020A | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5 | 7143796 | N | 3546 | 8015M | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5 | 7143796 | N | 3546 | 8082A | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5 | 7143796 | N | 3546 | 8270D SIM | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5 | 7143796 | N | 5035A | 8015M | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5 | 7143796 | N | METHOD | 1613B | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5 | 7143796 | N | METHOD | 7471B | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5DUP | P143796D220004 | DUP | 3050B | 6010C | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5DUP | P143796D222032A | DUP | 3050B | 6020A | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5DUP | P143796D222032B | DUP | 3050B | 6020A | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5MSD | P143796M220012 | MSD | 3050B | 6010C | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5MSD | P143796M222037A | MSD | 3050B | 6020A | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|-----------------|-------------|-------------|-------------------|--------------|
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5MSD | P143796M222037B | MSD | 3050B | 6020A | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5MSD | P143796M260312 | MSD | 3546 | 8270D SIM | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5MS | P143796R220008 | MS | 3050B | 6010C | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5MS | P143796R222035A | MS | 3050B | 6020A | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5MS | P143796R222035B | MS | 3050B | 6020A | III |
| 29-Jul-2013 | SL-853-SA5A-SB-3.5-4.5MS | P143796R260241 | MS | 3546 | 8270D SIM | III |
| 29-Jul-2013 | SL-851-SA5A-SB-0.0-0.5 | 7143797 | N | 3050B | 6010C | III |
| 29-Jul-2013 | SL-851-SA5A-SB-0.0-0.5 | 7143797 | N | 3050B | 6020A | III |
| 29-Jul-2013 | SL-851-SA5A-SB-0.0-0.5 | 7143797 | N | 3546 | 8015M | III |
| 29-Jul-2013 | SL-851-SA5A-SB-0.0-0.5 | 7143797 | N | 3546 | 8270D SIM | III |
| 29-Jul-2013 | SL-851-SA5A-SB-0.0-0.5 | 7143797 | N | METHOD | 1613B | III |
| 29-Jul-2013 | SL-851-SA5A-SB-0.0-0.5 | 7143797 | N | METHOD | 7471B | III |
| 29-Jul-2013 | SL-849-SA5A-SB-0.0-0.5 | 7143798 | N | 3050B | 6010C | III |
| 29-Jul-2013 | SL-849-SA5A-SB-0.0-0.5 | 7143798 | N | 3050B | 6020A | III |
| 29-Jul-2013 | SL-849-SA5A-SB-0.0-0.5 | 7143798 | N | 3546 | 8015M | III |
| 29-Jul-2013 | SL-849-SA5A-SB-0.0-0.5 | 7143798 | N | 3546 | 8270D SIM | III |
| 29-Jul-2013 | SL-849-SA5A-SB-0.0-0.5 | 7143798 | N | METHOD | 1613B | III |
| 29-Jul-2013 | SL-849-SA5A-SB-0.0-0.5 | 7143798 | N | METHOD | 7471B | III |

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

Sample ID: SL-849-SA5A-SB-0.0-0.5 Collected: 7/29/2013 9:45:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| BORON | 1.48 | J | 0.846 | MDL | 10.1 | PQL | mg/Kg | J | Z |

Sample ID: SL-849-SA5A-SB-0.0-0.5 Collected: 7/29/2013 9:45:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.03 | U | 0.745 | MDL | 4.03 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.31 | J | 0.705 | MDL | 4.03 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.662 | J | 0.0674 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.175 | J | 0.0765 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| COBALT | 6.55 | | 0.0996 | MDL | 1.01 | PQL | mg/Kg | J | E |
| MANGANESE | 355 | | 0.0835 | MDL | 1.01 | PQL | mg/Kg | J | E, E |
| MOLYBDENUM | 0.532 | J | 0.171 | MDL | 2.01 | PQL | mg/Kg | U | B, F, F |
| NICKEL | 14.7 | | 0.131 | MDL | 2.01 | PQL | mg/Kg | J | A |
| PHOSPHORUS | 387 | | 2.91 | MDL | 10.1 | PQL | mg/Kg | J | Q |
| SODIUM | 69.5 | J | 16.8 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 2.66 | J | 0.221 | MDL | 10.1 | PQL | mg/Kg | U | B |

Sample ID: SL-851-SA5A-SB-0.0-0.5 Collected: 7/29/2013 8:40:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| BORON | 1.73 | J | 0.825 | MDL | 9.83 | PQL | mg/Kg | J | Z |

Sample ID: SL-851-SA5A-SB-0.0-0.5 Collected: 7/29/2013 8:40:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 3.93 | U | 0.727 | MDL | 3.93 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 2.52 | J | 0.688 | MDL | 3.93 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.594 | J | 0.0658 | MDL | 0.983 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.210 | J | 0.0747 | MDL | 0.983 | PQL | mg/Kg | J | Z |
| COBALT | 5.93 | | 0.0973 | MDL | 0.983 | PQL | mg/Kg | J | E |
| MANGANESE | 334 | | 0.0816 | MDL | 0.983 | PQL | mg/Kg | J | E, E |
| MOLYBDENUM | 0.689 | J | 0.167 | MDL | 1.97 | PQL | mg/Kg | U | B, F, F |
| NICKEL | 13.6 | | 0.128 | MDL | 1.97 | PQL | mg/Kg | J | A |
| PHOSPHORUS | 348 | | 2.84 | MDL | 9.83 | PQL | mg/Kg | J | Q |
| SODIUM | 70.6 | J | 16.4 | MDL | 98.3 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: SO |

| Sample ID: SL-851-SA5A-SB-0.0-0.5 | Collected: 7/29/2013 8:40:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| TIN | 2.38 | J | 0.216 | MDL | 9.83 | PQL | mg/Kg | U | B |

| Sample ID: SL-853-SA5A-SB-0.0-0.5 | Collected: 7/29/2013 8:00:00 | Analysis Type: REA2/TOT | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|-------------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ARSENIC | 3.79 | J | 0.716 | MDL | 4.09 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.633 | J | 0.0685 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 7.21 | J | 0.859 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.236 | J | 0.0777 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.436 | J | 0.174 | MDL | 2.04 | PQL | mg/Kg | U | F, F |
| SODIUM | 75.8 | J | 17.1 | MDL | 102 | PQL | mg/Kg | J | Z |
| TIN | 2.65 | J | 0.225 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 4.00 | J | 0.859 | MDL | 5.11 | PQL | mg/Kg | J | Z |

| Sample ID: SL-853-SA5A-SB-3.5-4.5 | Collected: 7/29/2013 8:15:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.16 | U | 0.769 | MDL | 4.16 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.753 | J | 0.0696 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| COBALT | 6.17 | | 0.103 | MDL | 1.04 | PQL | mg/Kg | J | E |
| MANGANESE | 350 | | 0.0863 | MDL | 1.04 | PQL | mg/Kg | J | E, E |
| MOLYBDENUM | 0.938 | J | 0.177 | MDL | 2.08 | PQL | mg/Kg | U | B, F, F |
| NICKEL | 13.7 | | 0.135 | MDL | 2.08 | PQL | mg/Kg | J | A |
| PHOSPHORUS | 267 | | 3.00 | MDL | 10.4 | PQL | mg/Kg | J | Q |
| TIN | 2.88 | J | 0.229 | MDL | 10.4 | PQL | mg/Kg | U | B |

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

| Sample ID: SL-849-SA5A-SB-0.0-0.5 | Collected: 7/29/2013 9:45:00 | Analysis Type: REA/TOT | Dilution: 2 | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.169 | J | 0.101 | MDL | 0.403 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

| | | | | | | | | | | |
|-------------------------|--------|--|--|-------------------|--|--|--|--|--|--|
| Method Category: | METALS | | | | | | | | | |
| Method: | 6020A | | | Matrix: SO | | | | | | |

| Sample ID: SL-849-SA5A-SB-0.0-0.5 | | | Collected: 7/29/2013 9:45:00 | | | Analysis Type: RES/TOT | | | Dilution: 2 | |
|--|------------|----------|-------------------------------------|---------|-------|-------------------------------|-------|------------------|--------------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SILVER | 0.0316 | J | 0.0262 | MDL | 0.201 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-851-SA5A-SB-0.0-0.5 | | | Collected: 7/29/2013 8:40:00 | | | Analysis Type: REA/TOT | | | Dilution: 2 | |
|--|------------|----------|-------------------------------------|---------|-------|-------------------------------|-------|------------------|--------------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SELENIUM | 0.174 | J | 0.0983 | MDL | 0.393 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-851-SA5A-SB-0.0-0.5 | | | Collected: 7/29/2013 8:40:00 | | | Analysis Type: RES/TOT | | | Dilution: 2 | |
|--|------------|----------|-------------------------------------|---------|-------|-------------------------------|-------|------------------|--------------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SILVER | 0.0426 | J | 0.0255 | MDL | 0.197 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-853-SA5A-SB-0.0-0.5 | | | Collected: 7/29/2013 8:00:00 | | | Analysis Type: REA2/TOT | | | Dilution: 2 | |
|--|------------|----------|-------------------------------------|---------|-------|--------------------------------|-------|------------------|--------------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SILVER | 0.0570 | J | 0.0266 | MDL | 0.204 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-853-SA5A-SB-0.0-0.5 | | | Collected: 7/29/2013 8:00:00 | | | Analysis Type: REA3/TOT | | | Dilution: 2 | |
|--|------------|----------|-------------------------------------|---------|-------|--------------------------------|-------|------------------|--------------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SELENIUM | 0.132 | J | 0.102 | MDL | 0.409 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-853-SA5A-SB-3.5-4.5 | | | Collected: 7/29/2013 8:15:00 | | | Analysis Type: REA/TOT | | | Dilution: 2 | |
|--|------------|----------|-------------------------------------|---------|-------|-------------------------------|-------|------------------|--------------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SELENIUM | 0.139 | J | 0.104 | MDL | 0.416 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-853-SA5A-SB-3.5-4.5 | | | Collected: 7/29/2013 8:15:00 | | | Analysis Type: RES/TOT | | | Dilution: 2 | |
|--|------------|----------|-------------------------------------|---------|-------|-------------------------------|-------|------------------|--------------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SILVER | 0.0451 | J | 0.0270 | MDL | 0.208 | PQL | mg/Kg | J | Z | |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 7471B | Matrix: SO |

| Sample ID: SL-851-SA5A-SB-0.0-0.5 | Collected: 7/29/2013 8:40:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|------------------------|-------------|---------|--------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MERCURY | 0.010 | J | 0.0099 | MDL | 0.0164 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

| Sample ID: SL-849-SA5A-SB-0.0-0.5 | Collected: 7/29/2013 9:45:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,4,6,7,8-HPCDD | 0.383 | JBQ | 0.0381 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.138 | JB | 0.0199 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0530 | JB | 0.0279 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0427 | JBQ | 0.0332 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0845 | JBQ | 0.0129 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.156 | JBQ | 0.0366 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.243 | JB | 0.0299 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.252 | JBQ | 0.0116 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.0601 | JQ | 0.0377 | MDL | 5.03 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.0953 | JBQ | 0.0254 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0653 | JBQ | 0.0116 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0687 | JBQ | 0.0242 | MDL | 5.03 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0325 | JBQ | 0.0226 | MDL | 1.01 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0333 | JQ | 0.0189 | MDL | 1.01 | PQL | ng/Kg | J | Z |
| OCDD | 5.30 | JB | 0.0545 | MDL | 10.1 | PQL | ng/Kg | J | Z |
| OCDF | 0.306 | JB | 0.0565 | MDL | 10.1 | PQL | ng/Kg | U | B |

| Sample ID: SL-851-SA5A-SB-0.0-0.5 | Collected: 7/29/2013 8:40:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-----------------------------------|------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,4,6,7,8-HPCDF | 3.63 | JB | 0.0164 | MDL | 4.86 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.421 | JBQ | 0.0232 | MDL | 4.86 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.394 | JB | 0.0277 | MDL | 4.86 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.369 | JB | 0.0225 | MDL | 4.86 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 1.08 | JB | 0.0305 | MDL | 4.86 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.347 | JB | 0.0219 | MDL | 4.86 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

| | | |
|------------------|-------|------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: SO |

Sample ID: SL-851-SA5A-SB-0.0-0.5 Collected: 7/29/2013 8:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,7,8,9-HXCDD | 1.13 | JB | 0.0298 | MDL | 4.86 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.359 | JBQ | 0.0304 | MDL | 4.86 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.481 | JQ | 0.0255 | MDL | 4.86 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.678 | JB | 0.0188 | MDL | 4.86 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.363 | JB | 0.0212 | MDL | 4.86 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.476 | JB | 0.0182 | MDL | 4.86 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.110 | JBQ | 0.0197 | MDL | 0.972 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.242 | JQ | 0.0286 | MDL | 0.972 | PQL | ng/Kg | J | Z |

Sample ID: SL-853-SA5A-SB-0.0-0.5 Collected: 7/29/2013 8:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 1.72 | JB | 0.0153 | MDL | 5.06 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.218 | JBQ | 0.0233 | MDL | 5.06 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.259 | JB | 0.0378 | MDL | 5.06 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.160 | JBQ | 0.0207 | MDL | 5.06 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.690 | JB | 0.0419 | MDL | 5.06 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.178 | JB | 0.0200 | MDL | 5.06 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 0.803 | JB | 0.0408 | MDL | 5.06 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.254 | JB | 0.0245 | MDL | 5.06 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.166 | JQ | 0.0290 | MDL | 5.06 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.327 | JB | 0.0203 | MDL | 5.06 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.168 | JB | 0.0200 | MDL | 5.06 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.123 | JBQ | 0.0188 | MDL | 5.06 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0650 | J | 0.0320 | MDL | 1.01 | PQL | ng/Kg | J | Z |
| OCDF | 5.14 | JB | 0.0253 | MDL | 10.1 | PQL | ng/Kg | J | Z |

Sample ID: SL-853-SA5A-SB-3.5-4.5 Collected: 7/29/2013 8:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.102 | JB | 0.0179 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0646 | JBQ | 0.00724 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0317 | JBQ | 0.0101 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0773 | JBQ | 0.0181 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0906 | JB | 0.0101 | MDL | 5.39 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

| | | | |
|-------------------------|-------|----------------|----|
| Method Category: | SVOA | | |
| Method: | 1613B | Matrix: | SO |

Sample ID: SL-853-SA5A-SB-3.5-4.5 Collected: 7/29/2013 8:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,6,7,8-HXCDD | 0.0799 | JBQ | 0.0194 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0740 | JBQ | 0.0102 | MDL | 5.39 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 0.0809 | JB | 0.0190 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0523 | JBQ | 0.0126 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.106 | JQ | 0.0274 | MDL | 5.39 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.132 | JBQ | 0.0138 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0743 | JBQ | 0.00973 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.104 | JBQ | 0.0131 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0279 | JBQ | 0.0243 | MDL | 1.08 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0295 | JQ | 0.0182 | MDL | 1.08 | PQL | ng/Kg | J | Z |
| OCDD | 1.07 | JB | 0.0214 | MDL | 10.8 | PQL | ng/Kg | U | B |
| OCDF | 0.119 | JB | 0.0219 | MDL | 10.8 | PQL | ng/Kg | U | B |

| | | | |
|-------------------------|-------|----------------|----|
| Method Category: | SVOA | | |
| Method: | 8015M | Matrix: | SO |

Sample ID: SL-851-SA5A-SB-0.0-0.5 Collected: 7/29/2013 8:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 4.5 | J | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Z |

| | | | |
|-------------------------|-----------|----------------|----|
| Method Category: | SVOA | | |
| Method: | 8270D SIM | Matrix: | SO |

Sample ID: SL-851-SA5A-SB-0.0-0.5 Collected: 7/29/2013 8:40:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.4 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 0.74 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 6.1 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | Z |
| CHRYSENE | 1.5 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 1.6 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 1.0 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 1.4 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-853-SA5A-SB-0.0-0.5 Collected: 7/29/2013 8:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.3 | J | 1.0 | MDL | 2.6 | PQL | ug/Kg | J | Z |
| CHRYSENE | 1.6 | J | 0.51 | MDL | 2.6 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 1.6 | J | 1.0 | MDL | 2.6 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 1.1 | J | 1.0 | MDL | 2.6 | PQL | ug/Kg | J | Z |
| PYRENE | 1.3 | J | 1.0 | MDL | 2.6 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|--|
| *# | Professional Judgment |
| A | Professional Judgment |
| B | Calibration Blank Contamination |
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Equipment Blank Contamination |
| F | Field Blank Contamination |
| L | Laboratory Control Spike Upper Estimation |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| S | Surrogate/Tracer Recovery Lower Estimation |
| S | Surrogate/Tracer Recovery Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH077

Method Blank Outlier Report

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------------|--|---|--|
| BLK2180B370402 | 8/8/2013 4:02:00 AM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF 2,3,7,8-TCDD OCDD OCDF | 0.0597 ng/Kg 0.0459 ng/Kg 0.0308 ng/Kg 0.0349 ng/Kg 0.0428 ng/Kg 0.0314 ng/Kg 0.00975 ng/Kg 0.0571 ng/Kg 0.0419 ng/Kg 0.0576 ng/Kg 0.0472 ng/Kg 0.0456 ng/Kg 0.0240 ng/Kg 0.310 ng/Kg 0.129 ng/Kg | SL-849-SA5A-SB-0.0-0.5 SL-851-SA5A-SB-0.0-0.5 SL-853-SA5A-SB-0.0-0.5 SL-853-SA5A-SB-3.5-4.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-849-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.138 ng/Kg | 0.138U ng/Kg |
| SL-849-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0530 ng/Kg | 0.0530U ng/Kg |
| SL-849-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0427 ng/Kg | 0.0427U ng/Kg |
| SL-849-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0845 ng/Kg | 0.0845U ng/Kg |
| SL-849-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDD | 0.156 ng/Kg | 0.156U ng/Kg |
| SL-849-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDD | 0.243 ng/Kg | 0.243U ng/Kg |
| SL-849-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.0953 ng/Kg | 0.0953U ng/Kg |
| SL-849-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0653 ng/Kg | 0.0653U ng/Kg |
| SL-849-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0687 ng/Kg | 0.0687U ng/Kg |
| SL-849-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.0325 ng/Kg | 0.0325U ng/Kg |
| SL-849-SA5A-SB-0.0-0.5(RES) | OCDF | 0.306 ng/Kg | 0.306U ng/Kg |
| SL-851-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.110 ng/Kg | 0.110U ng/Kg |
| SL-853-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.160 ng/Kg | 0.160U ng/Kg |
| SL-853-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.168 ng/Kg | 0.168U ng/Kg |
| SL-853-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.123 ng/Kg | 0.123U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.102 ng/Kg | 0.102U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0646 ng/Kg | 0.0646U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0317 ng/Kg | 0.0317U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0773 ng/Kg | 0.0773U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0906 ng/Kg | 0.0906U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | 1,2,3,6,7,8-HXCDD | 0.0799 ng/Kg | 0.0799U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | 1,2,3,7,8,9-HXCDD | 0.0809 ng/Kg | 0.0809U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | 1,2,3,7,8,9-HXCDF | 0.0523 ng/Kg | 0.0523U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | 1,2,3,7,8-PECDF | 0.132 ng/Kg | 0.132U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0743 ng/Kg | 0.0743U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | 2,3,4,7,8-PECDF | 0.104 ng/Kg | 0.104U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | 2,3,7,8-TCDD | 0.0279 ng/Kg | 0.0279U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | OCDD | 1.07 ng/Kg | 1.07U ng/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES) | OCDF | 0.119 ng/Kg | 0.119U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Method Blank Outlier Report

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|-------------------------------------|---|--|
| P21737AB222349 | 8/8/2013 11:49:00 PM | CALCIUM TIN | 6.93 mg/Kg 1.37 mg/Kg | SL-849-SA5A-SB-0.0-0.5 SL-851-SA5A-SB-0.0-0.5 SL-853-SA5A-SB-3.5-4.5 |
| P21837AB220114 | 8/8/2013 1:14:00 AM | CALCIUM MAGNESIUM TIN ZINC | 7.93 mg/Kg 1.98 mg/Kg 1.63 mg/Kg 0.472 mg/Kg | SL-853-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|---------|-----------------|-----------------------|
| SL-849-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.66 mg/Kg | 2.66U mg/Kg |
| SL-851-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.38 mg/Kg | 2.38U mg/Kg |
| SL-853-SA5A-SB-0.0-0.5(REA2/TOT) | TIN | 2.65 mg/Kg | 2.65U mg/Kg |
| SL-853-SA5A-SB-3.5-4.5(RES/TOT) | TIN | 2.88 mg/Kg | 2.88U mg/Kg |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|------------------|-------|--------|--------------|--------------|--------------------|-----------------|
| SL-853-SA5A-SB-3.5-4.5MS SL-853-SA5A-SB-3.5-4.5MSD (SL-853-SA5A-SB-3.5-4.5) | Diethylphthalate | 133 | 134 | 76.00-127.00 | - | Diethylphthalate | J (all detects) |

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------------------------|---------------------|--------------------|--|----------------------|---------------------------------|---|
| SL-853-SA5A-SB-3.5-4.5MS (TOT) SL-853-SA5A-SB-3.5-4.5MSD (TOT) (SL-849-SA5A-SB-0.0-0.5 SL-851-SA5A-SB-0.0-0.5 SL-853-SA5A-SB-3.5-4.5) | ALUMINUM CALCIUM TITANIUM | 1505 - 133 | 2798 159 268 | 75.00-125.00 75.00-125.00 75.00-125.00 | - - - | ALUMINUM CALCIUM TITANIUM | No Qual, >4x |
| SL-853-SA5A-SB-3.5-4.5MS (TOT) SL-853-SA5A-SB-3.5-4.5MSD (TOT) (SL-849-SA5A-SB-0.0-0.5 SL-851-SA5A-SB-0.0-0.5 SL-853-SA5A-SB-3.5-4.5) | IRON MAGNESIUM MANGANESE | -2073 -105 10 | 871 189 173 | 75.00-125.00 75.00-125.00 75.00-125.00 | - - 21 (20.00) | IRON MAGNESIUM MANGANESE | J(all detects) UJ(all non-detects) Fe, Mg, Mn, No Qual %R, >4x |
| SL-853-SA5A-SB-3.5-4.5MS (TOT) SL-853-SA5A-SB-3.5-4.5MSD (TOT) (SL-849-SA5A-SB-0.0-0.5 SL-851-SA5A-SB-0.0-0.5 SL-853-SA5A-SB-3.5-4.5) | ANTIMONY PHOSPHORUS | 54 73 | 53 - | 75.00-125.00 75.00-125.00 | - - | ANTIMONY PHOSPHORUS | J(all detects) UJ(all non-detects) |

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method: 8270D SIM

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|------------------|-----------|------------|--------------|-----------------|-----------------------|-----------------|
| P4LCLCSQ260137 (SL-849-SA5A-SB-0.0-0.5 SL-851-SA5A-SB-0.0-0.5 SL-853-SA5A-SB-0.0-0.5 SL-853-SA5A-SB-3.5-4.5) | Diethylphthalate | 134 | - | 68.00-125.00 | - | Diethylphthalate | J (all detects) |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|------------|------------|-----------|---|
| SL-853-SA5A-SB-3.5-4.5DUP (TOT) | COBALT | 38 | 20.00 | J (all detects) UJ (all non-detects) Mo, Zr, No Qual, Ok by Difference |
| (SL-849-SA5A-SB-0.0-0.5) | MANGANESE | 24 | 20.00 | |
| SL -851-SA5A-SB-0.0-0.5 | MOLYBDENUM | 70 | 20.00 | |
| SL -853-SA5A-SB-3.5-4.5) | Zirconium | 200 | 20.00 | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------------------|---------------------|--------|-----------------|---------|-------|-----------------|
| SL-849-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.383 | 5.03 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.138 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0530 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0427 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0845 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.156 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.243 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.252 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.0601 | 5.03 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0953 | 5.03 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0653 | 5.03 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0687 | 5.03 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0325 | 1.01 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0333 | 1.01 | PQL | ng/Kg | |
| | OCDD | JB | 5.30 | 10.1 | PQL | ng/Kg | |
| | OCDF | JB | 0.306 | 10.1 | PQL | ng/Kg | |
| | SL-851-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 3.63 | 4.86 | PQL | |
| 1,2,3,4,7,8,9-HPCDF | | JBQ | 0.421 | 4.86 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HxCDD | | JB | 0.394 | 4.86 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HxCDF | | JB | 0.369 | 4.86 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HxCDD | | JB | 1.08 | 4.86 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HxCDF | | JB | 0.347 | 4.86 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HxCDD | | JB | 1.13 | 4.86 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HxCDF | | JBQ | 0.359 | 4.86 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDD | | JQ | 0.481 | 4.86 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDF | | JB | 0.678 | 4.86 | PQL | ng/Kg | |
| 2,3,4,6,7,8-HxCDF | | JB | 0.363 | 4.86 | PQL | ng/Kg | |
| 2,3,4,7,8-PECDF | | JB | 0.476 | 4.86 | PQL | ng/Kg | |
| 2,3,7,8-TCDD | | JBQ | 0.110 | 0.972 | PQL | ng/Kg | |
| 2,3,7,8-TCDF | JQ | 0.242 | 0.972 | PQL | ng/Kg | | |
| SL-853-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.72 | 5.06 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.218 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.259 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.160 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.690 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.178 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.803 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.254 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.166 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.327 | 5.06 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 0.168 | 5.06 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.123 | 5.06 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.0650 | 1.01 | PQL | ng/Kg | |
| OCDF | JB | 5.14 | 10.1 | PQL | ng/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-853-SA5A-SB-3.5-4.5 | 1,2,3,4,6,7,8-HPCDD | JB | 0.102 | 5.39 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0646 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0317 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0773 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.0906 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.0799 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0740 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.0809 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0523 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.106 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.132 | 5.39 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0743 | 5.39 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.104 | 5.39 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.0279 | 1.08 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0295 | 1.08 | PQL | ng/Kg | |
| | OCDD | JB | 1.07 | 10.8 | PQL | ng/Kg | |
| OCDF | JB | 0.119 | 10.8 | PQL | ng/Kg | | |

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-849-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.31 | 4.03 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.662 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 1.48 | 10.1 | PQL | mg/Kg | |
| | CADMIUM | J | 0.175 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.532 | 2.01 | PQL | mg/Kg | |
| | SODIUM | J | 69.5 | 101 | PQL | mg/Kg | |
| TIN | J | 2.66 | 10.1 | PQL | mg/Kg | | |
| SL-851-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.52 | 3.93 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.594 | 0.983 | PQL | mg/Kg | |
| | BORON | J | 1.73 | 9.83 | PQL | mg/Kg | |
| | CADMIUM | J | 0.210 | 0.983 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.689 | 1.97 | PQL | mg/Kg | |
| | SODIUM | J | 70.6 | 98.3 | PQL | mg/Kg | |
| TIN | J | 2.38 | 9.83 | PQL | mg/Kg | | |
| SL-853-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.79 | 4.09 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.633 | 1.02 | PQL | mg/Kg | |
| | BORON | J | 7.21 | 10.2 | PQL | mg/Kg | |
| | CADMIUM | J | 0.236 | 1.02 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.436 | 2.04 | PQL | mg/Kg | |
| | SODIUM | J | 75.8 | 102 | PQL | mg/Kg | |
| | TIN | J | 2.65 | 10.2 | PQL | mg/Kg | |
| | Zirconium | J | 4.00 | 5.11 | PQL | mg/Kg | |
| SL-853-SA5A-SB-3.5-4.5 | BERYLLIUM | J | 0.753 | 1.04 | PQL | mg/Kg | J (all detects) |
| | MOLYBDENUM | J | 0.938 | 2.08 | PQL | mg/Kg | |
| | TIN | J | 2.88 | 10.4 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH077

Laboratory: LL

EDD Filename: PH077_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-849-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.169 | 0.403 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0316 | 0.201 | PQL | mg/Kg | |
| SL-851-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.174 | 0.393 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0426 | 0.197 | PQL | mg/Kg | |
| SL-853-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.132 | 0.409 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0570 | 0.204 | PQL | mg/Kg | |
| SL-853-SA5A-SB-3.5-4.5 | SELENIUM | J | 0.139 | 0.416 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0451 | 0.208 | PQL | mg/Kg | |

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-851-SA5A-SB-0.0-0.5 | MERCURY | J | 0.010 | 0.0164 | PQL | mg/Kg | J (all detects) |

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-851-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 4.5 | 5.1 | PQL | mg/Kg | J (all detects) |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-851-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 1.4 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(G,H,I)PERYLENE | J | 0.74 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 6.1 | 18 | PQL | ug/Kg | |
| | CHRYSENE | J | 1.5 | 1.7 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.6 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.0 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| SL-853-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 1.3 | 2.6 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 1.6 | 2.6 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.6 | 2.6 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.1 | 2.6 | PQL | ug/Kg | |
| | PYRENE | J | 1.3 | 2.6 | PQL | ug/Kg | |

LDC #: 30329A4

VALIDATION COMPLETENESS WORKSHEET

SDG #: PH077

ADR

Laboratory: Eurofins Lancaster Laboratories

Date: 9/4/13

Page: 1 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|-------------------------------|
| I. | Technical holding times | - | Sampling dates: 7/29/13 |
| II. | ICP/MS Tune | - | |
| III. | Calibration | - | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | - | |
| VI. | Matrix Spike Analysis | SW | MSID |
| VII. | Duplicate Sample Analysis | SW | Dup |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | SW | |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | - | |
| XV. | Field Blanks | SW | FB = FB-041113 EB = EB-073013 |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

(PH079)
 D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: soil

| | | | | | | | |
|----------------|------------------------|----|--|----|--|----|--|
| 1 ¹ | SL-853-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 ² | SL-853-SA5A-SB-3.5-4.5 | 12 | | 22 | | 32 | |
| 3 ² | SL-851-SA5A-SB-0.0-0.5 | 13 | | 23 | | 33 | |
| 4 ² | SL-849-SA5A-SB-0.0-0.5 | 14 | | 24 | | 34 | |
| 5 | (XII) MS | 15 | | 25 | | 35 | |
| 6 | ↓ MSID | 16 | | 26 | | 36 | |
| 7 | ↓ Dup | 17 | | 27 | | 37 | |
| 8 | (XI) MS (HS) | 18 | | 28 | | 38 | |
| 9 | ↓ MSID | 19 | | 29 | | 39 | |
| 10 | ↓ Dup | 20 | | 30 | | 40 | |

Notes: _____

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
 Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x Reason: B
 Associated Samples: 2-4

| Analyte | Maximum PB* (mg/Kg) | Maximum PB* (ug/L) | Maximum ICB/CCB* (ug/L) | Action Level | Sample Identification | | | | | | | | | | |
|---------|---------------------|--------------------|-------------------------|--------------|-----------------------|-------|-------|--|--|--|--|--|--|--|--|
| | | | | | 2 | 3 | 4 | | | | | | | | |
| Mo | | | 2.0 | 1 | 0.938 | 0.689 | 0.532 | | | | | | | | |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
 Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 7/30/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|------------------------------|-----------------------|-------|-------|-------|-------|--|--|--|--|--|--|
| | EB-073013 (SDG: PH079) | Action Limit | 1 | 2 | 3 | 4 | | | | | | |
| Ba | 0.00042 | 0.21 | | | | | | | | | | |
| Mo | 0.0034 | 1.7 | 0.436 | 0.938 | 0.689 | 0.532 | | | | | | |
| Zn | 0.0027 | 1.35 | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/11/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | |
|---------|------------------------------|-----------------------|-------|-------|-------|-------|--|--|--|--|--|--|
| | FB-041113 (SDG: PH029) | Action Limit | 1 | 2 | 3 | 4 | | | | | | |
| Cu | 0.0036 | 1.8 | | | | | | | | | | |
| Mo | 0.0036 | 1.8 | 0.436 | 0.938 | 0.689 | 0.532 | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

associate with 2-4

(Handwritten: Mn based off RPD = 5/15)

Background Lab Sample ID: 7143796BKG Matrix Spike Lab Sample ID: 7143796MS Matrix Spike Duplicate Lab Sample ID: 7143796MSD
Batch Id(s): P21737A

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | RPD | Control Limit | | M |
|------------|------|------------|---|------------|---|------------|---|----------------|-----------------|-------|-------|---|------|---|-----|---------------|-----|----|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | | %R | RPD | |
| Aluminum | | 17271.2173 | | 20166.3375 | | 22652.3635 | | 192.3077 | 192.3077 | MG/KG | 1505 | | 2798 | | 12 | | 20 | P |
| Antimony | | 0.7115 | U | 26.1058 | | 25.4048 | | 48.0769 | 48.0769 | MG/KG | 54 | N | 53 | N | 3 | 75 - 125 | 20 | P |
| Arsenic | | 4.5750 | | 18.2692 | | 18.1663 | | 14.4231 | 14.4231 | MG/KG | 95 | | 94 | | 1 | 75 - 125 | 20 | P |
| Barium | | 84.4971 | | 269.4096 | | 280.2183 | | 192.3077 | 192.3077 | MG/KG | 96 | | 102 | | 4 | 75 - 125 | 20 | P |
| Beryllium | | 0.6962 | B | 5.5817 | | 5.7058 | | 4.8077 | 4.8077 | MG/KG | 102 | | 104 | | 2 | 75 - 125 | 20 | P |
| Boron | | 0.8077 | U | 193.0519 | | 192.3971 | | 192.3077 | 192.3077 | MG/KG | 100 | | 100 | | 0 | 75 - 125 | 20 | P |
| Cadmium | | 0.0731 | U | 4.7202 | | 4.6356 | | 4.8077 | 4.8077 | MG/KG | 98 | | 96 | | 2 | 75 - 125 | 20 | P |
| Calcium | | 2169.3212 | | 2517.7250 | | 2781.7000 | | 384.6154 | 384.6154 | MG/KG | 91 | | 159 | | 10 | | | P |
| Chromium | | 21.9231 | | 40.7260 | | 43.0760 | | 19.2308 | 19.2308 | MG/KG | 98 | | 110 | | 6 | 75 - 125 | 20 | P |
| Cobalt | | 5.7077 | | 51.1019 | | 52.4683 | | 48.0769 | 48.0769 | MG/KG | 94 | | 97 | | 3 | 75 - 125 | 20 | P |
| Copper | | 13.7365 | | 37.9337 | | 40.3077 | | 24.0385 | 24.0385 | MG/KG | 101 | | 111 | | 6 | 75 - 125 | 20 | P |
| Iron | | 22153.7048 | | 20160.1971 | | 22990.8846 | | 96.1538 | 96.1538 | MG/KG | -2073 | | 871 | | 13 | | | P |
| Lead | | 5.8702 | | 19.2904 | | 20.8712 | | 14.4231 | 14.4231 | MG/KG | 93 | | 104 | | 8 | 75 - 125 | 20 | P |
| Lithium | | 28.0385 | | 123.5125 | | 126.7154 | | 96.1538 | 96.1538 | MG/KG | 99 | | 103 | | 3 | 75 - 125 | 20 | P |
| Magnesium | | 4577.4971 | | 4374.6971 | | 4941.2067 | | 192.3077 | 192.3077 | MG/KG | -105 | | 189 | | 12 | | | P |
| Manganese | | 323.5298 | | 328.3423 | | 406.5740 | | 48.0769 | 48.0769 | MG/KG | 10 | | 173 | | 21 | | | P |
| Molybdenum | | 0.8673 | B | 185.6904 | | 186.1817 | | 192.3077 | 192.3077 | MG/KG | 96 | | 96 | | 0 | 75 - 125 | 20 | P |
| Nickel | | 12.6529 | | 59.3394 | | 60.7673 | | 48.0769 | 48.0769 | MG/KG | 97 | | 100 | | 2 | 75 - 125 | 20 | P |
| Phosphorus | | 246.6269 | | 316.8577 | | 345.7798 | | 96.1538 | 96.1538 | MG/KG | 73 | N | 103 | | 9 | 75 - 125 | 20 | P |
| Potassium | | 2247.7462 | | 3056.8288 | | 3370.8077 | | 961.5385 | 961.5385 | MG/KG | 84 | | 117 | | 10 | 75 - 125 | 20 | P |
| Selenium | 78 | 0.1283 | B | 2.1596 | | 2.0377 | | 1.9231 | 1.9231 | MG/KG | 106 | | 99 | | 6 | 75 - 125 | 20 | MS |
| Silver | 107 | 0.0417 | B | 9.7206 | | 9.8908 | | 9.6154 | 9.6154 | MG/KG | 101 | | 102 | | 2 | 75 - 125 | 20 | MS |
| Sodium | | 129.0856 | | 1059.9346 | | 1076.6135 | | 961.5385 | 961.5385 | MG/KG | 97 | | 99 | | 2 | 75 - 125 | 20 | P |
| Strontium | 88 | 17.8315 | | 24.9425 | | 25.2673 | | 7.6923 | 7.6923 | MG/KG | 92 | | 97 | | 1 | 75 - 125 | 20 | MS |
| Thallium | 203 | 0.2529 | | 0.6200 | | 0.6215 | | 0.3846 | 0.3846 | MG/KG | 95 | | 96 | | 0 | 75 - 125 | 20 | MS |

Note: Results shown are reported on an as-received basis.

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:

U= Below MDL, B= Below LOQ

FLAGS:

N = Matrix Spike OOS, * = Duplicate OOS

QUALITY ASSURANCE SUMMARY
 FORM 5A (MS/MSD)
 MATRIX SPIKE/MATRIX SPIKE DUPLICATE
 SDG No.: PH077
 Matrix: SOIL Level: LOW
 (low/med):



Background Lab Sample ID: 7143796BKG Matrix Spike Lab Sample ID: 7143796MS Matrix Spike Duplicate Lab Sample ID: 7143796MSD
 Batch Id(s): P21737A

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | RPD | Q | Control Limit | | |
|-----------|------|------------|---|-----------|---|------------|---|----------------|-----------------|-------|-----|---|-----|---|-----|---|---------------|-----|---|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | | | %R | RPD | M |
| Tin | | 2.6615 | B | 344.9779 | | 343.1115 | | 384.6154 | 384.6154 | MG/KG | 89 | | 89 | | 1 | | 75 - 125 | 20 | P |
| Titanium | | 1078.9260 | | 1206.3683 | | 1337.0798 | | 96.1538 | 96.1538 | MG/KG | 133 | | 268 | | 10 | | | | P |
| Vanadium | | 39.3846 | | 88.5096 | | 93.2731 | | 48.0769 | 48.0769 | MG/KG | 102 | | 112 | | 5 | | 75 - 125 | 20 | P |
| Zinc | | 48.6596 | | 91.2875 | | 96.7163 | | 48.0769 | 48.0769 | MG/KG | 89 | | 100 | | 6 | | 75 - 125 | 20 | P |
| Zirconium | | 0.8077 | U | 95.2904 | | 95.9788 | | 96.1538 | 96.1538 | MG/KG | 99 | | 100 | | 1 | | 75 - 125 | 20 | P |

Note: Results shown are reported on an as-received basis.

| | |
|---|--|
| METHODS: P = ICP Atomic Emission Spectrometer CV = Cold Vapor MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence | CONCENTRATION QUALIFIERS: U= Below MDL, B= Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS |
|---|--|

QUALITY ASSURANCE SUMMARY

FORM 6

DUPLICATES

SDG No.: PH077

Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 7143796BKG

Duplicate Lab Sample ID: 7143796DUP

Batch ID(s): P21737A

Concentration Units: MG/KG

| Analyte | Mass | Control Limit | Samples (S) | C | Duplicate (D) | C | RPD | Q | M |
|------------|------|---------------|-------------|---|---------------|---|-----|---|----|
| Aluminum | | | 17271.2173 | | 16105.1490 | | 7 | | P |
| Antimony | | | 0.7115 | U | 0.7115 | U | | | P |
| Arsenic | | 3.8 | 4.5750 | | 4.2385 | | 8 | | P |
| Barium | | | 84.4971 | | 84.2971 | | 0 | | P |
| Beryllium | | | 0.6962 | B | 0.6606 | B | 5 | | P |
| Boron | | | 0.8077 | U | 0.8077 | U | | | P |
| Cadmium | | | 0.0731 | U | 0.0731 | U | | | P |
| Calcium | | | 2169.3212 | | 2070.3769 | | 5 | | P |
| Chromium | | | 21.9231 | | 21.1548 | | 4 | | P |
| Cobalt | | | 5.7077 | | 8.3606 | | 38 | * | P |
| Copper | | | 13.7365 | | 12.7740 | | 7 | | P |
| Iron | | | 22153.7048 | | 20499.9010 | | 8 | | P |
| Lead | | 2.9 | 5.8702 | | 6.1413 | | 5 | | P |
| Lithium | | | 28.0385 | | 26.1327 | | 7 | | P |
| Magnesium | | | 4577.4971 | | 4277.5769 | | 7 | | P |
| Manganese | | | 323.5298 | | 412.9212 | | 24 | * | P |
| Molybdenum | | | 0.8673 | B | 0.4183 | B | 70 | | P |
| Nickel | | | 12.6529 | | 12.8788 | | 2 | | P |
| Phosphorus | | | 246.6269 | | 219.2990 | | 12 | | P |
| Potassium | | | 2247.7462 | | 1970.8019 | | 13 | | P |
| Selenium | 78 | | 0.1283 | B | 0.1310 | B | 2 | | MS |
| Silver | 107 | | 0.0417 | B | 0.0396 | B | 5 | | MS |
| Sodium | | 96.2 | 129.0856 | | 121.9923 | | 6 | | P |
| Strontium | 88 | | 17.8315 | | 16.5221 | | 8 | | MS |
| Thallium | 203 | 0.2 | 0.2529 | | 0.2629 | | 4 | | MS |
| Tin | | | 2.6615 | B | 2.6288 | B | 1 | | P |
| Titanium | | | 1078.9260 | | 948.6394 | | 13 | | P |
| Vanadium | | | 39.3846 | | 36.3231 | | 8 | | P |
| Zinc | | | 48.6596 | | 44.5625 | | 9 | | P |
| Zirconium | | | 0.8077 | U | 1.3673 | B | 200 | | P |

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ). The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

*ok by difference
(associate with 2-4)*

Note: Results shown are reported on an as-received basis.

| | |
|--|---|
| <p>METHODS:</p> <p>P = ICP Atomic Emission Spectrometer</p> <p>MS = ICP Mass Spectrometry</p> <p>CV = Cold Vapor</p> <p>AF = Cold Vapor Atomic Fluorescence</p> | <p>CONCENTRATION QUALIFIERS:</p> <p>U= Below MDL</p> <p>B= Below LOQ</p> <p>FLAGS:</p> <p>1951 of 2277</p> <p>* = Duplicate Out of Spec</p> |
|--|---|

Background Lab Sample ID: 7143796BKG Serial Dilution Lab Sample ID: 7143796L
 Batch ID(s): P21737A
 Concentration Units: UG/L

| Analyte | Mass | Initial Sample Result (I) | C | Serial Dilution Result (S) | C | % Diff. | Q | M |
|------------|------|---------------------------|---|----------------------------|---|---------|---|----|
| Aluminum | | 179620.6600 | | 180414.6500 | | 0 | | P |
| Antimony | | 7.4000 | U | 37.0000 | U | | | P |
| Arsenic | | 47.5800 | | 35.0000 | U | 100 | | P |
| Barium | | 878.7700 | | 885.5500 | | 1 | | P |
| Beryllium | | 7.2400 | B | 5.5500 | B | 23 | | P |
| Boron | | 8.4000 | U | 42.0000 | U | | | P |
| Cadmium | | 0.7600 | U | 3.8000 | U | | | P |
| Calcium | | 22560.9400 | | 22744.4000 | | 1 | | P |
| Chromium | | 228.0000 | | 218.9500 | | 4 | | P |
| Cobalt | | 59.3600 | | 61.0500 | | 3 | | P |
| Copper | | 142.8600 | | 135.0500 | | 5 | | P |
| Iron | | 230398.5300 | | 220516.4000 | | 4 | | P |
| Lead | | 61.0500 | | 57.2500 | B | 6 | | P |
| Lithium | | 291.6000 | | 284.0500 | | 3 | | P |
| Magnesium | | 47605.9700 | | 48306.9500 | | 1 | | P |
| Manganese | | 3364.7100 | | 3405.4000 | | 1 | | P |
| Molybdenum | | 9.0200 | B | 30.5500 | B | 239 | | P |
| Nickel | | 131.5900 | | 146.4000 | | 11 | E | P |
| Phosphorus | | 2564.9200 | | 2497.9000 | | 3 | | P |
| Potassium | | 23376.5600 | | 22834.3000 | | 2 | | P |
| Selenium | 78 | 0.6670 | B | 2.5000 | U | 100 | | MS |
| Silver | 107 | 0.2170 | B | 0.6500 | U | 100 | | MS |
| Sodium | | 1342.4900 | | 1226.7500 | B | 9 | | P |
| Strontium | 88 | 92.7240 | | 92.9700 | | 0 | | MS |
| Thallium | 203 | 1.3150 | | 1.2700 | B | 3 | | MS |
| Tin | | 27.6800 | B | 15.0500 | B | 46 | | P |
| Titanium | | 11220.8300 | | 10961.5500 | | 2 | | P |
| Vanadium | | 409.6000 | | 398.8500 | | 3 | | P |
| Zinc | | 506.0600 | | 498.0500 | | 2 | | P |
| Zirconium | | 8.4000 | U | 42.0000 | U | | | P |

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

associate w/ 2-4

| | |
|---|---|
| METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry | CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution |
|---|---|



LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L, Carlsbad, CA 92009 Bus: 760/634-0437 Fax: 760/634-0439

CDM
555 17th Street, Suite 1100
Denver, CO 80202
ATTN: Mrs. Cherie Zakowski

September 19, 2013

SUBJECT: Santa Susana Field Laboratory, Data Validation

Dear Mrs. Zakowski,

Enclosed is the final validation report for the fractions listed below. This SDG was received on September 5, 2013. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 30360:

| <u>SDG #</u> | <u>Fraction</u> |
|---------------------|---|
| PH079 | Semivolatiles, Polychlorinated Biphenyls, Metals, Total Petroleum Hydrocarbons as Gasoline, Total Petroleum Hydrocarbons as Extractables, Dioxins/Dibenzofurans |

The data validation was performed under Level III Guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan for Santa Susana Field Laboratory, RCRA Facility Investigation, Surficial Media Operable Unit, March 2009, Revision 4
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, January 2010
- Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. McKellar', written in a cursive style.

Shauna McKellar
Project Manager/Chemist

90/10 ADR/IV LDC #30360 (CDM Federal Programs-Chantilly VA / Santa Susana Field Laboratory, Subarea 5A)

| LDC | SDG# | DATE REC'D | (4) DATE DUE | SVOA (8270D -SIM) | | PCBs (8082A) | | Metals & Hg (SW846) | | TPH-G (8015M) | | TPH-E (8015M) | | Dioxins (1613B) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|-------|------------|--------------|-------------------|---|--------------|---|---------------------|---|---------------|---|---------------|---|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| | | | | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | | |
| A | PH079 | 09/05/13 | 10/03/13 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | | | | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | |

Shaded cells indicate Level IV validation (all other cells are ADR review). These sample counts do not include MS/MSD, and DUPs

**Data Validation Report
Santa Susana Field Laboratory**

Area 5a

SDG: PH079

Prepared for

CDM

555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

Laboratory Data Consultants, Inc

7750 El Camino Real, Suite 2L
Carlsbad, California 92009

September 19, 2013

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for one sample collected on July 30th, 2013. Data validation was performed in accordance with the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005), and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles by EPA SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A, and 7470A
Total Petroleum Hydrocarbons as Gasoline (TPH-G) by EPA SW 846 Method 8015M
Total Petroleum Hydrocarbons as Extractables (TPH-E) by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, and equipment blanks. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the internal standard, and interference check samples, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of one blank for dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Duplicates Sample

The laboratory has indicated that there were no laboratory duplicate (DUP) analyses specified for the samples in this SDG, and therefore laboratory duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one LCS/LCSD pair for semivolatiles. Since the %R was out high and all associated sample results were non-detect (ND), no data were qualified. The details regarding LCS outliers are provided in Enclosure I.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution was not performed for this SDG.

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--|-----------------|--------|
| All samples in SDG PH079 | All compounds reported as detected below the RL. | J (all detects) | A |

XIII. Field Duplicate Samples

No field duplicates were identified in this SDG.

XIV. Field Blank Samples

One equipment blank was collected and analyzed for semivolatiles, PCBs, metals, TPH-G, TPH-E, and dioxins. The equipment blanks had several detections for semivolatiles, metals, and dioxins. Since there were no associated samples, no data were qualified.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|-----------------|---------------|-------------|-------------|-------------------|--------------|
| 30-Jul-2013 | EB-073013 | 7145265 | EB | 3005A | 6010C | III |
| 30-Jul-2013 | EB-073013 | 7145265 | EB | 3510C | 8015M | III |
| 30-Jul-2013 | EB-073013 | 7145265 | EB | 3510C | 8082A | III |
| 30-Jul-2013 | EB-073013 | 7145265 | EB | 3510C | 8270D SIM | III |
| 30-Jul-2013 | EB-073013 | 7145265 | EB | 5030B | 8015M | III |
| 30-Jul-2013 | EB-073013 | 7145265 | EB | M3010A | 6020A | III |
| 30-Jul-2013 | EB-073013 | 7145265 | EB | METHOD | 1613B | III |
| 30-Jul-2013 | EB-073013 | 7145265 | EB | METHOD | 7470A | III |

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH079

Laboratory: LL

EDD Filename: PH079_v1

eQAPP Name: CDM_SSFL_130808_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6010C | Matrix: AQ |

Sample ID: EB-073013 Collected: 7/30/2013 3:00:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|---------|---------|--------|---------|-------|------------------|-------------|
| BARIUM | 0.00042 | J | 0.00033 | MDL | 0.0100 | PQL | mg/L | J | Z |
| MOLYBDENUM | 0.0034 | J | 0.0017 | MDL | 0.0200 | PQL | mg/L | J | Z |
| ZINC | 0.0027 | J | 0.0020 | MDL | 0.0400 | PQL | mg/L | J | Z |

| | | |
|-------------------------|-------|-------------------|
| Method Category: | SVOA | |
| Method: | 1613B | Matrix: AQ |

Sample ID: EB-073013 Collected: 7/30/2013 3:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.559 | JBQ | 0.211 | MDL | 9.86 | PQL | pg/L | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.831 | JBQ | 0.0774 | MDL | 9.86 | PQL | pg/L | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.696 | JBQ | 0.101 | MDL | 9.86 | PQL | pg/L | U | B |
| 1,2,3,4,7,8-HxCDD | 0.838 | JBQ | 0.170 | MDL | 9.86 | PQL | pg/L | U | B |
| 1,2,3,4,7,8-HxCDF | 0.852 | JB | 0.0953 | MDL | 9.86 | PQL | pg/L | U | B |
| 1,2,3,6,7,8-HxCDD | 0.597 | JB | 0.193 | MDL | 9.86 | PQL | pg/L | U | B |
| 1,2,3,6,7,8-HxCDF | 0.666 | JB | 0.101 | MDL | 9.86 | PQL | pg/L | U | B |
| 1,2,3,7,8,9-HxCDD | 0.806 | JBQ | 0.183 | MDL | 9.86 | PQL | pg/L | U | B |
| 1,2,3,7,8,9-HxCDF | 0.811 | JBQ | 0.106 | MDL | 9.86 | PQL | pg/L | U | B |
| 1,2,3,7,8-PECDD | 0.902 | JBQ | 0.265 | MDL | 9.86 | PQL | pg/L | U | B |
| 1,2,3,7,8-PECDF | 0.863 | JBQ | 0.136 | MDL | 9.86 | PQL | pg/L | U | B |
| 2,3,4,6,7,8-HxCDF | 0.657 | JBQ | 0.0934 | MDL | 9.86 | PQL | pg/L | U | B |
| 2,3,4,7,8-PECDF | 0.824 | JBQ | 0.119 | MDL | 9.86 | PQL | pg/L | U | B |
| 2,3,7,8-TCDD | 0.409 | JQ | 0.232 | MDL | 1.97 | PQL | pg/L | J | Z |
| OCDD | 2.05 | JB | 0.205 | MDL | 19.7 | PQL | pg/L | U | B |
| OCDF | 2.10 | JBQ | 0.207 | MDL | 19.7 | PQL | pg/L | U | B |

| | | |
|-------------------------|-----------|-------------------|
| Method Category: | SVOA | |
| Method: | 8270D SIM | Matrix: AQ |

Sample ID: EB-073013 Collected: 7/30/2013 3:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------|------------|----------|-------|---------|-----|---------|-------|------------------|-------------|
| Diethylphthalate | 0.40 | J | 0.052 | MDL | 1.0 | PQL | ug/L | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH079

Laboratory: LL

EDD Filename: PH079_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method Category: SVOA

Method: 8270D SIM

Matrix: AQ

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

9/18/2013 9:07:24 AM

ADR version 1.7.0.207

Page 2 of 3

Data Qualifier Summary

Lab Reporting Batch ID: PH079

Laboratory: LL

EDD Filename: PH079_v1

eQAPP Name: CDM_SSFL_130808_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---|
| B | Method Blank Contamination |
| L | Laboratory Control Spike Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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ADR version 1.7.0.207

Page 3 of 3

Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH079

Method Blank Outlier Report

Lab Reporting Batch ID: PH079

Laboratory: LL

EDD Filename: PH079_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method: 1613B
Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------------|---|---|--------------------|
| BLK2120B371613 | 8/5/2013 4:13:00 PM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF OCDD OCDF | 1.39 pg/L 0.610 pg/L 0.809 pg/L 0.780 pg/L 0.898 pg/L 0.681 pg/L 0.859 pg/L 0.679 pg/L 0.974 pg/L 1.39 pg/L 0.757 pg/L 0.602 pg/L 1.08 pg/L 1.99 pg/L 1.69 pg/L | EB-073013 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------|---------------------|-----------------|-----------------------|
| EB-073013(RES) | 1,2,3,4,6,7,8-HPCDD | 0.559 pg/L | 0.559U pg/L |
| EB-073013(RES) | 1,2,3,4,6,7,8-HPCDF | 0.831 pg/L | 0.831U pg/L |
| EB-073013(RES) | 1,2,3,4,7,8,9-HPCDF | 0.696 pg/L | 0.696U pg/L |
| EB-073013(RES) | 1,2,3,4,7,8-HxCDD | 0.838 pg/L | 0.838U pg/L |
| EB-073013(RES) | 1,2,3,4,7,8-HXCDF | 0.852 pg/L | 0.852U pg/L |
| EB-073013(RES) | 1,2,3,6,7,8-HXCDD | 0.597 pg/L | 0.597U pg/L |
| EB-073013(RES) | 1,2,3,6,7,8-HXCDF | 0.666 pg/L | 0.666U pg/L |
| EB-073013(RES) | 1,2,3,7,8,9-HXCDD | 0.806 pg/L | 0.806U pg/L |
| EB-073013(RES) | 1,2,3,7,8,9-HXCDF | 0.811 pg/L | 0.811U pg/L |
| EB-073013(RES) | 1,2,3,7,8-PECDD | 0.902 pg/L | 0.902U pg/L |
| EB-073013(RES) | 1,2,3,7,8-PECDF | 0.863 pg/L | 0.863U pg/L |
| EB-073013(RES) | 2,3,4,6,7,8-HXCDF | 0.657 pg/L | 0.657U pg/L |
| EB-073013(RES) | 2,3,4,7,8-PECDF | 0.824 pg/L | 0.824U pg/L |
| EB-073013(RES) | OCDD | 2.05 pg/L | 2.05U pg/L |
| EB-073013(RES) | OCDF | 2.10 pg/L | 2.10U pg/L |

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH079

Laboratory: LL

EDD Filename: PH079_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method: 8270D SIM

Matrix: AQ

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|---------------------------|-----------|------------|--------------|-----------------|--------------------------|-----------------|
| P5WDLCSQ260150 | BIS(2-ETHYLHEXYL)PHTHALAT | 170 | 168 | 70.00-143.00 | - | BIS(2-ETHYLHEXYL)PHTHALA | J (all detects) |
| P5WDLCSY260219 | Butylbenzylphthalate | 161 | 159 | 40.00-138.00 | - | Butylbenzylphthalate | |
| (EB-073013) | Di-n-octylphthalate | 159 | 156 | 57.00-145.00 | - | Di-n-octylphthalate | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH079

Laboratory: LL

EDD Filename: PH079_v1

eQAPP Name: CDM_SSFL_130808_Lan

Method: 1613B
Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-----------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| EB-073013 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.559 | 9.86 | PQL | pg/L | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.831 | 9.86 | PQL | pg/L | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.696 | 9.86 | PQL | pg/L | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.838 | 9.86 | PQL | pg/L | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.852 | 9.86 | PQL | pg/L | |
| | 1,2,3,6,7,8-HXCDD | JB | 0.597 | 9.86 | PQL | pg/L | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.666 | 9.86 | PQL | pg/L | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.806 | 9.86 | PQL | pg/L | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.811 | 9.86 | PQL | pg/L | |
| | 1,2,3,7,8-PECDD | JBQ | 0.902 | 9.86 | PQL | pg/L | |
| | 1,2,3,7,8-PECDF | JBQ | 0.863 | 9.86 | PQL | pg/L | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.657 | 9.86 | PQL | pg/L | |
| | 2,3,4,7,8-PECDF | JBQ | 0.824 | 9.86 | PQL | pg/L | |
| | 2,3,7,8-TCDD | JQ | 0.409 | 1.97 | PQL | pg/L | |
| | OCDD | JB | 2.05 | 19.7 | PQL | pg/L | |
| | OCDF | JBQ | 2.10 | 19.7 | PQL | pg/L | |

Method: 6010C
Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-----------|------------|----------|---------|-----------------|---------|-------|-----------------|
| EB-073013 | BARIIUM | J | 0.00042 | 0.0100 | PQL | mg/L | J (all detects) |
| | MOLYBDENUM | J | 0.0034 | 0.0200 | PQL | mg/L | |
| | ZINC | J | 0.0027 | 0.0400 | PQL | mg/L | |

Method: 8270D SIM
Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-----------|------------------|----------|--------|-----------------|---------|-------|-----------------|
| EB-073013 | Diethylphthalate | J | 0.40 | 1.0 | PQL | ug/L | J (all detects) |

LDC #: 30360A4

VALIDATION COMPLETENESS WORKSHEET

Date: 9/11/13

SDG #: PH079

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: CA2nd Reviewer: ✓**METHOD:** Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|-------------------------|
| I. | Technical holding times | — | Sampling dates: 7/30/13 |
| II. | ICP/MS Tune | — | |
| III. | Calibration | — | |
| IV. | Blanks | A | |
| V. | ICP Interference Check Sample (ICS) Analysis | — | |
| VI. | Matrix Spike Analysis | N | CS |
| VII. | Duplicate Sample Analysis | N | |
| VIII. | Laboratory Control Samples (LCS) | A | LCS/D |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | N | |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | — | |
| XV. | Field Blanks | SW | EB=1 |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

water

| | | | | | | | |
|----|-----------|----|--|----|--|----|--|
| 1 | EB-073013 | 11 | | 21 | | 31 | |
| 2 | | 12 | | 22 | | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Blanks

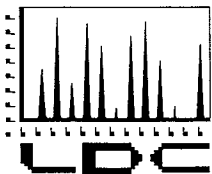
METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 7/30/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: None

| Analyte | Blank ID | Sample Identification | | | | | | | | | | | | | | | | |
|---------|------------------------------|-----------------------|---------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | EB-073013 (SDG: PH079) | Action Limit | No Qualifiers | | | | | | | | | | | | | | | |
| Ba | 0.00042 | 0.21 | | | | | | | | | | | | | | | | |
| Mo | 0.0034 | 1.7 | | | | | | | | | | | | | | | | |
| Zn | 0.0027 | 1.35 | | | | | | | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

CDM
555 17th Street, Suite 1100
Denver, CO 80202
ATTN: Mrs. Cherie Zakowski

January 16, 2014

SUBJECT: Santa Susana Field Laboratory, SA 5A Data Validation

Dear Mrs. Zakowski,

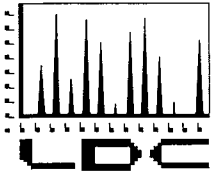
Enclosed are the final validation reports for the fractions listed below. These SDGs were received on December 18, 2013. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 31035:

| <u>SDG #</u> | <u>Fraction</u> |
|---------------------|---|
| PH125 | Semivolatiles, Polychlorinated Biphenyls, Metals, Total Petroleum |
| PH126 | Hydrocarbons as Gasoline, Total Petroleum Hydrocarbons as |
| PH128 | Extractables, Dioxins/Dibenzofurans, Alcohols, Formaldehyde, Wet Chemistry |

The data validation was performed under Level III & IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan for Santa Susana Field Laboratory, RCRA Facility Investigation, Surficial Media Operable Unit, March 2009, Revision 4
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, January 2010
- Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

Shauna McKellar
Project Manager/Chemist

**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5A

SDG: PH125

Prepared for

CDM Smith
555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

Laboratory Data Consultants, Inc
2701 Loker Ave West, Suite 220
Carlsbad, California 92010

January 2, 2014

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on November 11, 2013. Data validation was performed in accordance with the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)

Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A

Metals by EPA SW 846 Method 6010C, 6020A and 7471B

Total Petroleum Hydrocarbons (TPH) as Extractables by EPA SW 846 Method 8015M

Dioxins and Dibenzofurans by EPA Method 1613B

Formaldehyde by EPA Method 8315A

Wet Chemistry:

Hexavalent Chromium by EPA Method 7199

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks and field blanks. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the ICB/CCBs and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met QC criteria.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of two blanks for metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the exception of two samples for PCBs. No data were qualified due to high %Rs since the associated results were non-detected.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one MS/MSD pair for metals from SDG PH126. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosures I and II of the DVR for PH126.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the exception of one DUP for metals from SDG PH126. The associated sample results were qualified as detected estimated (J). The details regarding the qualification of data are provided in Enclosures I and II of the DVR for PH126.

IX. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory in SDG PH126. The analysis criteria were met with the following exceptions:

| Diluted Sample | Analyte | %D (Limits) | Associated Samples | Flag | A or P |
|--|---------------------------------|----------------------------------|----------------------------------|---|--------|
| SL-628-SA5A-SB-6.5-7.5 (from SDG PH126) | Phosphorus Strontium Zinc | 11 (≤10) 17 (≤10) 11 (≤10) | All soil samples in SDG PH125 | J (all detects) UJ (all non-detects) | A |

The associated sample results were qualified as detected estimated (J).

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--|-----------------|--------|
| All samples in SDG PH125 | All compounds reported as detected below the RL. | J (all detects) | A |

XIII. Field Duplicate Samples

No field duplicates were identified in this SDG.

XIV. Field Blank Samples

No trip blanks were identified in this SDG.

No equipment blanks were identified in this SDG.

One field blank (from SDG PH032) was collected and analyzed for SVOCs, PCBs, metals, TPH as extractables, dioxins, hexavalent chromium and formaldehyde. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1

Sample Cross Reference

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|-------------------------|---------------|-------------|-------------|-------------------|--------------|
| 11-Nov-2013 | SL-630A-SA5A-SB-0.0-0.5 | 7273419 | N | 3546 | 8082A | III |
| 11-Nov-2013 | SL-630B-SA5A-SB-0.0-0.5 | 7273421 | N | 3546 | 8082A | III |
| 11-Nov-2013 | SL-630C-SA5A-SB-0.0-0.5 | 7273420 | N | 3546 | 8082A | III |
| 11-Nov-2013 | SL-630D-SA5A-SB-0.0-0.5 | 7273422 | N | 3546 | 8082A | III |
| 11-Nov-2013 | SL-634-SA5A-SB-0.0-0.5 | 7273423 | N | 3050B | 6010C | III |
| 11-Nov-2013 | SL-634-SA5A-SB-0.0-0.5 | 7273423 | N | 3050B | 6020A | III |
| 11-Nov-2013 | SL-634-SA5A-SB-0.0-0.5 | 7273423 | N | 3060A | 7199 | III |
| 11-Nov-2013 | SL-634-SA5A-SB-0.0-0.5 | 7273423 | N | 3546 | 8015M | III |
| 11-Nov-2013 | SL-634-SA5A-SB-0.0-0.5 | 7273423 | N | 3546 | 8082A | III |
| 11-Nov-2013 | SL-634-SA5A-SB-0.0-0.5 | 7273423 | N | 3546 | 8270D SIM | III |
| 11-Nov-2013 | SL-634-SA5A-SB-0.0-0.5 | 7273423 | N | METHOD | 1613B | III |
| 11-Nov-2013 | SL-634-SA5A-SB-0.0-0.5 | 7273423 | N | METHOD | 7471B | III |
| 11-Nov-2013 | SL-634-SA5A-SB-0.0-0.5 | 7273423 | N | METHOD | 8315A | III |

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH125

Laboratory: LL

EDD Filename: PrepPH125

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix: SO**

Sample ID: SL-634-SA5A-SB-0.0-0.5 Collected: 11/11/2013 2:50:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|------|---------|------|---------|-------|------------------|-------------|
| CALCIUM | 2670 | | 3.36 | MDL | 20.1 | PQL | mg/Kg | J | E |
| IRON | 18400 | | 3.64 | MDL | 40.2 | PQL | mg/Kg | J | E |
| LITHIUM | 24.7 | | 0.34 | MDL | 4.0 | PQL | mg/Kg | J | E |
| MAGNESIUM | 3700 | | 1.68 | MDL | 10.1 | PQL | mg/Kg | J | E |
| POTASSIUM | 3070 | | 8.39 | MDL | 101 | PQL | mg/Kg | J | Q, E |
| ALUMINUM | 10900 | | 7.25 | MDL | 40.2 | PQL | mg/Kg | J | E |

Sample ID: SL-634-SA5A-SB-0.0-0.5 Collected: 11/11/2013 2:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.02 | U | 0.745 | MDL | 4.02 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 2.59 | J | 0.704 | MDL | 4.02 | PQL | mg/Kg | J | Z |
| BARIUM | 75.3 | | 0.0332 | MDL | 1.01 | PQL | mg/Kg | J | E |
| BERYLLIUM | 0.326 | J | 0.0674 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 3.86 | J | 0.845 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.304 | J | 0.0765 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| COPPER | 6.27 | | 0.292 | MDL | 2.01 | PQL | mg/Kg | J | E |
| MANGANESE | 275 | | 0.0835 | MDL | 1.01 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.204 | J | 0.171 | MDL | 2.01 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 351 | | 2.91 | MDL | 10.1 | PQL | mg/Kg | J | Q, A |
| TIN | 2.99 | J | 0.221 | MDL | 10.1 | PQL | mg/Kg | U | B |
| VANADIUM | 25.8 | | 0.131 | MDL | 1.01 | PQL | mg/Kg | J | E |
| ZINC | 62.5 | | 0.201 | MDL | 4.02 | PQL | mg/Kg | J | A, E |
| Zirconium | 2.12 | J | 0.845 | MDL | 5.03 | PQL | mg/Kg | J | Z |

Method Category: METALS
Method: 6020A **Matrix: SO**

Sample ID: SL-634-SA5A-SB-0.0-0.5 Collected: 11/11/2013 2:50:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 13.5 | | 0.0684 | MDL | 0.402 | PQL | mg/Kg | J | Q, A |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH125

Laboratory: LL

EDD Filename: PrepPH125

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 7199 **Matrix:** SO

Sample ID: SL-634-SA5A-SB-0.0-0.5 Collected: 11/11/2013 2:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|------|---------|-------|------------------|-------------|
| HEXAVALENT CHROMIUM | 0.28 | J | 0.14 | MDL | 0.41 | PQL | mg/Kg | J | Z |

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-634-SA5A-SB-0.0-0.5 Collected: 11/11/2013 2:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 1.89 | JB | 0.0177 | MDL | 4.88 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.210 | JB | 0.0247 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.133 | JB | 0.0475 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDF | 0.150 | JBQ | 0.0391 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.457 | JB | 0.0499 | MDL | 4.88 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDF | 0.149 | JBQ | 0.0336 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.291 | JBQ | 0.0454 | MDL | 4.88 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDF | 0.114 | JBQ | 0.0383 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.140 | JBQ | 0.0644 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.263 | JB | 0.0408 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HxCDF | 0.130 | JBQ | 0.0327 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.116 | JBQ | 0.0378 | MDL | 4.88 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.116 | JBQ | 0.0905 | MDL | 0.977 | PQL | ng/Kg | U | B |
| OCDF | 6.17 | JB | 0.0404 | MDL | 9.77 | PQL | ng/Kg | J | Z |

Method Category: SVOA
Method: 8082A **Matrix:** SO

Sample ID: SL-630A-SA5A-SB-0.0-0.5 Collected: 11/11/2013 1:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| Aroclor 5460 | 28 | J | 10 | MDL | 33 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH125

Laboratory: LL

EDD Filename: PrepPH125

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA

Method: 8270D SIM

Matrix: SO

Sample ID: SL-634-SA5A-SB-0.0-0.5

Collected: 11/11/2013 2:50:00

Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.6 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| CHRYSENE | 1.2 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 1.4 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 1.1 | J | 0.67 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

1/3/2014 7:59:12 AM

ADR version 1.7.0.207

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Data Qualifier Summary

Lab Reporting Batch ID: PH125

Laboratory: LL

EDD Filename: PrepPH125

eQAPP Name: CDM_SSFL_131101_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|--|
| *# | Professional Judgment |
| A | Professional Judgment |
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Field Blank Contamination |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| S | Surrogate/Tracer Recovery Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

1/3/2014 7:59:12 AM

ADR version 1.7.0.207

Page 4 of 4

Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH125

Method Blank Outlier Report

Lab Reporting Batch ID: PH125

Laboratory: LL

EDD Filename: PH125_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|---|---|------------------------|
| BLK3220B371600 | 11/21/2013 4:00:00 PM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PECDF 2,3,7,8-TCDD OCDD OCDF | 0.138 ng/Kg 0.0882 ng/Kg 0.107 ng/Kg 0.104 ng/Kg 0.0643 ng/Kg 0.0702 ng/Kg 0.0684 ng/Kg 0.0487 ng/Kg 0.117 ng/Kg 0.105 ng/Kg 0.128 ng/Kg 0.0747 ng/Kg 0.130 ng/Kg 0.0742 ng/Kg 0.299 ng/Kg 0.270 ng/Kg | SL-634-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-634-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.210 ng/Kg | 0.210U ng/Kg |
| SL-634-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.133 ng/Kg | 0.133U ng/Kg |
| SL-634-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDF | 0.150 ng/Kg | 0.150U ng/Kg |
| SL-634-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HxCDF | 0.149 ng/Kg | 0.149U ng/Kg |
| SL-634-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HxCDF | 0.114 ng/Kg | 0.114U ng/Kg |
| SL-634-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.140 ng/Kg | 0.140U ng/Kg |
| SL-634-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.263 ng/Kg | 0.263U ng/Kg |
| SL-634-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HxCDF | 0.130 ng/Kg | 0.130U ng/Kg |
| SL-634-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.116 ng/Kg | 0.116U ng/Kg |
| SL-634-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.116 ng/Kg | 0.116U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|------------------|--------------------------|------------------------|
| P32437AB220900 | 11/21/2013 9:00:00 AM | MANGANESE TIN | 1.54 mg/Kg 1.63 mg/Kg | SL-634-SA5A-SB-0.0-0.5 |
| P32437AB221459 | 11/21/2013 2:59:00 PM | IRON | 4.05 mg/Kg | SL-634-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------|-----------------|-----------------------|
| SL-634-SA5A-SB-0.0-0.5(RES) | TIN | 2.99 mg/Kg | 2.99U mg/Kg |

Field Blank Outlier Report

Lab Reporting Batch ID: PH125

Laboratory: LL

EDD Filename: PH125_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|-------------------|----------------------------|--|
| FB-041613(REA2/TOT) | 4/16/2013 3:15:00 PM | MOLYBDENUM TIN | 0.0132 mg/L 0.0029 mg/L | SL-630A-SA5A-SB-0.0-0.5 SL-630B-SA5A-SB-0.0-0.5 SL-630C-SA5A-SB-0.0-0.5 SL-630D-SA5A-SB-0.0-0.5 SL-634-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|------------|-----------------|-----------------------|
| SL-634-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.204 mg/Kg | 0.204U mg/Kg |

Surrogate Outlier Report

Lab Reporting Batch ID: PH125

Laboratory: LL

EDD Filename: PH125_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8082A

Matrix: SO

| <i>Sample ID (Analysis Type)</i> | <i>Surrogate</i> | <i>Sample % Recovery</i> | <i>% Recovery Limits</i> | <i>Affected Compounds</i> | <i>Flag</i> |
|--------------------------------------|--------------------|------------------------------|------------------------------|-------------------------------|-----------------|
| SL-630C-SA5A-SB-0.0-0.5 | DECACHLOROBIPHENYL | 121 | 45.00-120.00 | All Target Analytes | J (all detects) |
| SL-634-SA5A-SB-0.0-0.5 | DECACHLOROBIPHENYL | 121 | 45.00-120.00 | All Target Analytes | J(all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH125

Laboratory: LL

EDD Filename: PH125_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-634-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.89 | 4.88 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.210 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.133 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.150 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 0.457 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.149 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.291 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.114 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.140 | 4.88 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.263 | 4.88 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.130 | 4.88 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.116 | 4.88 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.116 | 0.977 | PQL | ng/Kg | |
| | OCDF | JB | 6.17 | 9.77 | PQL | ng/Kg | |

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-634-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.59 | 4.02 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.326 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 3.86 | 10.1 | PQL | mg/Kg | |
| | CADMIUM | J | 0.304 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.204 | 2.01 | PQL | mg/Kg | |
| | TIN | J | 2.99 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 2.12 | 5.03 | PQL | mg/Kg | |

Method: 7199
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-634-SA5A-SB-0.0-0.5 | HEXAVALENT CHROMIUM | J | 0.28 | 0.41 | PQL | mg/Kg | J (all detects) |

Method: 8082A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|--------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-630A-SA5A-SB-0.0-0.5 | Aroclor 5460 | J | 28 | 33 | PQL | ug/Kg | J (all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH125

Laboratory: LL

EDD Filename: PH125_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-634-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 1.6 | 1.7 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.1 | 1.7 | PQL | ug/Kg | |

LDC #: 31035A4

VALIDATION COMPLETENESS WORKSHEET

Date: 12/20/13

SDG #: PH125

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: CU2nd Reviewer: SU

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|------------------------------|
| I. | Technical holding times | — | Sampling dates: 11/11/13 |
| II. | ICP/MS Tune | — | |
| III. | Calibration | — | |
| IV. | Blanks | A | |
| V. | ICP Interference Check Sample (ICS) Analysis | — | |
| VI. | Matrix Spike Analysis | N | MS/D (see PH125) |
| VII. | Duplicate Sample Analysis | N | Dup ↓ |
| VIII. | Laboratory Control Samples (LCS) | N | |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | SW | (see PH125) |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | — | |
| XV. | Field Blanks | SW | FB = FB-041613 (PH032) No EB |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

soil

| | | | | | | | |
|----|------------------------|----|--|----|--|----|--|
| 1 | SL-634-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | | 12 | | 22 | | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/16/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | | | | |
|---------|------------------------------|-----------------------|-------|--|--|--|--|--|--|--|--|--|--|--|--|
| | FB-041613 (SDG: PH032) | Action Limit | 1 | | | | | | | | | | | | |
| Mo | 0.0132 | 6.60 | 0.204 | | | | | | | | | | | | |
| Sn | 0.0029 | 1.45 | | | | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Data Validation Report
Santa Susana Field Laboratory
Subarea 5A

SDG: PH126

Prepared for

CDM Smith
555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

Laboratory Data Consultants, Inc
2701 Loker Ave West, Suite 220
Carlsbad, California 92010

January 15, 2014

INTRODUCTION

This Data Validation Report (DVR) presents Level IV data validation results for samples collected on November 12, 2013. Data validation was performed in accordance with the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)

Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A

Metals by EPA SW 846 Method 6010C, 6020A and 7471B

Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M

TPH as Extractables by EPA SW 846 Method 8015M

Alcohols by EPA SW 846 Method 8015C

Dioxins and Dibenzofurans by EPA Method 1613B

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I. Level IV DVRs are presented in Enclosure II.

All sample results were subjected to Level IV data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibrations, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards, interference check (ICSA and ICSAB) samples, matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks, field blanks, field duplicate samples, and the raw data to confirm sample quantitation and identification.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the initial and continuing calibrations, ICB/CCBs, interference check samples, internal standards (except dioxins), and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met QC criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

All criteria for the initial calibration verifications and continuing calibration of each method were met.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of several blanks for metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosures I and II.

No contaminant concentrations were detected in the initial or continuing calibration blanks with the exception of several metals. The associated sample results were qualified as non-detected (U) due to initial or continuing calibration blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure II.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one MS/MSD pair for metals. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosures I and II.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the exception of one DUP for metals. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosures I and II.

IX. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC.

X. Internal Standards

All internal standard areas and retention times or percent recoveries were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

| Diluted Sample | Analyte | %D (Limits) | Associated Samples | Flag | A or P |
|------------------------|---------------------------------|----------------------------------|----------------------------------|---|--------|
| SL-628-SA5A-SB-6.5-7.5 | Phosphorus Strontium Zinc | 11 (≤10) 17 (≤10) 11 (≤10) | All soil samples in SDG PH126 | J (all detects) UJ (all non-detects) | A |

The associated sample results were qualified as detected estimated (J).

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

| Method | Sample | Compound | RPD | Flag |
|--------|------------------------|----------|-----|-----------------|
| 8015C | SL-628-SA5A-SB-0.0-0.5 | Methanol | 55 | J (all detects) |

All compounds reported below the RL as detected were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--|-----------------|--------|
| All samples in SDG PH126 | All compounds reported as detected below the RL. | J (all detects) | A |

XIII. Field Duplicate Samples

One field duplicate pair was collected and analyzed for SVOCs, PCBs, metals, TPH as extractables, alcohols and dioxins. All RPDs were within QC limits with the exception of several SVOCs, PCBs, metals, TPH as extractables, alcohols and dioxins. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The field duplicate result comparisons are provided in Enclosures I and II.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No volatile contaminants were found in the trip blank.

One equipment blank (from SDG PH129) was collected and analyzed for SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables, alcohols and dioxins. The equipment blank had detections for SVOCs and dioxins. The associated sample results were qualified as non-detected (U) due to equipment blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the equipment blanks were not qualified. The equipment blank outlier reports are presented in Enclosures I and II.

One field blank (from SDG PH032) was collected and analyzed for SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables, alcohols and dioxins. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosures I and II.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 12-Nov-2013 | TB2-111213 | 7275654 | TB | 5030B | 8015M | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5 | 7275655 | N | 3050B | 6010C | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5 | 7275655 | N | 3050B | 6020A | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5 | 7275655 | N | 3546 | 8015M | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5 | 7275655 | N | 3546 | 8082A | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5 | 7275655 | N | 3546 | 8270D SIM | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5 | 7275655 | N | METHOD | 1613B | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5 | 7275655 | N | METHOD | 7471B | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5 | 7275655 | N | METHOD | 8015C | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MS | 7275656 | MS | 3050B | 6010C | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MS | 7275656 | MS | 3050B | 6020A | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MS | 7275656 | MS | 3546 | 8015M | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MS | 7275656 | MS | 3546 | 8082A | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MS | 7275656 | MS | 3546 | 8270D SIM | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MS | 7275656 | MS | METHOD | 1613B | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MS | 7275656 | MS | METHOD | 7471B | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MS | 7275656 | MS | METHOD | 8015C | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MSD | 7275657 | MSD | 3050B | 6010C | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MSD | 7275657 | MSD | 3050B | 6020A | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MSD | 7275657 | MSD | 3546 | 8015M | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MSD | 7275657 | MSD | 3546 | 8082A | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MSD | 7275657 | MSD | 3546 | 8270D SIM | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MSD | 7275657 | MSD | METHOD | 1613B | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MSD | 7275657 | MSD | METHOD | 7471B | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5MSD | 7275657 | MSD | METHOD | 8015C | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5DUP | 7275658 | DUP | 3050B | 6010C | IV |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5DUP | 7275658 | DUP | 3050B | 6020A | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-0.0-0.5DUP | 7275658 | DUP | METHOD | 7471B | IV |
| 12-Nov-2013 | SL-928-SA5A-SB-0.0-0.5 | 7275659 | FD | 3050B | 6010C | IV |
| 12-Nov-2013 | SL-928-SA5A-SB-0.0-0.5 | 7275659 | FD | 3050B | 6020A | IV |
| 12-Nov-2013 | SL-928-SA5A-SB-0.0-0.5 | 7275659 | FD | 3546 | 8015M | IV |
| 12-Nov-2013 | SL-928-SA5A-SB-0.0-0.5 | 7275659 | FD | 3546 | 8082A | IV |
| 12-Nov-2013 | SL-928-SA5A-SB-0.0-0.5 | 7275659 | FD | 3546 | 8270D SIM | IV |
| 12-Nov-2013 | SL-928-SA5A-SB-0.0-0.5 | 7275659 | FD | METHOD | 1613B | IV |
| 12-Nov-2013 | SL-928-SA5A-SB-0.0-0.5 | 7275659 | FD | METHOD | 7471B | IV |
| 12-Nov-2013 | SL-928-SA5A-SB-0.0-0.5 | 7275659 | FD | METHOD | 8015C | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-6.5-7.5 | 7275660 | N | 3050B | 6010C | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-6.5-7.5 | 7275660 | N | 3050B | 6020A | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-6.5-7.5 | 7275660 | N | 3546 | 8015M | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-6.5-7.5 | 7275660 | N | 3546 | 8082A | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-6.5-7.5 | 7275660 | N | 3546 | 8270D SIM | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-6.5-7.5 | 7275660 | N | 5035A | 8015M | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-6.5-7.5 | 7275660 | N | METHOD | 1613B | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-6.5-7.5 | 7275660 | N | METHOD | 7471B | IV |
| 12-Nov-2013 | SL-628-SA5A-SB-6.5-7.5 | 7275660 | N | METHOD | 8015C | IV |

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PrepPH126

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-628-SA5A-SB-0.0-0.5

Collected: 11/12/2013 1:40:00

Analysis Type: REA

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|------|---------|------|---------|-------|------------------|-------------|
| CALCIUM | 6550 | | 3.33 | MDL | 19.9 | PQL | mg/Kg | J | E |
| IRON | 17800 | | 3.61 | MDL | 39.9 | PQL | mg/Kg | J | E |
| LITHIUM | 24.2 | | 0.34 | MDL | 4.0 | PQL | mg/Kg | J | E |
| MAGNESIUM | 3750 | | 1.67 | MDL | 9.97 | PQL | mg/Kg | J | E |
| POTASSIUM | 3340 | | 8.32 | MDL | 99.7 | PQL | mg/Kg | J | Q, E |
| ALUMINUM | 10400 | | 7.19 | MDL | 39.9 | PQL | mg/Kg | J | E |

Sample ID: SL-628-SA5A-SB-0.0-0.5

Collected: 11/12/2013 1:40:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 3.99 | U | 0.738 | MDL | 3.99 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 2.28 | J | 0.698 | MDL | 3.99 | PQL | mg/Kg | J | Z |
| BARIUM | 75.6 | | 0.0329 | MDL | 0.997 | PQL | mg/Kg | J | E |
| BERYLLIUM | 0.310 | J | 0.0668 | MDL | 0.997 | PQL | mg/Kg | J | Z |
| BORON | 4.03 | J | 0.838 | MDL | 9.97 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.514 | J | 0.0758 | MDL | 0.997 | PQL | mg/Kg | J | Z |
| COPPER | 10.6 | | 0.289 | MDL | 1.99 | PQL | mg/Kg | J | E |
| MANGANESE | 266 | | 0.0828 | MDL | 0.997 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.545 | J | 0.170 | MDL | 1.99 | PQL | mg/Kg | UJ | FD, F |
| PHOSPHORUS | 397 | | 2.88 | MDL | 9.97 | PQL | mg/Kg | J | Q, A |
| TIN | 2.97 | J | 0.219 | MDL | 9.97 | PQL | mg/Kg | U | B, B |
| VANADIUM | 25.5 | | 0.130 | MDL | 0.997 | PQL | mg/Kg | J | E |
| ZINC | 108 | | 0.199 | MDL | 3.99 | PQL | mg/Kg | J | E, A |
| Zirconium | 2.58 | J | 0.838 | MDL | 4.99 | PQL | mg/Kg | J | Z |

Sample ID: SL-628-SA5A-SB-6.5-7.5

Collected: 11/12/2013 2:05:00

Analysis Type: REA

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 20200 | | 7.63 | MDL | 42.3 | PQL | mg/Kg | J | E |
| CALCIUM | 4770 | | 3.53 | MDL | 21.2 | PQL | mg/Kg | J | E |
| LITHIUM | 26.4 | | 0.36 | MDL | 4.2 | PQL | mg/Kg | J | E |
| MAGNESIUM | 6770 | | 1.77 | MDL | 10.6 | PQL | mg/Kg | J | E |
| POTASSIUM | 2630 | | 8.82 | MDL | 106 | PQL | mg/Kg | J | Q, E |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

1/15/2014 12:45:18 PM

ADR version 1.7.0.207

Page 1 of 9

Data Qualifier Summary

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PrepPH126

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-628-SA5A-SB-6.5-7.5

Collected: 11/12/2013 2:05:00

Analysis Type: REA2

Dilution: 5

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| IRON | 31500 | | 19.1 | MDL | 212 | PQL | mg/Kg | J | E |

Sample ID: SL-628-SA5A-SB-6.5-7.5

Collected: 11/12/2013 2:05:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.23 | U | 0.783 | MDL | 4.23 | PQL | mg/Kg | UJ | Q |
| BARIUM | 122 | | 0.0349 | MDL | 1.06 | PQL | mg/Kg | J | E |
| BERYLLIUM | 0.684 | J | 0.0709 | MDL | 1.06 | PQL | mg/Kg | J | Z |
| BORON | 4.44 | J | 0.888 | MDL | 10.6 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.306 | J | 0.0804 | MDL | 1.06 | PQL | mg/Kg | J | Z |
| COPPER | 17.3 | | 0.307 | MDL | 2.12 | PQL | mg/Kg | J | E |
| MANGANESE | 355 | | 0.0878 | MDL | 1.06 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.329 | J | 0.180 | MDL | 2.12 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 555 | | 3.06 | MDL | 10.6 | PQL | mg/Kg | J | Q, A |
| TIN | 3.82 | J | 0.233 | MDL | 10.6 | PQL | mg/Kg | U | B, B |
| VANADIUM | 49.3 | | 0.137 | MDL | 1.06 | PQL | mg/Kg | J | E |
| ZINC | 77.9 | | 0.212 | MDL | 4.23 | PQL | mg/Kg | J | E, A |
| Zirconium | 4.60 | J | 0.888 | MDL | 5.29 | PQL | mg/Kg | J | Z |

Sample ID: SL-928-SA5A-SB-0.0-0.5

Collected: 11/12/2013 1:40:00

Analysis Type: REA

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 10100 | | 7.25 | MDL | 40.2 | PQL | mg/Kg | J | E |
| CALCIUM | 7670 | | 3.36 | MDL | 20.1 | PQL | mg/Kg | J | E |
| IRON | 18500 | | 3.64 | MDL | 40.2 | PQL | mg/Kg | J | E |
| LITHIUM | 23.6 | | 0.34 | MDL | 4.0 | PQL | mg/Kg | J | E |
| MAGNESIUM | 3770 | | 1.68 | MDL | 10.1 | PQL | mg/Kg | J | E |
| POTASSIUM | 3300 | | 8.39 | MDL | 101 | PQL | mg/Kg | J | Q, E |

Sample ID: SL-928-SA5A-SB-0.0-0.5

Collected: 11/12/2013 1:40:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.02 | U | 0.744 | MDL | 4.02 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 2.47 | J | 0.704 | MDL | 4.02 | PQL | mg/Kg | J | Z |
| BARIUM | 84.4 | | 0.0332 | MDL | 1.01 | PQL | mg/Kg | J | E |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PrepPH126

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-928-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| BERYLLIUM | 0.270 | J | 0.0674 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 3.17 | J | 0.845 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.471 | J | 0.0764 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| COPPER | 6.53 | | 0.292 | MDL | 2.01 | PQL | mg/Kg | J | E |
| MANGANESE | 263 | | 0.0835 | MDL | 1.01 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.264 | J | 0.171 | MDL | 2.01 | PQL | mg/Kg | UJ | FD, F |
| PHOSPHORUS | 393 | | 2.91 | MDL | 10.1 | PQL | mg/Kg | J | Q, A |
| TIN | 3.00 | J | 0.221 | MDL | 10.1 | PQL | mg/Kg | U | B, B |
| VANADIUM | 26.8 | | 0.131 | MDL | 1.01 | PQL | mg/Kg | J | E |
| ZINC | 100 | | 0.201 | MDL | 4.02 | PQL | mg/Kg | J | E, A |
| Zirconium | 2.71 | J | 0.845 | MDL | 5.03 | PQL | mg/Kg | J | Z |

Method Category: METALS
Method: 6020A **Matrix:** SO

Sample ID: SL-628-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: REA Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.126 | J | 0.0997 | MDL | 0.399 | PQL | mg/Kg | J | Z, FD |

Sample ID: SL-628-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0309 | J | 0.0259 | MDL | 0.199 | PQL | mg/Kg | J | Z |
| STRONTIUM | 18.1 | | 0.0678 | MDL | 0.399 | PQL | mg/Kg | J | Q, A |

Sample ID: SL-628-SA5A-SB-6.5-7.5 Collected: 11/12/2013 2:05:00 Analysis Type: REA Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.304 | J | 0.106 | MDL | 0.423 | PQL | mg/Kg | J | Z |

Sample ID: SL-628-SA5A-SB-6.5-7.5 Collected: 11/12/2013 2:05:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0415 | J | 0.0275 | MDL | 0.212 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PrepPH126

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6020A **Matrix:** SO

Sample ID: SL-628-SA5A-SB-6.5-7.5 Collected: 11/12/2013 2:05:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 27.6 | | 0.0719 | MDL | 0.423 | PQL | mg/Kg | J | Q, A |

Sample ID: SL-928-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: REA Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.402 | U | 0.101 | MDL | 0.402 | PQL | mg/Kg | UJ | FD |

Sample ID: SL-928-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0308 | J | 0.0261 | MDL | 0.201 | PQL | mg/Kg | J | Z |
| STRONTIUM | 21.0 | | 0.0684 | MDL | 0.402 | PQL | mg/Kg | J | Q, A |

Method Category: METALS
Method: 7471B **Matrix:** SO

Sample ID: SL-628-SA5A-SB-6.5-7.5 Collected: 11/12/2013 2:05:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0138 | J | 0.0104 | MDL | 0.0174 | PQL | mg/Kg | J | Z |

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-628-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 30.8 | B | 0.0636 | MDL | 4.95 | PQL | ng/Kg | J | Q, FD |
| 1,2,3,4,6,7,8-HPCDF | 3.47 | JB | 0.0185 | MDL | 4.95 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8,9-HPCDF | 0.266 | JBQ | 0.0272 | MDL | 4.95 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 0.327 | JB | 0.0593 | MDL | 4.95 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8-HxCDF | 0.378 | JB | 0.0365 | MDL | 4.95 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HxCDD | 1.03 | JB | 0.0598 | MDL | 4.95 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDF | 0.262 | JB | 0.0336 | MDL | 4.95 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HxCDD | 0.654 | JB | 0.0591 | MDL | 4.95 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PrepPH126

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-628-SA5A-SB-0.0-0.5

Collected: 11/12/2013 1:40:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,7,8,9-HXCDF | 0.207 | JB | 0.0401 | MDL | 4.95 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDD | 0.263 | JBQ | 0.0505 | MDL | 4.95 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDF | 0.922 | JB | 0.0339 | MDL | 4.95 | PQL | ng/Kg | J | Z, FD |
| 2,3,4,6,7,8-HXCDF | 0.301 | JB | 0.0348 | MDL | 4.95 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,7,8-PECDF | 0.389 | JB | 0.0340 | MDL | 4.95 | PQL | ng/Kg | J | Z, FD |
| 2,3,7,8-TCDD | 0.102 | JBQ | 0.0499 | MDL | 0.990 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDF | 0.990 | U | 0.0720 | MDL | 0.990 | PQL | ng/Kg | UJ | FD |
| OCDD | 297 | B | 0.0690 | MDL | 9.90 | PQL | ng/Kg | J | Q, Q, Q |
| OCDF | 8.55 | JB | 0.0390 | MDL | 9.90 | PQL | ng/Kg | J | Z, FD |

Sample ID: SL-628-SA5A-SB-6.5-7.5

Collected: 11/12/2013 2:05:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.411 | JBQ | 0.0367 | MDL | 5.28 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.142 | JB | 0.0123 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.145 | JB | 0.0375 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0620 | JBQ | 0.0343 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0888 | JB | 0.0284 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.132 | JB | 0.0345 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0773 | JB | 0.0224 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.211 | JB | 0.0339 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.172 | JBQ | 0.0384 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0950 | JBQ | 0.0411 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.179 | JB | 0.0248 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.103 | JBQ | 0.0264 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.130 | JB | 0.0282 | MDL | 5.28 | PQL | ng/Kg | U | B |
| OCDD | 3.77 | JB | 0.0393 | MDL | 10.6 | PQL | ng/Kg | J | Z |
| OCDF | 0.614 | JB | 0.0812 | MDL | 10.6 | PQL | ng/Kg | U | B |

Sample ID: SL-928-SA5A-SB-0.0-0.5

Collected: 11/12/2013 1:40:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 13.9 | B | 0.0759 | MDL | 4.96 | PQL | ng/Kg | J | FD |
| 1,2,3,4,6,7,8-HPCDF | 1.50 | JB | 0.0329 | MDL | 4.96 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8,9-HPCDF | 0.766 | JB | 0.0512 | MDL | 4.96 | PQL | ng/Kg | J | Z, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PrepPH126

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-928-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8-HxCDD | 0.574 | JB | 0.0741 | MDL | 4.96 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8-HxCDF | 0.703 | JB | 0.0514 | MDL | 4.96 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,6,7,8-HxCDD | 0.940 | JB | 0.0732 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDF | 0.724 | JB | 0.0459 | MDL | 4.96 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HxCDD | 0.746 | JB | 0.0678 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDF | 0.846 | JBQ | 0.0556 | MDL | 4.96 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8-PECDD | 0.860 | JBQ | 0.0903 | MDL | 4.96 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8-PECDF | 1.87 | JB | 0.0616 | MDL | 4.96 | PQL | ng/Kg | J | Z, FD |
| 2,3,4,6,7,8-HxCDF | 0.983 | JB | 0.0483 | MDL | 4.96 | PQL | ng/Kg | J | Z, FD |
| 2,3,4,7,8-PECDF | 1.10 | JB | 0.0595 | MDL | 4.96 | PQL | ng/Kg | J | Z, FD |
| 2,3,7,8-TCDD | 0.192 | JBQ | 0.0816 | MDL | 0.992 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDF | 0.355 | J | 0.139 | MDL | 0.992 | PQL | ng/Kg | J | Z, FD |
| OCDF | 4.35 | JB | 0.0704 | MDL | 9.92 | PQL | ng/Kg | J | Z, FD |

Method Category: SVOA
Method: 8015C **Matrix:** SO

Sample ID: SL-628-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-----|---------|------|---------|-------|------------------|-------------|
| METHANOL | 480 | J | 200 | MDL | 1000 | PQL | ug/Kg | J | Z, FD, *IX |

Sample ID: SL-928-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-----|---------|------|---------|-------|------------------|-------------|
| METHANOL | 1000 | U | 210 | MDL | 1000 | PQL | ug/Kg | UJ | FD |

Method Category: SVOA
Method: 8015M **Matrix:** SO

Sample ID: SL-628-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 11 | | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Q, Q, Q, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PrepPH126

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 8015M **Matrix:** SO

Sample ID: SL-628-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| EFH (C30-C40) | 40 | | 4.1 | MDL | 10 | PQL | mg/Kg | J | Q, Q, Q, FD |

Sample ID: SL-928-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 3.4 | J | 2.1 | MDL | 5.1 | PQL | mg/Kg | J | Z, FD |
| EFH (C30-C40) | 8.9 | J | 4.1 | MDL | 10 | PQL | mg/Kg | J | Z, FD |

Method Category: SVOA
Method: 8082A **Matrix:** SO

Sample ID: SL-628-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| AROCLOR 1254 | 23 | | 4.4 | MDL | 17 | PQL | ug/Kg | J | FD |

Sample ID: SL-928-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| AROCLOR 1254 | 120 | | 4.5 | MDL | 17 | PQL | ug/Kg | J | FD |

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-628-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|----------------|
| ACENAPHTHYLENE | 0.41 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| ANTHRACENE | 0.56 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(A)ANTHRACENE | 2.6 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q, Q, FD |
| BENZO(A)PYRENE | 3.5 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q, Q, FD |
| BENZO(B)FLUORANTHENE | 8.5 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q, Q, FD |
| BENZO(E)PYRENE | 3.7 | J | 3.4 | MDL | 17 | PQL | ug/Kg | J | Z, Q, Q, Q, FD |
| BENZO(G,H,I)PERYLENE | 3.5 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q, Q, FD |
| BENZO(K)FLUORANTHENE | 2.3 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q, Q, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PrepPH126

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-628-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 5.7 | | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Q, Q, FD |
| DIBENZO(A,H)ANTHRACENE | 1.0 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, Q, Q, FD |
| FLUORANTHENE | 7.9 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q, Q, FD |
| INDENO(1,2,3-CD)PYRENE | 2.5 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q, Q, FD |
| PHENANTHRENE | 3.3 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| PYRENE | 6.1 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q, Q, FD |

Sample ID: SL-928-SA5A-SB-0.0-0.5 Collected: 11/12/2013 1:40:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ACENAPHTHYLENE | 1.7 | U | 0.34 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| ANTHRACENE | 1.7 | U | 0.34 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(A)ANTHRACENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(A)PYRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(B)FLUORANTHENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(E)PYRENE | 17 | U | 3.4 | MDL | 17 | PQL | ug/Kg | UJ | FD |
| BENZO(G,H,I)PERYLENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(K)FLUORANTHENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| CHRYSENE | 1.7 | U | 0.34 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| DIBENZO(A,H)ANTHRACENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| FLUORANTHENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| INDENO(1,2,3-CD)PYRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| PHENANTHRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| PYRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PrepPH126

eQAPP Name: CDM_SSFL_131101_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---------------------------------|
| *IX | RPD Between Two Columns |
| A | ICP Serial Dilution |
| B | Calibration Blank Contamination |
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Field Blank Contamination |
| FD | Field Duplicate Precision |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

1/15/2014 12:45:18 PM

ADR version 1.7.0.207

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH126

Method Blank Outlier Report

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PH126_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|------------------------|---|---|--|
| BLK3240B371252 | 11/24/2013 12:52:00 PM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF 2,3,7,8-TCDD OCDD OCDF | 0.0721 ng/Kg 0.0746 ng/Kg 0.0711 ng/Kg 0.0412 ng/Kg 0.0890 ng/Kg 0.0407 ng/Kg 0.0519 ng/Kg 0.0742 ng/Kg 0.0575 ng/Kg 0.0804 ng/Kg 0.121 ng/Kg 0.0893 ng/Kg 0.0714 ng/Kg 0.0670 ng/Kg 0.213 ng/Kg 0.233 ng/Kg | SL-628-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 SL-928-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-628-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.266 ng/Kg | 0.266U ng/Kg |
| SL-628-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.378 ng/Kg | 0.378U ng/Kg |
| SL-628-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.207 ng/Kg | 0.207U ng/Kg |
| SL-628-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.263 ng/Kg | 0.263U ng/Kg |
| SL-628-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.301 ng/Kg | 0.301U ng/Kg |
| SL-628-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.102 ng/Kg | 0.102U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.142 ng/Kg | 0.142U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.145 ng/Kg | 0.145U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0620 ng/Kg | 0.0620U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0888 ng/Kg | 0.0888U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | 1,2,3,6,7,8-HXCDD | 0.132 ng/Kg | 0.132U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0773 ng/Kg | 0.0773U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | 1,2,3,7,8,9-HXCDD | 0.211 ng/Kg | 0.211U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | 1,2,3,7,8,9-HXCDF | 0.172 ng/Kg | 0.172U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | 1,2,3,7,8-PECDD | 0.0950 ng/Kg | 0.0950U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | 1,2,3,7,8-PECDF | 0.179 ng/Kg | 0.179U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | 2,3,4,6,7,8-HXCDF | 0.103 ng/Kg | 0.103U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | 2,3,4,7,8-PECDF | 0.130 ng/Kg | 0.130U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | OCDF | 0.614 ng/Kg | 0.614U ng/Kg |
| SL-928-SA5A-SB-0.0-0.5(RES) | 2,3,7,8-TCDD | 0.192 ng/Kg | 0.192U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|------------------|--------------------------|--|
| P32437AB220900 | 11/21/2013 9:00:00 AM | MANGANESE TIN | 1.54 mg/Kg 1.63 mg/Kg | SL-628-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 SL-928-SA5A-SB-0.0-0.5 |

Method Blank Outlier Report

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PH126_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|---------|------------|--|
| P32437AB221459 | 11/21/2013 2:59:00 PM | IRON | 4.05 mg/Kg | SL-628-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 SL-928-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------|-----------------|-----------------------|
| SL-628-SA5A-SB-0.0-0.5(RES) | TIN | 2.97 mg/Kg | 2.97U mg/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | TIN | 3.82 mg/Kg | 3.82U mg/Kg |
| SL-928-SA5A-SB-0.0-0.5(RES) | TIN | 3.00 mg/Kg | 3.00U mg/Kg |

Field Blank Outlier Report

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PrepPH126

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|-------------------|----------------------------|--|
| FB-041613(REA2/TOT) | 4/16/2013 3:15:00 PM | MOLYBDENUM TIN | 0.0132 mg/L 0.0029 mg/L | SL-628-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 SL-928-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|------------|-----------------|-----------------------|
| SL-628-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.545 mg/Kg | 0.545U mg/Kg |
| SL-628-SA5A-SB-6.5-7.5(RES) | MOLYBDENUM | 0.329 mg/Kg | 0.329U mg/Kg |
| SL-928-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.264 mg/Kg | 0.264U mg/Kg |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PH126_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8015M
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------|----------|-----------|--------------|-----------------|-----------------------|---------------------------------------|
| SL-628-SA5A-SB-0.0-0.5MSD (SL-628-SA5A-SB-0.0-0.5) | EFH (C15-C20) | - | 153 | 49.00-123.00 | 42 (20.00) | EFH (C15-C20) | J (all detects) |
| SL-628-SA5A-SB-0.0-0.5MS SL-628-SA5A-SB-0.0-0.5MSD (SL-628-SA5A-SB-0.0-0.5) | EFH (C30-C40) | -83 | 287 | 49.00-123.00 | 102 (20.00) | EFH (C30-C40) | J(all detects) R(all non-detects) |
| SL-628-SA5A-SB-0.0-0.5MS SL-628-SA5A-SB-0.0-0.5MSD (SL-628-SA5A-SB-0.0-0.5) | EFH (C21-C30) | 45 | 195 | 49.00-123.00 | 72 (20.00) | EFH (C21-C30) | J(all detects) UJ(all non-detects) |

Method: 1613B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------------|----------|-----------|--------------|-----------------|-----------------------|---------------------------------------|
| SL-628-SA5A-SB-0.0-0.5MSD (SL-628-SA5A-SB-0.0-0.5) | 1,2,3,4,6,7,8-HPCDD | - | - | 40.00-135.00 | 28 (20.00) | 1,2,3,4,6,7,8-HPCDD | J(all detects) |
| SL-628-SA5A-SB-0.0-0.5MS SL-628-SA5A-SB-0.0-0.5MSD (SL-628-SA5A-SB-0.0-0.5) | OCDD | 10 | 166 | 40.00-135.00 | 81 (20.00) | OCDD | J(all detects) UJ(all non-detects) |

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------------------|----------|-----------|--------------|-----------------|--------------------------|---------------------------------------|
| SL-628-SA5A-SB-0.0-0.5MSD (SL-628-SA5A-SB-0.0-0.5) | BENZO(A)ANTHRACENE | - | 1001 | 44.00-143.00 | 168 (30.00) | BENZO(A)ANTHRACENE | J(all detects) |
| | BENZO(A)PYRENE | - | 658 | 44.00-140.00 | 155 (30.00) | BENZO(A)PYRENE | |
| | BENZO(B)FLUORANTHENE | - | 1440 | 26.00-142.00 | 177 (30.00) | BENZO(B)FLUORANTHENE | |
| | BENZO(G,H,I)PERYLENE | - | 246 | 33.00-141.00 | 97 (30.00) | BENZO(G,H,I)PERYLENE | |
| | BENZO(K)FLUORANTHENE | - | 569 | 54.00-142.00 | 149 (30.00) | BENZO(K)FLUORANTHENE | |
| | BIS(2-ETHYLHEXYL)PHTHALAT | - | 262 | 39.00-167.00 | 94 (30.00) | BIS(2-ETHYLHEXYL)PHTHALA | |
| | CHRYSENE | - | 1248 | 29.00-148.00 | 174 (30.00) | CHRYSENE | |
| | DIBENZO(A,H)ANTHRACENE | - | 161 | 20.00-137.00 | 56 (30.00) | DIBENZO(A,H)ANTHRACENE | |
| | FLUORANTHENE | - | 726 | 40.00-148.00 | 156 (30.00) | FLUORANTHENE | |
| | INDENO(1,2,3-CD)PYRENE | - | 289 | 17.00-136.00 | 106 (30.00) | INDENO(1,2,3-CD)PYRENE | |
| | PYRENE | - | 661 | 26.00-143.00 | 157 (30.00) | PYRENE | |
| SL-628-SA5A-SB-0.0-0.5MS SL-628-SA5A-SB-0.0-0.5MSD (SL-628-SA5A-SB-0.0-0.5) | BENZO(E)PYRENE | 68 | 592 | 70.00-130.00 | 154 (30.00) | BENZO(E)PYRENE | J(all detects) UJ(all non-detects) |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PH126_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|------------|----------|-----------|--------------|-----------------|-----------------------|--|
| SL-628-SA5A-SB-0.0-0.5MS (TOT) | ALUMINUM | 1051 | 1147 | 75.00-125.00 | - | ALUMINUM | J(all detects) Al, Fe, Mg, Mn, Ti, No Qual, >4x |
| SL-628-SA5A-SB-0.0-0.5MSD (TOT) | IRON | 1212 | 780 | 75.00-125.00 | - | IRON | |
| (SL-628-SA5A-SB-0.0-0.5 | MAGNESIUM | 204 | 212 | 75.00-125.00 | - | MAGNESIUM | |
| SL-628-SA5A-SB-6.5-7.5 | MANGANESE | 128 | - | 75.00-125.00 | - | MANGANESE | |
| SL -928-SA5A-SB-0.0-0.5) | PHOSPHORUS | 130 | - | 75.00-125.00 | - | PHOSPHORUS | |
| | POTASSIUM | - | 126 | 75.00-125.00 | - | POTASSIUM | |
| | TITANIUM | 225 | 236 | 75.00-125.00 | - | TITANIUM | |
| SL-628-SA5A-SB-0.0-0.5MS (TOT) | CALCIUM | -46 | 620 | 75.00-125.00 | 35 (20.00) | CALCIUM | J(all detects) UJ(all non-detects) No Qual, %R >4x |
| SL-628-SA5A-SB-0.0-0.5MSD (TOT) | | | | | | | |
| (SL-628-SA5A-SB-0.0-0.5 | | | | | | | |
| SL -628-SA5A-SB-6.5-7.5 | | | | | | | |
| SL -928-SA5A-SB-0.0-0.5) | | | | | | | |
| SL-628-SA5A-SB-0.0-0.5MS (TOT) | ANTIMONY | 74 | - | 75.00-125.00 | - | ANTIMONY | J(all detects) UJ(all non-detects) |
| (SL-628-SA5A-SB-0.0-0.5 | | | | | | | |
| SL -628-SA5A-SB-6.5-7.5 | | | | | | | |
| SL -928-SA5A-SB-0.0-0.5) | | | | | | | |

Method: 6020A
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|-----------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-628-SA5A-SB-0.0-0.5MS (TOT) | STRONTIUM | 140 | 130 | 75.00-125.00 | - | STRONTIUM | J(all detects) |
| SL-628-SA5A-SB-0.0-0.5MSD (TOT) | | | | | | | |
| (SL-628-SA5A-SB-0.0-0.5 | | | | | | | |
| SL -628-SA5A-SB-6.5-7.5 | | | | | | | |
| SL -928-SA5A-SB-0.0-0.5) | | | | | | | |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PH126_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C

Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|------------|------------|-----------|--|
| SL-628-SA5A-SB-0.0-0.5DUP (TOT) | ALUMINUM | 28 | 20.00 | J (all detects) UJ (all non-detects) As, Be, Cr, Co, Pb, Mo, Ni, Zr, No Qual, OK by Difference |
| (SL-628-SA5A-SB-0.0-0.5) | ARSENIC | 32 | 20.00 | |
| SL -628-SA5A-SB-6.5-7.5 | BARIUM | 35 | 20.00 | |
| SL -928-SA5A-SB-0.0-0.5) | BERYLLIUM | 50 | 20.00 | |
| | CHROMIUM | 31 | 20.00 | |
| | COBALT | 40 | 20.00 | |
| | COPPER | 43 | 20.00 | |
| | IRON | 36 | 20.00 | |
| | LEAD | 30 | 20.00 | |
| | LITHIUM | 34 | 20.00 | |
| | MAGNESIUM | 35 | 20.00 | |
| | MANGANESE | 21 | 20.00 | |
| | MOLYBDENUM | 23 | 20.00 | |
| | NICKEL | 33 | 20.00 | |
| | POTASSIUM | 29 | 20.00 | |
| | VANADIUM | 30 | 20.00 | |
| | ZINC | 31 | 20.00 | |
| | Zirconium | 21 | 20.00 | |

Method: 6020A

Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|----------|------------|-----------|------------------------------|
| SL-628-SA5A-SB-0.0-0.5DUP (TOT) | SILVER | 200 | 20.00 | No Qual, OK by Difference |
| (SL-628-SA5A-SB-0.0-0.5) | THALLIUM | 25 | 20.00 | |
| SL -628-SA5A-SB-6.5-7.5 | | | | |
| SL -928-SA5A-SB-0.0-0.5) | | | | |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PH126_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 160.3M
Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|------------------------|------------|-----------|-----------------------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| MOISTURE | 1.7 | 2.5 | 38 | | No Qualifiers Applied |

Method: 1613B
Matrix: SO

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------------|------------------------|------------------------|------------|-----------|---------------------------------------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| 1,2,3,6,7,8-HXCDD | 1.03 | 0.940 | 9 | 50.00 | No Qualifiers Applied |
| 1,2,3,7,8,9-HXCDD | 0.654 | 0.746 | 13 | 50.00 | |
| OCDD | 297 | 186 | 46 | 50.00 | |
| 1,2,3,4,6,7,8-HPCDD | 30.8 | 13.9 | 76 | 50.00 | J(all detects) UJ(all non-detects) |
| 1,2,3,4,6,7,8-HPCDF | 3.47 | 1.50 | 79 | 50.00 | |
| 1,2,3,4,7,8,9-HPCDF | 0.266 | 0.766 | 97 | 50.00 | |
| 1,2,3,4,7,8-HxCDD | 0.327 | 0.574 | 55 | 50.00 | |
| 1,2,3,4,7,8-HxCDF | 0.378 | 0.703 | 60 | 50.00 | |
| 1,2,3,6,7,8-HxCDF | 0.262 | 0.724 | 94 | 50.00 | |
| 1,2,3,7,8,9-HxCDF | 0.207 | 0.846 | 121 | 50.00 | |
| 1,2,3,7,8-PECDD | 0.263 | 0.860 | 106 | 50.00 | |
| 1,2,3,7,8-PECDF | 0.922 | 1.87 | 68 | 50.00 | |
| 2,3,4,6,7,8-HxCDF | 0.301 | 0.983 | 106 | 50.00 | |
| 2,3,4,7,8-PECDF | 0.389 | 1.10 | 96 | 50.00 | |
| 2,3,7,8-TCDD | 0.102 | 0.192 | 61 | 50.00 | |
| 2,3,7,8-TCDF | 0.990 U | 0.355 | 200 | 50.00 | |
| OCDF | 8.55 | 4.35 | 65 | 50.00 | |

Method: 6010C
Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|------------------------------|------------------------------|------------|-----------|-----------------------|
| | SL-628-SA5A-SB-0.0-0.5 (TOT) | SL-928-SA5A-SB-0.0-0.5 (TOT) | | | |
| ALUMINUM | 10400 | 10100 | 3 | 50.00 | No Qualifiers Applied |
| ARSENIC | 2.28 | 2.47 | 8 | 50.00 | |
| BARIUM | 75.6 | 84.4 | 11 | 50.00 | |
| BERYLLIUM | 0.310 | 0.270 | 14 | 50.00 | |
| BORON | 4.03 | 3.17 | 24 | 50.00 | |
| CADMIUM | 0.514 | 0.471 | 9 | 50.00 | |
| CALCIUM | 6550 | 7670 | 16 | 50.00 | |
| CHROMIUM | 14.2 | 12.9 | 10 | 50.00 | |
| COBALT | 3.31 | 3.23 | 2 | 50.00 | |
| COPPER | 10.6 | 6.53 | 48 | 50.00 | |
| IRON | 17800 | 18500 | 4 | 50.00 | |
| LEAD | 7.32 | 9.34 | 24 | 50.00 | |
| LITHIUM | 24.2 | 23.6 | 3 | 50.00 | |
| MAGNESIUM | 3750 | 3770 | 1 | 50.00 | |
| MANGANESE | 266 | 263 | 1 | 50.00 | |
| NICKEL | 6.77 | 6.00 | 12 | 50.00 | |
| PHOSPHORUS | 397 | 393 | 1 | 50.00 | |
| POTASSIUM | 3340 | 3300 | 1 | 50.00 | |
| SODIUM | 130 | 182 | 33 | 50.00 | |
| TIN | 2.97 | 3.00 | 1 | 50.00 | |
| TITANIUM | 1100 | 1110 | 1 | 50.00 | |
| VANADIUM | 25.5 | 26.8 | 5 | 50.00 | |
| ZINC | 108 | 100 | 8 | 50.00 | |
| Zirconium | 2.58 | 2.71 | 5 | 50.00 | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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ADR version 1.7.0.207

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Field Duplicate RPD Report

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PH126_v1.

eQAPP Name: CDM_SSFL_131101_Lan

| | | | | | |
|----------------------|-------|-------|----|-------|----------------|
| Method: 6010C | | | | | |
| Matrix: SO | | | | | |
| MOLYBDENUM | 0.545 | 0.264 | 69 | 50.00 | J(all detects) |

| | | | | | |
|----------------------|--|--|--|--|--|
| Method: 6020A | | | | | |
| Matrix: SO | | | | | |

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|------------------------------|------------------------------|------------|-----------|---------------------------------------|
| | SL-628-SA5A-SB-0.0-0.5 (TOT) | SL-928-SA5A-SB-0.0-0.5 (TOT) | | | |
| SILVER | 0.0309 | 0.0308 | 0 | 50.00 | No Qualifiers Applied |
| STRONTIUM | 18.1 | 21.0 | 15 | 50.00 | |
| THALLIUM | 0.227 | 0.237 | 4 | 50.00 | |
| SELENIUM | 0.126 | 0.402 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |

| | | | | | |
|----------------------|--|--|--|--|--|
| Method: 7471B | | | | | |
| Matrix: SO | | | | | |

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------|------------------------------|------------------------------|------------|-----------|-----------------------|
| | SL-628-SA5A-SB-0.0-0.5 (TOT) | SL-928-SA5A-SB-0.0-0.5 (TOT) | | | |
| MERCURY | 0.247 | 0.181 | 31 | 50.00 | No Qualifiers Applied |

| | | | | | |
|----------------------|--|--|--|--|--|
| Method: 8015C | | | | | |
| Matrix: SO | | | | | |

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|------------------------|------------|-----------|---------------------------------------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| METHANOL | 480 | 1000 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |

| | | | | | |
|----------------------|--|--|--|--|--|
| Method: 8015M | | | | | |
| Matrix: SO | | | | | |

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------|------------------------|------------------------|------------|-----------|----------------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| EFH (C21-C30) | 11 | 3.4 | 106 | 50.00 | J(all detects) |
| EFH (C30-C40) | 40 | 8.9 | 127 | 50.00 | |

| | | | | | |
|----------------------|--|--|--|--|--|
| Method: 8082A | | | | | |
| Matrix: SO | | | | | |

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|--------------|------------------------|------------------------|------------|-----------|----------------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| AROCLOR 1254 | 23 | 120 | 136 | 50.00 | J(all detects) |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PH126_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM
Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------------------|------------------------|------------------------|------------|-----------|---------------------------------------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| ACENAPHTHYLENE | 0.41 | 1.7 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| ANTHRACENE | 0.56 | 1.7 U | 200 | 50.00 | |
| BENZO(A)ANTHRACENE | 2.6 | 1.7 U | 200 | 50.00 | |
| BENZO(A)PYRENE | 3.5 | 1.7 U | 200 | 50.00 | |
| BENZO(B)FLUORANTHENE | 8.5 | 1.7 U | 200 | 50.00 | |
| BENZO(E)PYRENE | 3.7 | 1.7 U | 200 | 50.00 | |
| BENZO(G,H,I)PERYLENE | 3.5 | 1.7 U | 200 | 50.00 | |
| BENZO(K)FLUORANTHENE | 2.3 | 1.7 U | 200 | 50.00 | |
| CHRYSENE | 5.7 | 1.7 U | 200 | 50.00 | |
| DIBENZO(A,H)ANTHRACENE | 1.0 | 1.7 U | 200 | 50.00 | |
| FLUORANTHENE | 7.9 | 1.7 U | 200 | 50.00 | |
| INDENO(1,2,3-CD)PYRENE | 2.5 | 1.7 U | 200 | 50.00 | |
| PHENANTHRENE | 3.3 | 1.7 U | 200 | 50.00 | |
| PYRENE | 6.1 | 1.7 U | 200 | 50.00 | |

Method: 9045M
Matrix: SO

| Analyte | Concentration (pH unit) | | Sample RPD | eQAPP RPD | Flag |
|---------|-------------------------|------------------------|------------|-----------|-----------------------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| PH | 8.25 | 7.76 | 6 | 50.00 | No Qualifiers Applied |

Reporting Limit Outliers

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PH126_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------------------|---------------------|--------|-----------------|---------|-------|-----------------|
| SL-628-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 3.47 | 4.95 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.266 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.327 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.378 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 1.03 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.262 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.654 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.207 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.263 | 4.95 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.922 | 4.95 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.301 | 4.95 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.389 | 4.95 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.102 | 0.990 | PQL | ng/Kg | |
| | OCDF | JB | 8.55 | 9.90 | PQL | ng/Kg | |
| | SL-628-SA5A-SB-6.5-7.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.411 | 5.28 | PQL | |
| 1,2,3,4,6,7,8-HPCDF | | JB | 0.142 | 5.28 | PQL | ng/Kg | |
| 1,2,3,4,7,8,9-HPCDF | | JB | 0.145 | 5.28 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HxCDD | | JBQ | 0.0620 | 5.28 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HXCDF | | JB | 0.0888 | 5.28 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HXCDD | | JB | 0.132 | 5.28 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HXCDF | | JB | 0.0773 | 5.28 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HXCDD | | JB | 0.211 | 5.28 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HXCDF | | JBQ | 0.172 | 5.28 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDD | | JBQ | 0.0950 | 5.28 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDF | | JB | 0.179 | 5.28 | PQL | ng/Kg | |
| 2,3,4,6,7,8-HXCDF | | JBQ | 0.103 | 5.28 | PQL | ng/Kg | |
| 2,3,4,7,8-PECDF | | JB | 0.130 | 5.28 | PQL | ng/Kg | |
| OCDD | | JB | 3.77 | 10.6 | PQL | ng/Kg | |
| OCDF | | JB | 0.614 | 10.6 | PQL | ng/Kg | |
| SL-928-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.50 | 4.96 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.766 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.574 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.703 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 0.940 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.724 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.746 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.846 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.860 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 1.87 | 4.96 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.983 | 4.96 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 1.10 | 4.96 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JBQ | 0.192 | 0.992 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.355 | 0.992 | PQL | ng/Kg | |
| | OCDF | JB | 4.35 | 9.92 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PH126_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-628-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.28 | 3.99 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.310 | 0.997 | PQL | mg/Kg | |
| | BORON | J | 4.03 | 9.97 | PQL | mg/Kg | |
| | CADMIUM | J | 0.514 | 0.997 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.545 | 1.99 | PQL | mg/Kg | |
| | TIN | J | 2.97 | 9.97 | PQL | mg/Kg | |
| | Zirconium | J | 2.58 | 4.99 | PQL | mg/Kg | |
| SL-628-SA5A-SB-6.5-7.5 | BERYLLIUM | J | 0.684 | 1.06 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.44 | 10.6 | PQL | mg/Kg | |
| | CADMIUM | J | 0.306 | 1.06 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.329 | 2.12 | PQL | mg/Kg | |
| | TIN | J | 3.82 | 10.6 | PQL | mg/Kg | |
| | Zirconium | J | 4.60 | 5.29 | PQL | mg/Kg | |
| SL-928-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.47 | 4.02 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.270 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 3.17 | 10.1 | PQL | mg/Kg | |
| | CADMIUM | J | 0.471 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.264 | 2.01 | PQL | mg/Kg | |
| | TIN | J | 3.00 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 2.71 | 5.03 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-628-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.126 | 0.399 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0309 | 0.199 | PQL | mg/Kg | |
| SL-628-SA5A-SB-6.5-7.5 | SELENIUM | J | 0.304 | 0.423 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0415 | 0.212 | PQL | mg/Kg | |
| SL-928-SA5A-SB-0.0-0.5 | SILVER | J | 0.0308 | 0.201 | PQL | mg/Kg | J (all detects) |

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-628-SA5A-SB-6.5-7.5 | MERCURY | J | 0.0138 | 0.0174 | PQL | mg/Kg | J (all detects) |

Method: 8015C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-628-SA5A-SB-0.0-0.5 | METHANOL | J | 480 | 1000 | PQL | ug/Kg | J (all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH126

Laboratory: LL

EDD Filename: PH126_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-928-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 3.4 | 5.1 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 8.9 | 10 | PQL | mg/Kg | |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-628-SA5A-SB-0.0-0.5 | ACENAPHTHYLENE | J | 0.41 | 1.7 | PQL | ug/Kg | J (all detects) |
| | ANTHRACENE | J | 0.56 | 1.7 | PQL | ug/Kg | |
| | BENZO(E)PYRENE | J | 3.7 | 17 | PQL | ug/Kg | |
| | DIBENZO(A,H)ANTHRACENE | J | 1.0 | 1.7 | PQL | ug/Kg | |

Enclosure II

EPA Level IV Data Validation Reports

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: November 12, 2013
LDC Report Date: January 13, 2014
Matrix: Soil
Parameters: Semivolatiles
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH126

Sample Identification

SL-628-SA5A-SB-0.0-0.5
SL-928-SA5A-SB-0.0-0.5
SL-628-SA5A-SB-6.5-7.5
SL-628-SA5A-SB-0.0-0.5MS
SL-628-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 5 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method.

Sample EB-111413 (from SDG PH129) was identified as an equipment blank. No semivolatile contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|-----------|---------------|---|-------------------------------------|--------------------------|
| EB-111413 | 11/14/13 | Di-n-butylphthalate Diethylphthalate Bis(2-ethylhexyl)phthalate | 0.21 ug/L 0.29 ug/L 0.52 ug/L | All samples in SDG PH126 |

Sample FB-041613 (from SDG PH032) was identified as a field blank. No semivolatile contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|-----------|---------------|--|-------------------------------------|--------------------------|
| FB-041613 | 4/16/13 | 2-Methylnaphthalene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate | 0.012 ug/L 1.0 ug/L 0.11 ug/L | All samples in SDG PH126 |

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

| Spike ID (Associated Samples) | Compound | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|--|----------------------------|---------------------|----------------------|-----------------|---|--------|
| SL-628-SA5A-SB-0.0-0.5MS/MSD (SL-628-SA5A-SB-0.0-0.5) | Fluoranthene | - | 726 (40-148) | 156 (≤30) | J (all detects) | A |
| | Pyrene | - | 661 (26-143) | 157 (≤30) | J (all detects) | |
| | Bis(2-ethylhexyl)phthalate | - | 262 (39-167) | 94 (≤30) | J (all detects) | |
| | Benzo(a)anthracene | - | 1001 (44-143) | 168 (≤30) | J (all detects) | |
| | Chrysene | - | 1248 (29-148) | 174 (≤30) | J (all detects) | |
| | Benzo(b)fluoranthene | - | 1440 (26-142) | 177 (≤30) | J (all detects) | |
| | Benzo(k)fluoranthene | - | 569 (54-142) | 149 (≤30) | J (all detects) | |
| | Benzo(a)pyrene | - | 658 (44-140) | 155 (≤30) | J (all detects) | |
| | Indeno(1,2,3-cd)pyrene | - | 289 (17-136) | 106 (≤30) | J (all detects) | |
| | Dibenzo(a,h)anthracene | - | 161 (20-137) | 56 (≤30) | J (all detects) | |
| | Benzo(g,h,i)perylene | - | 246 (33-141) | 97 (≤30) | J (all detects) | |
| SL-628-SA5A-SB-0.0-0.5MS/MSD (SL-628-SA5A-SB-0.0-0.5) | Benzo(e)pyrene | 68 (70-130) | 592 (70-130) | 154 (≤30) | J (all detects) UJ (all non-detects) | A |

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation

All compound quantitation were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH126 | All compounds reported below the RL. | J (all detects) | A |

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SL-628-SA5A-SB-0.0-0.5 and SL-928-SA5A-SB-0.0-0.5 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

| Compound | Concentration (ug/Kg) | | RPD (Limits) | Flag | A or P |
|------------------------|------------------------|------------------------|--------------|---|--------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| Acenaphthylene | 0.41 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Anthracene | 0.56 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Benzo(a)anthracene | 2.6 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Benzo(a)pyrene | 3.5 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Benzo(b)fluoranthene | 8.5 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Benzo(e)pyrene | 3.7 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Benzo(g,h,i)perylene | 3.5 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Benzo(k)fluoranthene | 2.3 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Chrysene | 5.7 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Dibenzo(a,h)anthracene | 1.0 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Fluoranthene | 7.9 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Indeno(1,2,3-cd)pyrene | 2.5 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Phenanthrene | 3.3 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Pyrene | 6.1 | 1.7U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |

**Santa Susana Field Laboratory
Semivolatiles - Data Qualification Summary - SDG PH126**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|--|--|---|--------|---|
| PH126 | SL-628-SA5A-SB-0.0-0.5 | Fluoranthene Pyrene Bis(2-ethylhexyl)phthalate Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene | J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 | Benzo(e)pyrene | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 | Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(e)pyrene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Dibenzo(a,h)anthracene Fluoranthene Indeno(1,2,3-cd)pyrene Phenanthrene Pyrene | J (all detects) UJ (all non-detects) | A | Field Duplicates (RPD) (FD) |

**Santa Susana Field Laboratory
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG PH126**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Semivolatiles - Field Blank Data Qualification Summary - SDG PH126**

No Sample Data Qualified in this SDG

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270C-SIM)
 SUD

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--|
| I. | Technical holding times | Δ | Sampling dates: 11/12/13 |
| II. | GC/MS Instrument performance check | Δ | |
| III. | Initial calibration | Δ | % RSD ≤ 30 |
| IV. | Continuing calibration/ICV | Δ | 100/CCV ≤ 25 |
| V. | Blanks | Δ | |
| VI. | Surrogate spikes | Δ | |
| VII. | Matrix spike/Matrix spike duplicates | SW | |
| VIII. | Laboratory control samples | A | LCS |
| IX. | Regional Quality Assurance and Quality Control | N | |
| X. | Internal standards | Δ | |
| XI. | Target compound identification | A | |
| XII. | Compound quantitation/RL/LOQ/LODs | Δ | |
| XIII. | Tentatively identified compounds (TICs) | N | |
| XIV. | System performance | Δ | |
| XV. | Overall assessment of data | Δ | |
| XVI. | Field duplicates | SW | D = 1, 2 |
| XVII. | Field blanks | SW | FB = FB-041613 (SDG # PH032) EB = EB-111413 (SDG # PH129) |

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

SOL

| | | | | | | | |
|----|---------------------------|----|------------|----|--|----|--|
| 1 | SL-628-SA5A-SB-0.0-0.5 | 11 | SBLK LA322 | 21 | | 31 | |
| 2 | SL-928-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | SL-628-SA5A-SB-6.5-7.5 | 13 | | 23 | | 33 | |
| 4 | SL-628-SA5A-SB-0.0-0.5MS | 14 | | 24 | | 34 | |
| 5 | SL-628-SA5A-SB-0.0-0.5MSD | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Method: Semivolatiles (EPA SW 846 Method 8270C)

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. GC/MS Instrument performance check | | | | |
| Were the DFTPP performance results reviewed and found to be within the specified criteria? | / | | | |
| Were all samples analyzed within the 12 hour clock criteria? | / | | | |
| III. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | / | | | |
| Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs? | | | / | |
| Was a curve fit used for evaluation? | | / | | |
| Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990 ? | | | / | |
| Were all percent relative standard deviations (%RSD) $\leq 30\%/15\%$ and relative response factors (RRF) ≥ 0.05 ? | / | | | |
| IV. Continuing calibration | | | | |
| Was a continuing calibration standard analyzed at least once every 12 hours for each instrument? | / | | | |
| Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs? | / | | | |
| Were all percent differences (%D) $\leq 20\%$ and relative response factors (RRF) ≥ 0.05 ? | / | | | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was a method blank analyzed for each matrix and concentration? | / | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | | | / | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within QC limits? | / | | | |
| If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R? | | | / | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | | | / | |
| VII. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | / | | | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | / | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | | / | | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | | | |
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | | <input checked="" type="checkbox"/> | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | <input checked="" type="checkbox"/> | |
| X. Internal standards | | | | |
| Were internal standard area counts within -50% or +100% of the associated calibration standard? | <input checked="" type="checkbox"/> | | | |
| Were retention times within + 30 seconds from the associated calibration standard? | <input checked="" type="checkbox"/> | | | |
| XI. Target compound identification | | | | |
| Were relative retention times (RRT's) within + 0.06 RRT units of the standard? | <input checked="" type="checkbox"/> | | | |
| Did compound spectra meet specified EPA "Functional Guidelines" criteria? | <input checked="" type="checkbox"/> | | | |
| Were chromatogram peaks verified and accounted for? | <input checked="" type="checkbox"/> | | | |
| XII. Compound quantitation/CRQLs | | | | |
| Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound? | <input checked="" type="checkbox"/> | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | <input checked="" type="checkbox"/> | | | |
| XIII. Tentatively identified compounds (TICs) | | | | |
| Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum? | | | <input checked="" type="checkbox"/> | |
| Were relative intensities of the major ions within ± 20% between the sample and the reference spectra? | | | <input checked="" type="checkbox"/> | |
| Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)? | | | <input checked="" type="checkbox"/> | |
| XIV. System performance | | | | |
| System performance was found to be acceptable. | | <input checked="" type="checkbox"/> | | |
| XV. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | <input checked="" type="checkbox"/> | | | |
| XVI. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | <input checked="" type="checkbox"/> | | | |
| Target compounds were detected in the field duplicates. | <input checked="" type="checkbox"/> | | | |
| XVII. Field blanks | | | | |
| Field blanks were identified in this SDG. | <input checked="" type="checkbox"/> | | | |
| Target compounds were detected in the field blanks. | <input checked="" type="checkbox"/> | | | |

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

| | | | | |
|---------------------------------|------------------------------|---------------------------------|----------------------------------|---------------------------------|
| A. Phenol | T. 4-Chloroaniline | MM. 4-Chlorophenyl-phenyl ether | FFF. Di-n-octylphthalate | YYY. 2,3,5-Trimethylnaphthalene |
| B. Bis (2-chloroethyl) ether | U. Hexachlorobutadiene | NN. Fluorene | GGG. Benzo(b)fluoranthene | ZZZ. Perylene |
| C. 2-Chlorophenol | V. 4-Chloro-3-methylphenol | OO. 4-Nitroaniline | HHH. Benzo(k)fluoranthene | AAAA. Dibenzothiophene |
| D. 1,3-Dichlorobenzene | W. 2-Methylnaphthalene | PP. 4,6-Dinitro-2-methylphenol | III. Benzo(a)pyrene | BBBB. Benzo(a)fluoranthene |
| E. 1,4-Dichlorobenzene | X. Hexachlorocyclopentadiene | QQ. N-Nitrosodiphenylamine | JJJ. Indeno(1,2,3-cd)pyrene | CCCC. Benzo(b)fluorene |
| F. 1,2-Dichlorobenzene | Y. 2,4,6-Trichlorophenol | RR. 4-Bromophenyl-phenylether | KKK. Dibenz(a,h)anthracene | DDDD. cis/trans-Decalin |
| G. 2-Methylphenol | Z. 2,4,5-Trichlorophenol | SS. Hexachlorobenzene | LLL. Benzo(g,h,i)perylene | EEEE. Biphenyl |
| H. 2,2'-Oxybis(1-chloropropane) | AA. 2-Chloronaphthalene | TT. Pentachlorophenol | MMM. Bis(2-Chloroisopropyl)ether | FFFF. Retene |
| I. 4-Methylphenol | BB. 2-Nitroaniline | UU. Phenanthrene | NNN. Aniline | GGGG. C30-Hopane |
| J. N-Nitroso-di-n-propylamine | CC. Dimethylphthalate | VV. Anthracene | OOO. N-Nitrosodimethylamine | HHHH. 1-Methylphenanthrene |
| K. Hexachloroethane | DD. Acenaphthylene | WW. Carbazole | PPP. Benzoic Acid | IIII. 1,4-Dioxane |
| L. Nitrobenzene | EE. 2,6-Dinitrotoluene | XX. Di-n-butylphthalate | QQQ. Benzyl alcohol | JJJJ. Acetophenone |
| M. Isophorone | FF. 3-Nitroaniline | YY. Fluoranthene | RRR. Pyridine | KKKK. Atrazine |
| N. 2-Nitrophenol | GG. Acenaphthene | ZZ. Pyrene | SSS. Benzidine | LLLL. Benzaldehyde |
| O. 2,4-Dimethylphenol | HH. 2,4-Dinitrophenol | AAA. Butylbenzylphthalate | TTT. 1-Methylnaphthalene | MMMM. Caprolactam |
| P. Bis(2-chloroethoxy)methane | II. 4-Nitrophenol | BBB. 3,3'-Dichlorobenzidine | UUU. Benzo(b)thiophene | NNNN. <i>Benzo(e)pyrene</i> |
| Q. 2,4-Dichlorophenol | JJ. Dibenzofuran | CCC. Benzo(a)anthracene | VVV. Benzonaphthothiophene | OOOO. |
| R. 1,2,4-Trichlorobenzene | KK. 2,4-Dinitrotoluene | DDD. Chrysene | WWW. Benzo(e)pyrene | PPPP. |
| S. Naphthalene | LL. Diethylphthalate | EEE. Bis(2-ethylhexyl)phthalate | XXX. 2,6-Dimethylnaphthalene | QQQQ. |

LDC #: 31035B26

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: FT
2nd Reviewer: ←

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L Associated sample units: ug/kg

Sampling date: 11/14/13

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: All (ND)

EB = EB - 111413 (SDG # PH129)

| Compound | Blank ID | Sample Identification | | | | | | | |
|------------|-------------|-----------------------|--|--|--|--|--|--|--|
| | EB | | | | | | | | |
| <u>XX</u> | <u>0.21</u> | | | | | | | | |
| <u>LL</u> | <u>0.29</u> | | | | | | | | |
| <u>EEE</u> | <u>0.52</u> | | | | | | | | |
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| CRQL | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 31035B26

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [Signature]

FB = FB-041613 (SDG # P1032)

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L Associated sample units: ug/kg

Sampling date: 4/16/13

Field blank type: (circle one) Field Blank / Rinsate / Other: FB Associated Samples: All (ND)

| Compound | Blank ID | Sample Identification | | | | | | | |
|------------|--------------|-----------------------|--|--|--|--|--|--|--|
| | <u>FB</u> | | | | | | | | |
| <u>W</u> | <u>0.012</u> | | | | | | | | |
| <u>EEF</u> | <u>1.0</u> | | | | | | | | |
| <u>XX</u> | <u>0.11</u> | | | | | | | | |
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| CRQL | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 31035B26

VALIDATION FINDINGS WORKSHEET Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

code = Q

| # | Date | MS/MSD ID | Compound | MS %R (Limits) | MSD %R (Limits) | RPD (Limits) | Associated Samples | Qualifications |
|---|------|-----------|----------|----------------|-----------------|--------------|--------------------|-------------------------------------|
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GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS-SIM

4 + 5

| UNSPK: 7275655 MS: 7275656 MSD: 7275657 Analyte | Batch: 13322SLA026 (Sample number(s): 7275655-7275657, 7275659-7275660) | | | | | | | | |
|--|---|------------------------|------------------|-------------------|---------|----------|-------------|-------|---------------|
| | Spike Added ug/kg | Unspiked Conc ug/kg | MS Conc ug/kg | MSD Conc ug/kg | MS %Rec | MSD %Rec | %Rec Limits | %RPD | %RPD Limits |
| N-Nitrosodimethylamine | 33.33 | N.D. | 26.86 | 29.1 | 81 | 87 | 48-113 | 8 | 30 |
| Naphthalene | 33.33 | N.D. | 33.53 | 35.38 | 101 | 106 | 31-148 | 5 | 30 |
| 2-Methylnaphthalene | 33.33 | N.D. | 30.8 | 33.24 | 92 | 100 | 35-152 | 8 | 30 |
| 1-Methylnaphthalene | 33.33 | N.D. | 31.06 | 34.01 | 93 | 102 | 50-131 | 9 | 30 |
| Dimethylphthalate | 33.33 | N.D. | 27.66 | 30.6 | 83 | 92 | 58-129 | 10 | 30 |
| Acenaphthylene | 33.33 | 0.4 | 27.48 | 30.98 | 81 | 92 | 49-121 | 12 | 30 |
| Acenaphthene | 33.33 | N.D. | 30.08 | 33.38 | 90 | 100 | 48-127 | 10 | 30 |
| Diethylphthalate | 33.33 | N.D. | 31.8 | 31.83 | 95 | 95 | 43-145 | 0 | 30 |
| Fluorene | 33.33 | N.D. | 30.83 | 33.16 | 93 | 99 | 51-137 | 7 | 30 |
| Phenanthrene | 33.33 | 3.29 | 29.43 | 36.64 | 78 | 100 | 29-142 | 22 | 30 |
| Anthracene | 33.33 | 0.55 | 29.12 | 34.26 | 86 | 101 | 52-126 | 16 | 30 |
| Di-n-butylphthalate | 33.33 | N.D. | 30.76 | 32.01 | 92 | 96 | 52-147 | 4 | 30 |
| Fluoranthene <i>YY</i> | 33.33 | 7.77 | 31.22 | 249.77 | 70 | 726 * | 40-148 | 156 * | 30 <i>J/A</i> |
| Pyrene <i>ZZ</i> | 33.33 | 5.95 | 27.52 | 226.24 | 65 | 661 * | 26-143 | 157 * | 30 <i>J/A</i> |
| Butylbenzylphthalate | 33.33 | N.D. | 26.92 | 27.76 | 81 | 83 | 49-151 | 3 | 30 |
| Bis(2-Ethylhexyl)phthalate <i>EEE</i> | 33.33 | N.D. | 31.4 | 87.39 | 94 | 262 * | 39-167 | 94 * | 30 <i>J/A</i> |
| Benzo(a)anthracene <i>CCC</i> | 33.33 | 2.57 | 29.08 | 336.34 | 80 | 1001 * | 44-143 | 168 * | 30 <i>J/A</i> |
| Chrysene <i>DDD</i> | 33.33 | 5.57 | 29.71 | 421.56 | 72 | 1248 * | 29-148 | 174 * | 30 <i>J/A</i> |
| Di-n-octylphthalate | 33.33 | N.D. | 25.89 | 30.21 | 78 | 91 | 52-162 | 15 | 30 |
| Benzo(b)fluoranthene <i>GGG</i> | 33.33 | 8.31 | 30.45 | 488.34 | 66 | 1440 * | 26-142 | 177 * | 30 <i>J/A</i> |
| Benzo(k)fluoranthene <i>HHH</i> | 33.33 | 2.29 | 27.9 | 192.04 | 77 | 569 * | 54-142 | 149 * | 30 <i>J/A</i> |
| Benzo(e)pyrene <i>NNN</i> | 33.33 | 3.62 | 26.36 | 201. | 68 * | 592 * | 70-130 | 154 * | 30 <i>J/A</i> |
| Benzo(a)pyrene <i>III</i> | 33.33 | 3.44 | 28.37 | 222.84 | 75 | 658 * | 44-140 | 155 * | 30 <i>J/A</i> |
| Indeno(1,2,3-cd)pyrene <i>JJJ</i> | 33.33 | 2.48 | 30.28 | 98.81 | 83 | 289 * | 17-136 | 106 * | 30 |
| Dibenz(a,h)anthracene <i>KKK</i> | 33.33 | 1.02 | 30.87 | 54.75 | 90 | 161 * | 20-137 | 56 * | 30 |
| Benzo(g,h,i)perylene <i>LLL</i> | 33.33 | 3.42 | 29.74 | 85.32 | 79 | 246 * | 33-141 | 97 * | 30 |

code = Q

Comments:

(2) The unspiked sample result is greater than four times the spike added.

* = Out of Specification

Results are being reported on an as received basis.

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target compounds identified in the field duplicate pairs?

code = Fd

| Compound | Concentration ($\mu\text{g}/\text{kg}$) | | RPD ($\leq 50\%$) | |
|----------|---|------|---------------------|-------|
| | 1 | 2 | | |
| DD | 0.41 | 1.74 | 200 | J/W/A |
| VV | 0.86 | 1.74 | | |
| CC | 2.6 | 1.74 | | |
| III | 3.5 | 1.74 | | |
| GG | 8.5 | 1.74 | | |
| NN | 3.7 | 1.74 | | |
| LL | 3.5 | 1.74 | | |
| HH | 2.3 | 1.74 | | |

| Compound | Concentration ($\mu\text{g}/\text{kg}$) | | RPD ($\leq 50\%$) | |
|----------|---|------|---------------------|-------|
| | 1 | 2 | | |
| DD | 5.7 | 1.74 | 200 | J/W/A |
| KK | 1.0 | 1.74 | | |
| YY | 7.9 | 1.74 | | |
| JJJ | 2.5 | 1.74 | | |
| UU | 3.3 | 1.74 | | |
| ZZ | 6.1 | 1.74 | | |

| Compound | Concentration () | | RPD (\leq %) | |
|----------|-------------------|--|-----------------|--|
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LDC #: 31035B26

VALIDATION FINDINGS WORKSHEET Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [Signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of compound,

C_x = Concentration of compound,

S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

X = Mean of the RRFs


| # | Standard ID | Calibration Date | Compound (Internal Standard) | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|------------------------------|-----------------|-----------------|--------------------------|--------------------------|----------|--------------|
| | | | | RRF (/ std) | RRF (/ std) | Average RRF (initial) | Average RRF (initial) | %RSD | %RSD |
| 1 | ICAL | 11/21/13 | 000 (1st IS) | 0.987 | 0.987 | 0.993 | 0.993 | 3 | 3 |
| | | | S (2nd IS) | 1.041 | 1.041 | 1.035 | 1.035 | 7 | 7 |
| | | | NN (3rd IS) | 1.263 | 1.263 | 1.218 | 1.218 | 4 | 4 |
| | | | YY (4th IS) | 1.307 | 1.307 | 1.263 | 1.263 | 4 | 4 |
| | | | PDD (5th IS) | 1.372 | 1.372 | 1.344 | 1.344 | 4 | 4 |
| | | | FI7 (6th IS) | 1.469 | 1.469 | 1.469 | 1.469 | 5 | 5 |
| 2 | | | (1st IS) | | | | | | |
| | | | (2nd IS) | | | | | | |
| | | | (3rd IS) | | | | | | |
| | | | (4th IS) | | | | | | |
| | | | (5th IS) | | | | | | |
| | | | (6th IS) | | | | | | |
| 3 | | | (1st IS) | | | | | | |
| | | | (2nd IS) | | | | | | |
| | | | (3rd IS) | | | | | | |
| | | | (4th IS) | | | | | | |
| | | | (5th IS) | | | | | | |
| | | | (6th IS) | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035B26

VALIDATION FINDINGS WORKSHEET

Continuing Calibration Results Verification

Page: 1 of 1
 Reviewer: FT
 2nd Reviewer: 

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (A_x)(C_{is}) / (A_{is})(C_x)$$

Where: ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 A_x = Area of compound, A_{is} = Area of associated internal standard
 C_x = Concentration of compound, C_{is} = Concentration of internal standard

| # | Standard ID | Calibration Date | Compound (Internal Standard) | Average RRF (Initial) | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|------------------------------|-----------------------|----------|--------------|----------|--------------|
| | | | | | RRF (CC) | RRF (CC) | %D | %D |
| 1 | 1CAL | 11/21/13 | 000 (1st IS) | 0.993 | 0.955 | 0.955 | 4 | 4 |
| | | | S (2nd IS) | 1.035 | 1.049 | 1.049 | 1 | 1 |
| | | | NN (3rd IS) | 1.218 | 1.200 | 1.200 | 2 | 2 |
| | | | YY (4th IS) | 1.263 | 1.282 | 1.282 | 1 | 1 |
| | | | DDD (5th IS) | 1.344 | 1.281 | 1.281 | 5 | 5 |
| | | | III (6th IS) | 1.469 | 1.409 | 1.409 | 4 | 4 |
| 2 | | | (1st IS) | | | | | |
| | | | (2nd IS) | | | | | |
| | | | (3rd IS) | | | | | |
| | | | (4th IS) | | | | | |
| | | | (5th IS) | | | | | |
| | | | (6th IS) | | | | | |
| 3 | | | (1st IS) | | | | | |
| | | | (2nd IS) | | | | | |
| | | | (3rd IS) | | | | | |
| | | | (4th IS) | | | | | |
| | | | (5th IS) | | | | | |
| | | | (6th IS) | | | | | |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: _____

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|---|------------------|-----------------|---------------------------|-------------------------------|--------------------|
| Nitrobenzene-d5 <i>Fluoranthene d10</i> | 1.0 | 0.882 | 88 | 88 | 0 |
| 2-Fluorobiphenyl <i>Benzo(a)pyrene - d12</i> | ↓ | 0.786 | 79 | 79 | ↓ |
| Terphenyl-d14 <i>1-Methylanthracene - d10</i> | ↓ | 0.936 | 94 | 94 | ↓ |
| Phenol-d5 | | | | | |
| 2-Fluorophenol | | | | | |
| 2,4,6-Tribromophenol | | | | | |
| 2-Chlorophenol-d4 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | |

Sample ID: _____

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|------------------------|------------------|-----------------|---------------------------|-------------------------------|--------------------|
| Nitrobenzene-d5 | | | | | |
| 2-Fluorobiphenyl | | | | | |
| Terphenyl-d14 | | | | | |
| Phenol-d5 | | | | | |
| 2-Fluorophenol | | | | | |
| 2,4,6-Tribromophenol | | | | | |
| 2-Chlorophenol-d4 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | |

Sample ID: _____

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|------------------------|------------------|-----------------|---------------------------|-------------------------------|--------------------|
| Nitrobenzene-d5 | | | | | |
| 2-Fluorobiphenyl | | | | | |
| Terphenyl-d14 | | | | | |
| Phenol-d5 | | | | | |
| 2-Fluorophenol | | | | | |
| 2,4,6-Tribromophenol | | | | | |
| 2-Chlorophenol-d4 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | |

LDC #: 31035B26

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
 Reviewer: FT
 2nd Reviewer: [Signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * (SSC - SC) / SA$

Where: SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

RPD = $100 * |MSC - MSCD| / (MSC + MSCD)$

MSC = Matrix spike concentration

MSCD = Matrix spike duplicate concentration

MS/MSD samples: 4 & 5

| Compound | Spike Added (ug/kg) | | Sample Concentration (ug/kg) | Spiked Sample Concentration (ug/kg) | | Matrix Spike | | Matrix Spike Duplicate | | MS/MSD | |
|----------------------------|---------------------|-------|------------------------------|-------------------------------------|--------|------------------|--------|------------------------|--------|----------|--------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc | Reported | Recalc | Reported | Recalc |
| Phenol | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | | | | | | | | | | | |
| Acenaphthene | 33.33 | 33.33 | ND | 30.08 | 33.38 | 90 | 90 | 100 | 100 | 10 | 10 |
| Pentachlorophenol | | | | | | | | | | | |
| Pyrene | 33.33 | 33.33 | 5.95 | 27.52 | 226.24 | 65 | 65 | 661 | 661 | 157 | 157 |
| | | | | | | | | | | | |
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Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC

#: 31035 B26

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
 Reviewer: FT
 2nd Reviewer: [Signature]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA)

Where: SSC = Spike concentration
 SA = Spike added

RPD = | LCSC - LCSDC | * 2 / (LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 322 LA LCS

| Compound | Spike Added (ug/kg) | | Spike Concentration (ug/kg) | | LCS | | LCSD | | LCS/LCSD | |
|----------------------------|------------------------|------|--------------------------------|------|------------------|--------|------------------|--------|----------|--------------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc | Reported | Recalc | Reported | Recalculated |
| Phenol | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | | | | | | | | | | |
| 4-Chloro-3-methylphenol | | | | | | | | | | |
| Acenaphthene | 33.33 | NA | 31.42 | NA | 94 | 94 | | | | |
| Pentachlorophenol | | | | | | | | | | |
| Pyrene | ↓ | ↓ | 30.83 | ↓ | 93 | 93 | NA | | | |
| | | | | | | | | | | |
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Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET

Sample Calculation Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

- Y/N N/A Were all reported results recalculated and verified for all level IV samples?
- Y/N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(V_i)(DF)(2.0)}{(A_s)(RRF)(V_o)(V_t)(\%S)}$$

- A_x = Area of the characteristic ion (EICP) for the compound to be measured
- A_s = Area of the characteristic ion (EICP) for the specific internal standard
- I_s = Amount of internal standard added in nanograms (ng)
- V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).
- V_i = Volume of extract injected in microliters (ul)
- V_t = Volume of the concentrated extract in microliters (ul)
- Df = Dilution Factor.
- %S = Percent solids, applicable to soil and solid matrices only.
- 2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. #1, uu:

$$\text{Conc.} = \frac{(66408)(1.0)(1)(1000)}{(617755)(1.090)(30)(0.98)}$$

= 3.35 ug/kg

| # | Sample ID | Compound | Reported Concentration () | Calculated Concentration () | Qualification |
|---|-----------|----------|-------------------------------|---------------------------------|---------------|
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**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: November 12, 2013
LDC Report Date: January 13, 2014
Matrix: Soil
Parameters: Polychlorinated Biphenyls
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH126

Sample Identification

SL-628-SA5A-SB-0.0-0.5
SL-928-SA5A-SB-0.0-0.5
SL-628-SA5A-SB-6.5-7.5
SL-628-SA5A-SB-0.0-0.5MS
SL-628-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 5 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082A for Polychlorinated Biphenyls.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent difference (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

Sample EB-111413 (from SDG PH129) was identified as an equipment blank. No polychlorinated biphenyl contaminants were found.

Sample FB-041613 (from SDG PH032) was identified as a field blank. No polychlorinated biphenyl contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

XI. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XII. Target Compound Identification

All target compound identifications were within validation criteria.

XIII. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH126 | All compounds reported below the RL. | J (all detects) | A |

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

Samples SL-628-SA5A-SB-0.0-0.5 and SL-928-SA5A-SB-0.0-0.5 were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples with the following exceptions:

| Compound | Concentration (ug/Kg) | | RPD (Limits) | Flag | A or P |
|----------|------------------------|------------------------|-----------------|-----------------|--------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| PCB-1254 | 23 | 120 | 136 (≤50) | J (all detects) | A |

**Santa Susana Field Laboratory
 Polychlorinated Biphenyls - Data Qualification Summary - SDG PH126**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|--|--------------------------------------|-----------------|--------|-----------------------------|
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 | Aroclor-1254 | J (all detects) | A | Field duplicates (RPD) (FD) |

**Santa Susana Field Laboratory
 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG PH126**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
 Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG PH126**

No Sample Data Qualified in this SDG

METHOD: GC Polychlorinated Biphenyls (EPA SW 846 Method 8082A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--|
| I. | Technical holding times | Δ | Sampling dates: 11/2/13 |
| II. | GC/ECD Instrument Performance Check | ND | |
| III. | Initial calibration | Δ | % RSD ≤ 20 |
| IV. | Continuing calibration/ICV | Δ | ICV/CCV ≤ 20 |
| V. | Blanks | Δ | |
| VI. | Surrogate spikes | Δ | |
| VII. | Matrix spike/Matrix spike duplicates | A | |
| VIII. | Laboratory control samples | A | LCS 10 |
| IX. | Regional quality assurance and quality control | N | |
| X. | Florisil cartridge check | N | |
| XI. | GPC Calibration | N | |
| XII. | Target compound identification | Δ | |
| XIII. | Compound quantitation/RL/LOQ/LODs | Δ | |
| XIV. | Overall assessment of data | Δ | |
| XV. | Field duplicates | SW | D = 1, 2 |
| XVI. | Field blanks | ND | FB = FB - 04/6/13 (PH032) EB = EB - 11/4/13 (PH129) |

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

SOIL

| | | | | | |
|----|---------------------------|----|-----------|----|----|
| 1 | SL-628-SA5A-SB-0.0-0.5 | 11 | PBLK12324 | 21 | 31 |
| 2 | SL-928-SA5A-SB-0.0-0.5 | 12 | | 22 | 32 |
| 3 | SL-628-SA5A-SB-6.5-7.5 | 13 | | 23 | 33 |
| 4 | SL-628-SA5A-SB-0.0-0.5MS | 14 | | 24 | 34 |
| 5 | SL-628-SA5A-SB-0.0-0.5MSD | 15 | | 25 | 35 |
| 6 | | 16 | | 26 | 36 |
| 7 | | 17 | | 27 | 37 |
| 8 | | 18 | | 28 | 38 |
| 9 | | 19 | | 29 | 39 |
| 10 | | 20 | | 30 | 40 |

Notes: _____

Method: GC HPLC

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| III. Technical holding times | | | | |
| All technical holding times were met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Cooler temperature criteria was met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| II. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Did the initial calibration meet the curve fit acceptance criteria? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the RT windows properly established? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IV. Continuing calibration | | | | |
| What type of continuing calibration calculation was performed? ___%D or ___%R | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a continuing calibration analyzed daily? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all the retention times within the acceptance windows? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a method blank analyzed for each matrix and concentration? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| VII. Matrix spike/matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | | / | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| X. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | / | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target compounds were detected in the field duplicates. | / | | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | | / | | |

LDC #: 31035B36

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1

Reviewer: F7

2nd reviewer: A

METHOD: GC HPLC

Y N N/A Were field duplicate pairs identified in this SDG?

Y N N/A Were target compounds detected in the field duplicate pairs?

code = Fd

| Compound | Concentration (<u>ug/kg</u>) | | %RPD Limit <u>50</u> | Qualification Parent only / All Samples |
|------------------------|--------------------------------|------------|-------------------------|--|
| | <u>1</u> | <u>2</u> | | |
| <u>PCB - 1254</u> | <u>23</u> | <u>120</u> | <u>136</u> | <u>J/A det</u> |
| | | | | |
| | | | | |
| | | | | |
| <u>AA = PCB - 1254</u> | | | | |
| | | | | |
| | | | | |

| Compound | Concentration () | | %RPD Limit _____ | Qualification Parent only / All Samples |
|----------|-------------------|--|---------------------|--|
| | | | | |
| | | | | |
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| | | | | |

LDC #: 310351336

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: FJ
 2nd Reviewer: A

METHOD: GC HPLC

The calibration factors (CF) and relative standard deviation (%RSD) were recalculated using the following calculations:

CF = A/C
 Average CF = sum of the CF/number of standards
 %RSD = 100 * (S/X)

Where: A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|--------------------|------------------|----------------|-------------|--------------|--------------|--------------|----------|--------------|
| | | | | CF (200std) | CF (200std) | CF (initial) | CF (initial) | %RSD | %RSD |
| 1 | 1cA L ZBmult.R1 | 11/19/13 | Aroclor 1260-1 | 40008 | 40008 | 40707 | 40707 | 4 | 4 |
| 2 | ZBmult.HiR2 | 11/19/13 | ↓ | 2790 | 2790 | 2823 | 2823 | 10 | 10 |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035836

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave.CF

Where: ave. CF = initial calibration average CF
 CF = continuing calibration CF
 A = Area of compound
 C = Concentration of compound

| # | Standard ID | Calibration Date | Compound | Average CF(lcal)/ CCV Conc. | Reported | Recalculated | Reported | Recalculated |
|---|--------------|------------------|-------------------|-----------------------------|---------------|---------------|----------|--------------|
| | | | | | CF/ Conc. CCV | CF/ Conc. CCV | %D | %D |
| 1 | cen 23:41 | 11/21/13 | Aroclor 1260 ZBR1 | 200.0 | 205.01 | 205.01 | 3 | 3 |
| | | | ↓ ZBR2 | 200.0 | 168.67 | 168.61 | 16 | 16 |
| 2 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035B3b

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FJ
2nd reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|------------------|------------------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| #TCMX | RB multi R1 | 10 | 11.222746 | 113 | 112 | 0.88 |
| DCB | ↓ | 10 | 11.133471 | 111 | 111 | 0 |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

LDC #: 31035B36

VALIDATION FINDINGS WORKSHEET Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: F7
2nd Reviewer: LC

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = $100 * (SSC - SC) / SA$

Where

SSC = Spiked sample concentration

MS = Matrix spike

SC = Sample concentration

MSD = Matrix spike duplicate

SA = Spike added

RPD = $((SSCMS - SSCMSD) * 2) / (SSCMS + SSCMSD) * 100$

MS/MSD samples: 4 + 5

| Compound | Spike Added (<u>ug/kg</u>) | | Sample Conc. (<u>ug/kg</u>) | Spike Sample Concentration (<u>ug/kg</u>) | | Matrix spike | | Matrix Spike Duplicate | | MS/MSD | |
|------------------------------|---------------------------------|------------|----------------------------------|--|--------------|------------------|------------|------------------------|------------|----------|----------|
| | MS | MSD | --- | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | | |
| <u>PCB 1260</u> | <u>166</u> | <u>166</u> | <u>ND</u> | <u>171.4</u> | <u>170.8</u> | <u>103</u> | <u>103</u> | <u>102</u> | <u>102</u> | <u>0</u> | <u>0</u> |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 310351336

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FJ

2nd Reviewer: C

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)

RPD = ((SSCLCS - SSCLCSD) / 2) / ((SSCLCS + SSCLCSD) / 2) * 100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample

SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS 12324

| Compound | Spike Added (ug/kg) | | Spike Sample Concentration (ug/kg) | | LCS | | LCSD | | LCS/LCSD | |
|------------------------------|------------------------|-----------|---------------------------------------|-----------|------------------|------------|------------------|-----------|-----------|-----------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | |
| <u>PcB 1260</u> | <u>167</u> | <u>NA</u> | <u>188.16</u> | <u>NA</u> | <u>113</u> | <u>113</u> | <u>NA</u> | <u>NA</u> | <u>NA</u> | <u>NA</u> |
| | | | | | | | | | | |
| | | | | | | | | | | |

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035B36

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
 Reviewer: F7
 2nd Reviewer: A

METHOD: GC HPLC

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?
 Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration = $\frac{(A)(F_v)(D_f)}{(RF)(V_s \text{ or } W_s)(\%S/100)}$

Example:

Sample ID: #1 Compound Name Aroclor 1254

- A= Area or height of the compound to be measured
- Fv= Final Volume of extract
- Df= Dilution Factor
- RF= Average response factor of the compound
In the initial calibration
- Vs= Initial volume of the sample
- Ws= Initial weight of the sample
- %S= Percent Solid

Concentration = $\frac{22.639878}{0.983} = 23 \text{ ug/kg}$

| # | Sample ID | Compound | Reported Concentrations () | Recalculated Results Concentrations () | Qualifications |
|---|----------------|------------------|--------------------------------|--|-------------------|
| | Aroclor 1254 = | 1833102.125 (10) | = | 15.74742 | 1254-1 = 15.74742 |
| | | 38418 (30.3) | | | -2 = 17.374174 |
| | | | | | -3 = 18.566555 |
| | | | | | -4 = 23.251606 |
| | | | | | -5 = 28.548662 |
| | | | | | -6 = 32.350559 |
| | | | | | Ave = 22.6398 |

Comments: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: November 12, 2013
LDC Report Date: January 8, 2014
Matrix: Soil
Parameters: Metals
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH126

Sample Identification

SL-628-SA5A-SB-0.0-0.5
SL-928-SA5A-SB-0.0-0.5
SL-628-SA5A-SB-6.5-7.5
SL-628-SA5A-SB-0.0-0.5MS
SL-628-SA5A-SB-0.0-0.5MSD
SL-628-SA5A-SB-0.0-0.5DUP

Introduction

This data review covers 6 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010C, 6020A, and 7471B for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, and Zirconium.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (January 2010).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Calibration

The initial and continuing calibrations were performed at the required frequency.

The calibration standards criteria were met.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No metal contaminants were found in the initial, continuing and preparation blanks with the following exceptions:

| Method Blank ID | Analyte | Maximum Concentration | Associated Samples |
|-----------------|---|---|--|
| PB (prep blank) | Iron Manganese Tin | 4.046 mg/Kg 1.543 mg/Kg 1.626 mg/Kg | All samples in SDG PH126 |
| ICB/CCB | Lead Strontium Titanium Thallium | 2.2 ug/L 0.086 ug/L 1.9 ug/L 0.20 ug/L | All samples in SDG PH126 |
| ICB/CCB | Antimony | 2.5 ug/L | SL-628-SA5A-SB-6.5-7.5 |
| ICB/CCB | Aluminum | 36.9 ug/L | SL-628-SA5A-SB-0.0-0.5 |
| ICB/CCB | Aluminum Potassium | 55.6 ug/L 129 ug/L | SL-928-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 |

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

| Sample | Analyte | Reported Concentration | Modified Final Concentration |
|------------------------|---------|------------------------|------------------------------|
| SL-628-SA5A-SB-0.0-0.5 | Tin | 2.97 mg/Kg | 2.97U mg/Kg |
| SL-928-SA5A-SB-0.0-0.5 | Tin | 3.00 mg/Kg | 3.00U mg/Kg |
| SL-628-SA5A-SB-6.5-7.5 | Tin | 3.82 mg/Kg | 3.82U mg/Kg |

Sample EB-111413 (from SDG PH129) was identified as an equipment blank. No metal contaminants were found.

Sample FB-041613 (from SDG PH032) was identified as a field blank. No metal contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Analyte | Concentration | Associated Samples |
|-----------|---------------|-------------------|----------------------------|--------------------------|
| FB-041613 | 4/16/13 | Molybdenum Tin | 0.0132 mg/L 0.0029 mg/L | All samples in SDG PH126 |

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

| Sample | Analyte | Reported Concentration | Modified Final Concentration |
|------------------------|------------|------------------------|------------------------------|
| SL-628-SA5A-SB-0.0-0.5 | Molybdenum | 0.545 mg/Kg | 0.545U mg/Kg |
| SL-928-SA5A-SB-0.0-0.5 | Molybdenum | 0.264 mg/Kg | 0.264U mg/Kg |
| SL-628-SA5A-SB-6.5-7.5 | Molybdenum | 0.329 mg/Kg | 0.329U mg/Kg |

V. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

VI. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

| Spike ID (Associated Samples) | Analyte | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|--|------------|---------------------|----------------------|-----------------|---|--------|
| SL-628-SA5A-SB-0.0-0.5MS/MSD (All samples in SDG PH126) | Antimony | 74 (75-125) | - | - | J (all detects) UJ (all non-detects) | A |
| | Calcium | - | - | 35 (≤20) | J (all detects) UJ (all non-detects) | |
| SL-628-SA5A-SB-0.0-0.5MS/MSD (All samples in SDG PH126) | Potassium | - | 126 (75-125) | - | J (all detects) | A |
| | Phosphorus | 130 (75-125) | - | - | J (all detects) | |
| | Strontium | 140 (75-125) | 130 (75-125) | - | J (all detects) | |

VII. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the following exceptions:

| DUP ID (Associated Samples) | Analyte | RPD (Limits) | Difference (Limits) | Flag | A or P |
|---|-----------|--------------|------------------------|---|--------|
| SL-628-SA5A-SB-0.0-0.5DUP (All samples in SDG PH126) | Aluminum | 28 (≤20) | - | J (all detects) UJ (all non-detects) | A |
| | Barium | 35 (≤20) | - | | |
| | Copper | 43 (≤20) | - | | |
| | Iron | 36 (≤20) | - | | |
| | Lithium | 34 (≤20) | - | | |
| | Magnesium | 35 (≤20) | - | | |
| | Manganese | 21 (≤20) | - | | |
| | Potassium | 29 (≤20) | - | | |
| | Vanadium | 30 (≤20) | - | | |
| | Zinc | 31 (≤20) | - | | |

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Internal Standards

All internal standard percent recoveries (%R) were within QC limits.

X. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

| Diluted Sample | Analyte | %D (Limits) | Associated Samples | Flag | A or P |
|------------------------|---------------------------------|----------------------------------|-----------------------------|---|--------|
| SL-628-SA5A-SB-0.0-0.5 | Phosphorus Strontium Zinc | 11 (≤10) 17 (≤10) 11 (≤10) | All samples in SDG PH126 | J (all detects) UJ (all non-detects) | A |

XII. Sample Result Verification

All sample result verifications were acceptable.

All metals reported below the RL and above the MDL were qualified as follows:

| Sample | Analyte | Flag | A or P |
|--------------------------|--|-----------------|--------|
| All samples in SDG PH126 | All analytes reported below the RL and above the MDL. | J (all detects) | A |

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples SL-628-SA5A-SB-0.0-0.5 and SL-928-SA5A-SB-0.0-0.5 were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

| Analyte | Concentration (mg/Kg) | | RPD (Limits) | Flag | A or P |
|-----------|------------------------|------------------------|-----------------|------|--------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| Aluminum | 10400 | 10100 | 3 (≤50) | - | - |
| Arsenic | 2.28 | 2.47 | 8 (≤50) | - | - |
| Barium | 75.6 | 84.4 | 11 (≤50) | - | - |
| Beryllium | 0.310 | 0.270 | 14 (≤50) | - | - |
| Boron | 4.03 | 3.17 | 24 (≤50) | - | - |

| Analyte | Concentration (mg/Kg) | | RPD (Limits) | Flag | A or P |
|------------|------------------------|------------------------|--------------|---|--------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| Calcium | 6550 | 7670 | 16 (≤50) | - | - |
| Cadmium | 0.514 | 0.471 | 9 (≤50) | - | - |
| Chromium | 14.2 | 12.9 | 10 (≤50) | - | - |
| Cobalt | 3.31 | 3.23 | 2 (≤50) | - | - |
| Copper | 10.6 | 6.53 | 48 (≤50) | - | - |
| Iron | 17800 | 18500 | 4 (≤50) | - | - |
| Lead | 7.32 | 9.34 | 24 (≤50) | - | - |
| Lithium | 24.2 | 23.6 | 3 (≤50) | - | - |
| Magnesium | 3750 | 3770 | 1 (≤50) | - | - |
| Manganese | 266 | 263 | 1 (≤50) | - | - |
| Mercury | 0.247 | 0.181 | 31 (≤50) | - | - |
| Molybdenum | 0.545 | 0.264 | 69 (≤50) | J (all detects) | A |
| Nickel | 6.77 | 6.00 | 12 (≤50) | - | - |
| Phosphorus | 397 | 393 | 1 (≤50) | - | - |
| Potassium | 3340 | 3300 | 1 (≤50) | - | - |
| Selenium | 0.126 | 0.402U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Silver | 0.0309 | 0.0308 | 0 (≤50) | - | - |
| Sodium | 130 | 182 | 33 (≤50) | - | - |
| Strontium | 18.1 | 21.0 | 15 (≤50) | - | - |
| Tin | 2.97 | 3.00 | 1 (≤50) | - | - |
| Titanium | 1100 | 1110 | 1 (≤50) | - | - |
| Thallium | 0.227 | 0.237 | 4 (≤50) | - | - |

| Analyte | Concentration (mg/Kg) | | RPD (Limits) | Flag | A or P |
|-----------|------------------------|------------------------|--------------|------|--------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| Vanadium | 25.5 | 26.8 | 5 (≤50) | - | - |
| Zinc | 108 | 100 | 8 (≤50) | - | - |
| Zirconium | 2.58 | 2.71 | 5 (≤50) | - | - |

**Santa Susana Field Laboratory
Metals - Data Qualification Summary - SDG PH126**

| SDG | Sample | Analyte | Flag | A or P | Reason (Code) |
|-------|--|--|---|--------|---|
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 | Antimony | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R) (Q) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 | Calcium | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (RPD) (E) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 | Potassium Phosphorus Strontium | J (all detects) J (all detects) J (all detects) | A | Matrix spike/Matrix spike duplicate (%R) (Q) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 | Aluminum Barium Copper Iron Lithium Magnesium Manganese Potassium Vanadium Zinc | J (all detects) UJ (all non-detects) | A | Duplicate sample analysis (RPD) (E) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 | Phosphorus Strontium Zinc | J (all detects) UJ (all non-detects) | A | ICP serial dilution (%D) (A) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 | All analytes reported below the RL and above the MDL. | J (all detects) | A | Sample result verification (Z) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 | Molybdenum | J (all detects) | A | Field duplicates (RPD) (FD) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 | Selenium | J (all detects) UJ (all non-detects) | A | Field duplicates (RPD) (FD) |

**Santa Susana Field Laboratory
Metals - Laboratory Blank Data Qualification Summary - SDG PH126**

| SDG | Sample | Analyte | Modified Final Concentration | A or P | Code |
|-------|------------------------|---------|------------------------------|--------|------|
| PH126 | SL-628-SA5A-SB-0.0-0.5 | Tin | 2.97U mg/Kg | A | B |
| PH126 | SL-928-SA5A-SB-0.0-0.5 | Tin | 3.00U mg/Kg | A | B |
| PH126 | SL-628-SA5A-SB-6.5-7.5 | Tin | 3.82U mg/Kg | A | B |

**Santa Susana Field Laboratory
Metals - Field Blank Data Qualification Summary - SDG PH126**

| SDG | Sample | Analyte | Modified Final Concentration | A or P | Code |
|-------|------------------------|------------|------------------------------|--------|------|
| PH126 | SL-628-SA5A-SB-0.0-0.5 | Molybdenum | 0.545U mg/Kg | A | F |
| PH126 | SL-928-SA5A-SB-0.0-0.5 | Molybdenum | 0.264U mg/Kg | A | F |
| PH126 | SL-628-SA5A-SB-6.5-7.5 | Molybdenum | 0.329U mg/Kg | A | F |

LDC #: 31035B4

VALIDATION COMPLETENESS WORKSHEET

Date: 1/3/14

SDG #: PH126

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: CL

7471B

2nd Reviewer: ^

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--------------------------|
| I. | Technical holding times | A | Sampling dates: 11/12/13 |
| II. | ICP/MS Tune | A | |
| III. | Calibration | A | |
| IV. | Blanks | SW | |
| V. | ICP Interference Check Sample (ICS) Analysis | A | |
| VI. | Matrix Spike Analysis | SW | MS/D |
| VII. | Duplicate Sample Analysis | SW | DUP |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | A | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | SW | |
| XII. | Sample Result Verification | A | |
| XIII. | Overall Assessment of Data | A | |
| XIV. | Field Duplicates | SW | CL, 2) |
| XV. | Field Blanks | SW | FB = FB-041613 (PH032) |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

EB = EB-111413
 (PH129)

Validated Samples:

SOI

| | | | | | | | |
|----|---------------------------|----|--|----|--|----|--|
| 1 | SL-628-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-928-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | SL-628-SA5A-SB-6.5-7.5 | 13 | | 23 | | 33 | |
| 4 | SL-628-SA5A-SB-0.0-0.5MS | 14 | | 24 | | 34 | |
| 5 | SL-628-SA5A-SB-0.0-0.5MSD | 15 | | 25 | | 35 | |
| 6 | SL-628-SA5A-SB-0.0-0.5DUP | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

Method: Metals (EPA SW 846 Method 6010B/7000/6020)

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | ✓ | | | |
| Cooler temperature criteria was met. | ✓ | | | |
| II. ICP/MS Tune | | | | |
| Were all isotopes in the tuning solution mass resolution within 0.1 amu? | ✓ | | | |
| Were %RSD of isotopes in the tuning solution $\leq 5\%$? | ✓ | | | |
| III. Calibration | | | | |
| Were all instruments calibrated daily, each set-up time? | ✓ | | | |
| Were the proper number of standards used? | ✓ | | | |
| Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits? | ✓ | | | |
| Were all initial calibration correlation coefficients > 0.995 ? | ✓ | | | |
| IV. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | ✓ | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | ✓ | | | |
| V. ICP Interference Check Sample | | | | |
| Were ICP interference check samples performed daily? | ✓ | | | |
| Were the AB solution percent recoveries (%R) with the 80-120% QC limits? | ✓ | | | |
| VI. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water. | ✓ | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken. | | ✓ | | |
| Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm RL$ ($\pm 2X RL$ for soil) was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $< 5X$ the RL. | | | ✓ | |
| VII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | ✓ | | | |
| Was an LCS analyzed per extraction batch? | ✓ | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils? | ✓ | | | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| VIII. Furnace Atomic Absorption QC | | | | |
| If MSA was performed, was the correlation coefficients > 0.995? | | | ✓ | |
| Do all applicable analyses have duplicate injections? (Level IV only) | | | ✓ | |
| For sample concentrations > RL, are applicable duplicate injection RSD values < 20%? (Level IV only) | | | ✓ | |
| Were analytical spike recoveries within the 85-115% QC limits? | | | ✓ | |
| IX. ICP Serial Dilution | | | | |
| Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)? | ✓ | | | |
| Were all percent differences (%Ds) < 10%? | | ✓ | | |
| Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data. | | ✓ | | |
| X. Internal Standards (EPA SW 846 Method 6020/EPA 200.8) | | | | |
| Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration? | ✓ | | | |
| If the %Rs were outside the criteria, was a reanalysis performed? | | | ✓ | |
| XI. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | ✓ | | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | ✓ | |
| XII. Sample Result Verification | | | | |
| Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | ✓ | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | ✓ | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | ✓ | | | |
| Target analytes were detected in the field duplicates. | ✓ | | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | ✓ | | | |
| Target analytes were detected in the field blanks. | ✓ | | | |

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

All circled elements are applicable to each sample.

Table with columns: Sample ID, Matrix, Target Analyte List (TAL). Rows include sample IDs 1-3 and QC-46, each with a list of elements. A circled 'C' is in the first row. Analysis Method section includes ICP and ICP-MS with circled elements.

Comments: Mercury by CVAA if performed

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: mg/Kg

Soil preparation factor applied: 100x x MS: 2xdil Reason: B
Associated Samples: All

| | | | | | Sample Identification | | | | | | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|-----------------------|------|------|--|--|--|--|--|--|--|--|--|
| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | 1 | 2 | 3 | | | | | | | | | |
| Fe | 4.046 | | | 20.23 | | | | | | | | | | | | |
| Pb | | | 2.2 | 1.1 | | | | | | | | | | | | |
| Mn | 1.543 | | | 7.715 | | | | | | | | | | | | |
| Sn | 1.626 | | | 8.13 | 2.97 | 3.00 | 3.82 | | | | | | | | | |
| Sr | | | 0.086 | 0.09 | | | | | | | | | | | | |
| Ti | | | 1.9 | 0.95 | | | | | | | | | | | | |
| Tl | | | 0.20 | 0.2 | | | | | | | | | | | | |

Sample Concentration units, unless otherwise noted: mg/Kg Associated Samples: 3

| | | | | | Sample Identification | | | | | | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|-----------------------|--|--|--|--|--|--|--|--|--|--|--|
| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | No Qualifiers (>5x) | | | | | | | | | | | |
| Sb | | | 2.5 | 1.25 | | | | | | | | | | | | |

Sample Concentration units, unless otherwise noted: mg/Kg Associated Samples: 1

| | | | | | Sample Identification | | | | | | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|-----------------------|--|--|--|--|--|--|--|--|--|--|--|
| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | No Qualifiers (>5x) | | | | | | | | | | | |
| Al | | | 36.9 | 18.45 | | | | | | | | | | | | |

Sample Concentration units, unless otherwise noted: mg/Kg Associated Samples: 2, 3

| | | | | | Sample Identification | | | | | | | | | | | |
|---------|---------------------------------|--------------------------------|-------------------------------------|--------------|-----------------------|--|--|--|--|--|--|--|--|--|--|--|
| Analyte | Maximum PB ^a (mg/Kg) | Maximum PB ^a (ug/l) | Maximum ICB/CCB ^a (ug/l) | Action Level | No Qualifiers (>5x) | | | | | | | | | | | |
| Al | | | 55.6 | 27.8 | | | | | | | | | | | | |
| K | | | 129 | 64.5 | | | | | | | | | | | | |

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/16/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | | | |
|---------|------------------------------|-----------------------|-------|-------|-------|--|--|--|--|--|--|--|--|--|
| | FB-041613 (SDG: PH032) | Action Limit | 1 | 2 | 3 | | | | | | | | | |
| Mo | 0.0132 | 6.60 | 0.545 | 0.264 | 0.329 | | | | | | | | | |
| Sn | 0.0029 | 1.45 | | | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD: Trace metals (EPA SW 846 Method 6010B/6020A/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N N/A Was a matrix spike analyzed for each matrix in this SDG?
- N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.
- N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤ 35% for soil samples?
- LEVEL IV ONLY:**
- N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

| # | MS/MSD ID | Matrix | Analyte | MS %Recovery | MSD %Recovery | RPD (Limits) | Associated Samples | Qualifications |
|---|-----------|--------|---------|--------------|---------------|--------------|--------------------|----------------|
| | 415 | S | So | 74 | | | All | J/UJ/A (Q) |
| | | | Ca | | 126 | 35 | ↓ | (E) |
| | | | K | | | | | Jdet/A (Q) |
| | | | P | 130 | | | ↓ | ↓ |
| | | | Sr | 140 | 130 | | | ↓ |
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Comments: Al, Ca, Fe, Mg, Mn, Ti > 4x

VALIDATION FINDINGS WORKSHEET I

Duplicate Analysis

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N N/A Was a duplicate sample analyzed for each matrix in this SDG?
 N N/A Were all duplicate sample relative percent differences (RPD) $\leq 20\%$ for water samples and $\leq 35\%$ for soil samples? If no, see qualifications below. A contr limit of $\pm R.L.$ ($\pm 2X$ R.L. for soil) was used for sample values that were $< 5X$ the R.L., including the case when only one of the duplicate sample values wa $< 5X$ R.L.. If field blanks were used for laboratory duplicates, note in the Overall Assessment.

LEVEL IV ONLY:

- N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

| # | Date | Duplicate ID | Matrix | Analyte | RPD (Limits) | Difference (Limits) | Associated Samples | Qualifications |
|---|------|--------------|--------|---------|--------------|---------------------|--------------------|----------------|
| | | 6 | S | Al | 28 | | All | J/J/A(E) |
| | | | | Ba | 35 | | ↓ | ↓ |
| | | | | Cu | 43 | | | |
| | | | | Fe | 36 | | | |
| | | | | Li | 34 | | | |
| | | | | Mg | 35 | | | |
| | | | | Mn | 21 | | | |
| | | | | K | 29 | | | |
| | | | | V | 30 | | | |
| | | | | Zn | 31 | | | |
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Comments: As, Be, Cr, Co, Pb, Mo, Ni, Ag, Tl, Zr ok by difference

VALIDATION FINDINGS WORKSHEET
ICP Serial Dilution

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

N N/A If analyte concentrations were > 50X the MDL (ICP) ,or >100X the MDL (ICP/MS), was a serial dilution analyzed?

Y N N/A Were ICP serial dilution percent differences (%D) \leq 10%?

Y N N/A Is there evidence of negative interference? If yes, professional judgement will be used to qualify the data.

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

| # | Diluted Sample ID | Matrix | Analyte | %D (Limits) | Associated Samples | Qualifications |
|---|-------------------|--------|---------|-------------|--------------------|----------------|
| | 1 | S | P | 11 | A11 | J/J/A (A) |
| | | | Sr | 17 | ↓ | ↓ |
| | | | Zn | 11 | | |
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Comments: _____

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Method: Metals

| Analyte | Concentration (mg/Kg) | | RPD (≤ 50) | Qualifiers (Parents Only) |
|------------|-----------------------|--|---------------|---------------------------|
| | 1 | 2 | | |
| Aluminum | 10400 | 10100 | 3 | |
| Arsenic | 2.28 | 2.47 | 8 | |
| Barium | 75.6 | 84.4 | 11 | |
| Beryllium | 0.310 | 0.270 | 14 | |
| Boron | 4.03 | 3.17 | 24 | |
| Calcium | 6550 | 7670 | 16 | |
| Cadmium | 0.514 | 0.471 | 9 | |
| Chromium | 14.2 | 12.9 | 10 | |
| Cobalt | 3.31 | 3.23 | 2 | |
| Copper | 10.6 | 6.53 | 48 | |
| Iron | 17800 | 18500 | 4 | |
| Lead | 7.32 | 9.34 | 24 | |
| Lithium | 24.2 | 23.6 | 3 | |
| Magnesium | 3750 | 3770 | 1 | |
| Manganese | 266 | 263 | 1 | |
| Mercury | 0.247 | 0.181 | 31 | |
| Molybdenum | 0.545 | 0.264 | 69 | Jdet/A (FD) |
| Nickel | 6.77 | 6.00 | 12 | |
| Phosphorus | 397 | 393 | 1 | |
| Potassium | 3340 | 3300 | 1 | |
| Selenium | 0.126 | 0.4020 0.4010 | 200 | J/UJ/A (FD) |
| Silver | 0.0309 | 0.0308 | 0 | |
| Sodium | 130 | 182 | 33 | |
| Strontium | 18.1 | 21.0 | 15 | |
| Tin | 2.97 | 3.00 | 1 | |
| Titanium | 1100 | 1110 | 1 | |
| Thallium | 0.227 | 0.237 | 4 | |
| Vanadium | 25.5 | 26.8 | 5 | |
| Zinc | 108 | 100 | 8 | |
| Zirconium | 2.58 | 2.71 | 5 | |

LDC #: 31035B9

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
 Reviewer: GR
 2nd Reviewer: [Signature]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$
 Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration (in ug/L) of each analyte in the ICV or CCV source

| Standard ID | Type of Analysis | Element | Found (ug/L) | True (ug/L) | Recalculated | Reported | Acceptable (Y/N) |
|-------------|---------------------------------|------------------------------|--------------|-------------|--------------|----------|------------------|
| | | | | | %R | %R | |
| ICV | ICP (Initial calibration) | Sb | 640.15 | 600 | 106.7 | 106.7 | Y |
| ↓ CCV1 | ICP/MS (Initial calibration) | Se | 51.61 | 50 | 103.2 | 103.2 | ↓ |
| | CVAA (Initial calibration) | Hg | 1.0 | 1.0 | 100.0 | 100.0 | |
| | CCV2 | ICP (Continuing calibration) | P | 515.87 | 500 | 103.2 | |
| ↓ CCV2 | ICP/MS (Continuing calibration) | Ag | 25.76 | 25 | 103.0 | 103.0 | ↓ |
| | CVAA (Continuing calibration) | Hg | 2.56 | 2.5 | 102.4 | 102.4 | |
| | | GFAA (Initial calibration) | | | | | |
| | GFAA (Continuing calibration) | | | | | | |

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035034

VALIDATION FINDINGS WORKSHEET Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: QR
2nd Reviewer: ←

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

| Sample ID | Type of Analysis | Element | Found / S / I (units) | True / D / SDR (units) | Recalculated | Reported | Acceptable (Y/N) |
|-----------|---------------------------|---------|--------------------------|------------------------|---------------|---------------|---------------------|
| | | | | | %R / RPD / %D | %R / RPD / %D | |
| ICSAB | ICP interference check | Ni | 944.1 | 1000 | 94.4 | 94.4 | Y |
| LCS | Laboratory control sample | Se | 1069.6 | 1000 | 107 | 107 | ↓ |
| 4 | Matrix spike | So | (SSR-SR) 36,0441 | 49.0196 | 74 | 74 | |
| 6 | Duplicate | K | 3282.5794 | 4406.1951 | 29 | 29 | |
| 1 | ICP serial dilution | Ca | 65678.65 | 61711.90 | 6 | 6 | |

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

- Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
- N N/A Have results been reported and calculated correctly?
 - N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
 - N N/A Are all detection limits below the CRDL?

Detected analyte results for Hg were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In. Vol.)}$

Recalculation:

- RD = Raw data concentration
- FV = Final volume (ml)
- In. Vol. = Initial volume (ml) or weight (G)
- Dil = Dilution factor

$$1 = \frac{100 mL (1,547 \mu g/L)}{0.983 (0.64g) (1000)} = 0.246 \text{ mg/kg}$$

| # | Sample ID | Analyte | Reported Concentration (mg/kg) | Calculated Concentration (mg/kg) | Acceptable (Y/N) |
|---|-----------|---------|--------------------------------|----------------------------------|------------------|
| | 1 | Hg | 0.25 | 0.25 | Y |
| | 2 | Ag | 0.031 | 0.031 | Y |
| | 3 | P | 555 | 555 | Y |
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Note: _____

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Santa Susana Field Laboratory
Collection Date: November 12, 2013
LDC Report Date: January 16, 2014
Matrix: Soil/Water
Parameters: Total Petroleum Hydrocarbons as Gasoline
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH126

Sample Identification

TB2-111213
SL-628-SA5A-SB-6.5-7.5

Introduction

This data review covers one soil sample and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Gasoline.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for all compounds were less than or equal to 20.0%

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

Sample TB2-111213 was identified as a trip blank. No total petroleum hydrocarbons as gasoline contaminants were found.

Sample EB-111413 (from SDG PH129) was identified as an equipment blank. No total petroleum hydrocarbons as gasoline contaminants were found.

Sample FB-041613 (from SDG PH032) was identified as a field blank. No total petroleum hydrocarbons as gasoline contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH126 | All compounds reported below the RL. | J (all detects) | A |

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

No field duplicates were identified in this SDG.

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG
 PH126**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|--------------------------------------|---|-----------------|--------|------------------------------|
| PH126 | TB2-111213 SL-628-SA5A-SB-6.5-7.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification
 Summary - SDG PH126**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
 Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification
 Summary - SDG PH126**

No Sample Data Qualified in this SDG

METHOD: GC TPH as Purgeables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--------------------------------------|----|---|
| I. | Technical holding times | Δ | Sampling dates: 11/12/13 |
| II. | Initial calibration | Δ | RPD ≤ 20 |
| III. | Calibration verification/ICV | Δ | CV/ICV ≤ 20% |
| IV. | Blanks | Δ | |
| V. | Surrogate recovery | Δ | |
| VI. | Matrix spike/Matrix spike duplicates | N | client specified |
| VII. | Laboratory control samples | A | LCS 1P |
| VIII. | Target compound identification | Δ | |
| IX. | Compound quantitation/RL/LOQ/LODs | Δ | |
| X. | System Performance | Δ | |
| XI. | Overall assessment of data | Δ | |
| XII. | Field duplicates | N | |
| XIII. | Field blanks | ND | TB = 1 EB = EB - 111413 (PH129) FB = FB - 041613 (PH039) |

Note: A = Acceptable ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: soil + water

| | | | | | | |
|----|------------------------|---|------|--------|----|----|
| 11 | TB2-111213 | w | 11/ | BLK 56 | 21 | 31 |
| 22 | SL-628-SA5A-SB-6.5-7.5 | s | 12/2 | BLK 54 | 22 | 32 |
| 3 | | | 13 | | 23 | 33 |
| 4 | | | 14 | | 24 | 34 |
| 5 | | | 15 | | 25 | 35 |
| 6 | | | 16 | | 26 | 36 |
| 7 | | | 17 | | 27 | 37 |
| 8 | | | 18 | | 28 | 38 |
| 9 | | | 19 | | 29 | 39 |
| 10 | | | 20 | | 30 | 40 |

Notes:

LDC #: 31035B7

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

Method: GC HPLC

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| III. Technical holding times | | | | |
| All technical holding times were met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Cooler temperature criteria was met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IV. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Did the initial calibration meet the curve fit acceptance criteria? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the RT windows properly established? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| V. Continuing calibration | | | | |
| What type of continuing calibration calculation was performed? ___%D or %R | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a continuing calibration analyzed daily? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all the retention times within the acceptance windows? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| VI. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a method blank analyzed for each matrix and concentration? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| VII. Surrogate spikes | | | | |
| Were all surrogate %R within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| VIII. Matrix spike/matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| IX. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | | / | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| X. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | / | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | | / | | |
| Target compounds were detected in the field duplicates. | | | / | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | | / | | |

LDC #: 31035 B7

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: FJ
 2nd Reviewer: [Signature]

METHOD: GC HPLC

The calibration factors (CF) and relative standard deviation (%RSD) were recalculated using the following calculations:

CF = A/C
 Average CF = sum of the CF/number of standards
 %RSD = 100 * (S/X)

Where: A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|----------|-----------------|-----------------|--------------|--------------|----------|--------------|
| | | | | CF (220 std) | CF (220 std) | CF (initial) | CF (initial) | %RSD | %RSD |
| 1 | ICAL | 9/27/13 | GRU | 55255 (1100) | 55255 (1100) | 55635 | 55635 | 4 | 4 |
| 2 | ICAL | 10/8/13 | ↓ | 28604 | 28604 | 28046 | 28046 | 6 | 6 |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035B7

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
 Reviewer: FJ
 2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave.CF

Where: ave. CF = initial calibration average CF
 CF = continuing calibration CF
 A = Area of compound
 C = Concentration of compound

| # | Standard ID | Calibration Date | Compound | Average CF(Ical)/ CCV Conc. | Reported | Recalculated | Reported | Recalculated |
|---|--------------|------------------|----------|-----------------------------|---------------|---------------|----------|--------------|
| | | | | | CF/ Conc. CCV | CF/ Conc. CCV | %D | %D |
| 1 | FCV 14:50 | 11/20/13 | GRU | 220.00 | 221.84 | 221.84 | 1 | 1 |
| 2 | CCV 8:57 | 11/15/13 | GRU | 550.00 | 489.54 | 489.54 | 11 | 11 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035B7

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
 Reviewer: [Signature]
 2nd reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
 SS = Surrogate Spiked

Sample ID: #2

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|--------------|--------------------|
| | | | | Reported | Recalculated | |
| TFT | NS | 715.5 | 636.82357 | 89 | 89 | 0 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|--------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|--------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

LDC #: 31035787

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FZ

2nd Reviewer: A

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC}/\text{SA})$

$\text{RPD} = ((\text{SSCLCS} - \text{SSCLCSD}) * 2) / (\text{SSCLCS} + \text{SSCLCSD}) * 100$

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample

SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS 5011

| Compound | Spike Added (mg/kg) | | Spike Sample Concentration (mg/kg) | | LCS | | LCSD | | LCS/LCSD | |
|------------------------------|---------------------|------|------------------------------------|------|------------------|---------|------------------|---------|----------|---------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | 11 | NA | 8.54 | NA | 78 | 78 | NA | | | |
| Diesel (8015) | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035B7

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: F7
2nd Reviewer: [Signature]

METHOD: GC HPLC

N/A
 N/A

Were all reported results recalculated and verified for all level IV samples?
Were all recalculated results for detected target compounds within 10% of the reported results?

$$\text{Concentration} = \frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$$

Example:

Sample ID: LCS Compound Name GRU

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound
In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

$$\text{Concentration} = \frac{[21890652 - (1367730 + 1524875)] (25)}{(55635) (1000)} = 8.5369 \text{ mg/kg}$$

| # | Sample ID | Compound | Reported Concentrations () | Recalculated Results Concentrations () | Qualifications |
|---|-----------|----------|--------------------------------|--|----------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: November 12, 2013
LDC Report Date: January 13, 2014
Matrix: Soil
Parameters: Total Petroleum Hydrocarbons as Extractables
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH126

Sample Identification

SL-628-SA5A-SB-0.0-0.5
SL-928-SA5A-SB-0.0-0.5
SL-628-SA5A-SB-6.5-7.5
SL-628-SA5A-SB-0.0-0.5MS
SL-628-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 5 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015B for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

III. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractables contaminants were found in the method blanks.

Sample EB-111413 (from SDG PH129) was identified as an equipment blank. No total petroleum hydrocarbons as extractables contaminants were found.

Sample FB-041613 (from SDG PH032) was identified as a field blank. No total petroleum hydrocarbons as extractables contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

| Spike ID (Associated Samples) | Compound | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|--|---|---------------------|----------------------|-----------------|---|--------|
| SL-628-SA5A-SB-0.0-0.5MS/MSD (SL-628-SA5A-SB-0.0-0.5) | Extractable fuel hydrocarbons (C15-C20) | - | 153 (49-123) | 42 (≤20) | J (all detects) | A |
| SL-628-SA5A-SB-0.0-0.5MS/MSD (SL-628-SA5A-SB-0.0-0.5) | Extractable fuel hydrocarbons (C21-C30) | 45 (49-123) | 195 (49-123) | 72 (≤20) | J (all detects) UJ (all non-detects) | A |
| SL-628-SA5A-SB-0.0-0.5MS/MSD (SL-628-SA5A-SB-0.0-0.5) | Extractable fuel hydrocarbons (C30-C40) | -83 (49-123) | 287 (49-123) | 102 (≤20) | J (all detects) R (all non-detects) | A |

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation

All compound quantitations were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH126 | All compounds reported below the RL. | J (all detects) | A |

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples SL-628-SA5A-SB-0.0-0.5 and SL-928-SA5A-SB-0.0-0.5 were identified as field duplicates. No total petroleum hydrocarbons as extractables were detected in any of the samples with the following exceptions:

| Compound | Concentration (mg/Kg) | | RPD (Limits) | Flag | A or P |
|---|------------------------|------------------------|-----------------|-----------------|--------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| Extractable fuel hydrocarbons (C21-C30) | 11 | 3.4 | 106 (≤50) | J (all detects) | A |
| Extractable fuel hydrocarbons (C30-C40) | 40 | 8.9 | 127 (≤50) | J (all detects) | A |

**Santa Susana Field Laboratory
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary -
SDG PH126**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|--|--|---|--------|---|
| PH126 | SL-628-SA5A-SB-0.0-0.5 | Extractable fuel hydrocarbons (C15-C20) | J (all detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 | Extractable fuel hydrocarbons (C21-C30) | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 | Extractable fuel hydrocarbons (C30-C40) | J (all detects) R (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 | Extractable fuel hydrocarbons (C21-C30) Extractable fuel hydrocarbons (C30-C40) | J (all detects) J (all detects) | A | Field duplicates (RPD) (FD) |

**Santa Susana Field Laboratory
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data
Qualification Summary - SDG PH126**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification
Summary - SDG PH126**

No Sample Data Qualified in this SDG

LDC #: 31035B8

VALIDATION COMPLETENESS WORKSHEET

Date: 11/8/14

SDG #: PH126

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--------------------------------------|----|---|
| I. | Technical holding times | A | Sampling dates: 11/12/13 |
| II. | Initial calibration | Δ | % RSD ≤ 20 |
| III. | Calibration verification/ICV | A | 1CV / CV ≤ 20 |
| IV. | Blanks | Δ | |
| V. | Surrogate recovery | Δ | |
| VI. | Matrix spike/Matrix spike duplicates | SW | |
| VII. | Laboratory control samples | A | LCS |
| VIII. | Target compound identification | Δ | |
| IX. | Compound quantitation/RL/LOQ/LODs | Δ | |
| X. | System Performance | Δ | |
| XI. | Overall assessment of data | A | |
| XII. | Field duplicates | SW | D = 1, 2 SDG# |
| XIII. | Field blanks | ND | FB = FB - 041613 (PH032) EB = EB - 111413 (SDG# PH129) |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
SOIL

| | | | | | | | |
|----------------|---------------------------|----|-----------|----|--|----|--|
| 1 ⁺ | SL-628-SA5A-SB-0.0-0.5 | 11 | PBLK13322 | 21 | | 31 | |
| 2 ⁺ | SL-928-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 ⁻ | SL-628-SA5A-SB-6.5-7.5 | 13 | | 23 | | 33 | |
| 4 | SL-628-SA5A-SB-0.0-0.5MS | 14 | | 24 | | 34 | |
| 5 | SL-628-SA5A-SB-0.0-0.5MSD | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

Method: GC HPLC

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| III. Technical holding times | | | | |
| All technical holding times were met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Cooler temperature criteria was met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IV. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Did the initial calibration meet the curve fit acceptance criteria? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the RT windows properly established? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| V. Continuing calibration | | | | |
| What type of continuing calibration calculation was performed? ___%D or %R | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a continuing calibration analyzed daily? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent differences (%D) < 20% or percent recoveries 80-120%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all the retention times within the acceptance windows? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| VI. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a method blank analyzed for each matrix and concentration? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| VII. Surrogate spikes | | | | |
| Were all surrogate %R within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| VIII. Matrix spike/matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| IX. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | | / | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| X. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | / | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target compounds were detected in the field duplicates. | / | | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | | / | | |

LDC #: 31035 B8

VALIDATION FINDINGS WORKSHEET Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [Signature]

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

| # | MS/MSD ID | Compound | MS %R (Limits) | MSD %R (Limits) | RPD (Limits) | Associated Samples | Qualifications |
|---|-----------|---------------|-------------------|--------------------|--------------|--------------------|----------------|
| | 4 + 5 | EFH (c15-c20) | () | 153 (49-123) | 42 (20) | # 1 | J/A det (Q) |
| | | EFH (c21-c30) | 45 (49-123) | 195 (49-123) | 72 (/) | ↓ | J/u J/A ↓ |
| | | EFH (c30-c40) | -83 (49-123) | 287 (49-123) | 102 (↓) | ↓ | J/R /A ↓ |
| | | | () | () | () | | |
| | | | () | () | () | | |
| | | | () | () | () | | |
| | | | () | () | () | | |
| | | | () | () | () | | |
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| | | | () | () | () | | |
| | | | () | () | () | | |
| | | | () | () | () | | |
| | | | () | () | () | | |
| | | | () | () | () | | |

| | Compound | QC Limits (Soil) | RPD (Soil) | QC Limits (Water) | RPD (Water) |
|-----|--------------------|------------------|------------|-------------------|-------------|
| H. | 1,1-Dichloroethene | 59-172% | < 22% | 61-145% | < 14% |
| S. | Trichloroethene | 62-137% | < 24% | 71-120% | < 14% |
| V. | Benzene | 66-142% | < 21% | 76-127% | < 11% |
| CC. | Toluene | 59-139% | < 21% | 76-125% | < 13% |
| DD. | Chlorobenzene | 60-133% | < 21% | 75-130% | < 13% |

LDC #: 31035 BX

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1

Reviewer: F7

2nd reviewer: [Signature]

METHOD: GC HPLC

Y N N/A Were field duplicate pairs identified in this SDG?

Y N N/A Were target compounds detected in the field duplicate pairs?

Code = Fd

| Compound | Concentration (mg/kg) | | %RPD | Qualification |
|---------------|-------------------------|-----|-----------------|---------------------------|
| | 1 | 2 | Limit <u>50</u> | Parent only / All Samples |
| EFH (c21-c30) | 11 | 3.4 | 106 | J/A det |
| EFH (c30-c40) | 40 | 8.9 | 127 | ↓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Compound | Concentration () | | %RPD | Qualification |
|----------|-------------------|--|-------------|---------------------------|
| | | | Limit _____ | Parent only / All Samples |
| | | | | |
| | | | | |
| | | | | |
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| | | | | |

LDC #: 31035B8

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: F7
 2nd Reviewer: [Signature]

METHOD: GC / HPLC

The calibration factors (CF) and relative standard deviation (%RSD) were recalculated using the following calculations:

CF = A/C

Average CF = sum of the CF/number of standards

%RSD = 100 * (S/X)

Where: A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|-----------------|---------------------|----------------------|-----------------------------|-----------------------------|--------------|--------------|----------|--------------|
| | | | | CF (288 std) | CF (288 std) | CF (initial) | CF (initial) | %RSD | %RSD |
| 1 | 1CAL | 8/19/13 | C8-C4U | 25542 | 25542 | 27097 | 27097 | 10 | 10 |
| 2 | 1CAL | 10/17/13 | C8-C4U F7 | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035B8

VALIDATION FINDINGS WORKSHEET Continuing Calibration Results Verification

Page: 1 of 1
 Reviewer: FJ
 2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. CF} - \text{CF}) / \text{ave. CF}$

Where: ave. CF = initial calibration average CF
 CF = continuing calibration CF
 A = Area of compound
 C = Concentration of compound

| # | Standard ID | Calibration Date | Compound | Average CF(1cal)/ CCV Conc. | Reported | Recalculated | Reported | Recalculated |
|---|-------------------|------------------|----------|-----------------------------|---------------|---------------|----------|--------------|
| | | | | | CF/ Conc. CCV | CF/ Conc. CCV | %D | %D |
| 1 | J25 J323B.0014 | 11/19/13 | cg- c40 | 288.01 | 263.49 | 263.49 | 9 | 9 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035138

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: [Signature]
2nd reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|----------------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| chlorobenzene | NS | 2.0 | 1.89327 | 95 | 95 | 0 |
| orthoterphenyl | ↓ | 2.0 | 1.938734 | 97 | 97 | 0 |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

LDC #: 31035B8

VALIDATION FINDINGS WORKSHEET Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: FJ
2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

Where

SSC = Spiked sample concentration

MS = Matrix spike

SC = Sample concentration

MSD = Matrix spike duplicate

SA = Spike added

$\text{RPD} = ((\text{SSCMS} - \text{SSCMSD}) * 2) / (\text{SSCMS} + \text{SSCMSD}) * 100$

MS/MSD samples: 4 + 5

| Compound | Spike Added (mg/kg) | | Sample Conc. (mg/kg) | Spike Sample Concentration (mg/kg) | | Matrix spike | | Matrix Spike Duplicate | | MS/MSD | |
|------------------------------|------------------------|------|-------------------------|---------------------------------------|------|------------------|---------|------------------------|---------|----------|---------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | | |
| EFH (CG-CH) | 5.02 | 5.02 | ND | 4.13 | 4.27 | 82 | 82 | 85 | 85 | 3 | 3 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035B8

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FZ

2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC}/\text{SA})$

$\text{RPD} = ((\text{SSCLCS} - \text{SSCLCSD}) / 2) / ((\text{SSCLCS} + \text{SSCLCSD}) / 2) * 100$

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample

SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS

| Compound | Spike Added (mg/kg) | | Spike Sample Concentration (mg/kg) | | LCS | | LCSD | | LCS/LCSD | |
|------------------------------|---------------------|-----------|------------------------------------|-----------|------------------|-----------|------------------|-----------|-----------|-----------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | |
| <u>EFH (C8-C11)</u> | <u>5.02</u> | <u>NA</u> | <u>4.07</u> | <u>NA</u> | <u>81</u> | <u>81</u> | <u>NA</u> | <u>NA</u> | <u>NA</u> | <u>NA</u> |

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035B8

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: F7
2nd Reviewer: A

METHOD: GC HPLC

Y N N/A
 Y N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds within 10% of the reported results?

$$\text{Concentration} = \frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$$

Example:

Sample ID: #1 Compound Name C30 - C40

A= Area or height of the compound to be measured

Fv= Final Volume of extract

Df= Dilution Factor

RF= Average response factor of the compound
In the initial calibration

Vs= Initial volume of the sample

Ws= Initial weight of the sample

%S= Percent Solid

$$\text{Concentration} = \frac{32113423 (1)}{27097 (30) (0.983)}$$

$$= 40 \text{ mg/kg}$$

| # | Sample ID | Compound | Reported Concentrations () | Recalculated Results Concentrations () | Qualifications |
|---|-----------|----------|--------------------------------|--|----------------|
| | | | | | |
| | | | | | |
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Comments: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: November 12, 2013
LDC Report Date: January 13, 2014
Matrix: Soil
Parameters: Dioxins/Dibenzofurans
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH126

Sample Identification

SL-628-SA5A-SB-0.0-0.5
SL-928-SA5A-SB-0.0-0.5
SL-628-SA5A-SB-6.5-7.5
SL-628-SA5A-SB-0.0-0.5MS
SL-628-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 5 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1613B for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and the USEPA Contract Laboratory Program National Functional Guidelines for Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. HRGC/HRMS Instrument Performance Check

Instrument performance was checked at the required daily frequency.

The chromatographic resolution between 2,3,7,8-TCDD and the peaks representing any other unlabeled TCDD isomers was resolved with a valley of less than or equal to 25%.

PFK and static resolving power were within validation criteria.

III. Initial Calibration

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 35.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

The minimum S/N ratio was greater than or equal to 10 for each unlabeled compound and labeled compound.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within QC limits.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method blanks with the following exceptions:

| Method Blank ID | Extraction Date | Compound | Concentration | Associated Samples |
|-----------------|-----------------|---|---|--------------------------|
| BLK324003 | 11/20/13 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.0670 pg/L 0.0804 pg/L 0.0412 pg/L 0.0407 pg/L 0.0742 pg/L 0.0721 pg/L 0.213 pg/L 0.121 pg/L 0.0714 pg/L 0.0890 pg/L 0.0519 pg/L 0.0893 pg/L 0.0575 pg/L 0.0746 pg/L 0.0711 pg/L 0.233 pg/L | All samples in SDG PH126 |

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

| Sample | Compound | Reported Concentration | Modified Final Concentration |
|------------------------|--|---|--|
| SL-628-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.102 ng/Kg 0.263 ng/Kg 0.378 ng/Kg 0.301 ng/Kg 0.207 ng/Kg 0.266 ng/Kg | 0.102U ng/Kg 0.263U ng/Kg 0.378U ng/Kg 0.301U ng/Kg 0.207U ng/Kg 0.266U ng/Kg |
| SL-928-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD | 0.192 ng/Kg | 0.192U ng/Kg |
| SL-628-SA5A-SB-6.5-7.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.0950 ng/Kg 0.0620 ng/Kg 0.132 ng/Kg 0.211 ng/Kg 0.179 ng/Kg 0.130 ng/Kg 0.0888 ng/Kg 0.0773 ng/Kg 0.103 ng/Kg 0.172 ng/Kg 0.142 ng/Kg 0.145 ng/Kg 0.614 ng/Kg | 0.0950U ng/Kg 0.0620U ng/Kg 0.132U ng/Kg 0.211U ng/Kg 0.179U ng/Kg 0.130U ng/Kg 0.0888U ng/Kg 0.0773U ng/Kg 0.103U ng/Kg 0.172U ng/Kg 0.142U ng/Kg 0.145U ng/Kg 0.614U ng/Kg |

Sample EB-111413 (from SDG PH129) was identified as an equipment blank. No polychlorinated dioxin/dibenzofuran contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|-----------|---------------|---|--|--------------------------|
| EB-111413 | 11/14/13 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.426 pg/L 0.291 pg/L 0.578 pg/L 0.691 pg/L 0.636 pg/L 2.00 pg/L 0.366 pg/L 0.594 pg/L 0.500 pg/L 0.706 pg/L 0.519 pg/L 0.649 pg/L 0.510 pg/L 0.485 pg/L 0.576 pg/L 1.70 pg/L | All samples in SDG PH126 |

Sample FB-041613 (from SDG PH032) was identified as a field blank. No polychlorinated dioxin/dibenzofuran contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|-----------|---------------|--|--|--------------------------|
| FB-041613 | 4/16/13 | 1,2,3,7,8-PeCDD 1,2,3,4,6,7,8-HpCDD OCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,7,8,9-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF OCDF | 0.434 pg/L 0.309 pg/L 0.838 pg/L 0.324 pg/L 0.429 pg/L 0.257 pg/L 0.241 pg/L 0.284 pg/L 0.314 pg/L 0.357 pg/L | All samples in SDG PH126 |

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X for other contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within the QC limits with the following exceptions:

| Spike ID (Associated Samples) | Compound | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Affected Compound | Flag | A or P |
|---|---------------------|------------------|-------------------|--------------|---------------------|---|--------|
| SL-628-SA5A-SB-0.0-0.5MS/MSD (SL-628-SA5A-SB-0.0-0.5) | 1,2,3,4,6,7,8-HpCDD | - | - | 28 (≤20) | 1,2,3,4,6,7,8-HpCDD | J (all detects) | A |
| SL-628-SA5A-SB-0.0-0.5MS/MSD (SL-628-SA5A-SB-0.0-0.5) | OCDD | 10 (40-135) | 166 (40-135) | 81 (≤20) | OCDD | J (all detects) UJ (all non-detects) | A |

VII. Ongoing Precision Recovery (OPR)

Ongoing precision recovery samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Regional Quality Assurance and Quality Control

Not applicable.

IX. Internal Standards

All internal standard recoveries were within QC limits.

X. Target Compound Identifications

All target compound identifications were within validation criteria.

XI. Compound Quantitation

All compound quantitations were within validation criteria.

The 2,3,7,8-TCDF confirmation was performed with the following exceptions:

| Sample | Compound | Finding | Criteria | Flag | A or P |
|------------------------|--------------|--|--|------|--------|
| SL-928-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDF | 2nd column confirmation was not performed for this compound. | 2,3,7,8-TCDF must be confirmed on the 2nd column per the method. | None | P |

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH126 | All compounds reported below the RL. | J (all detects) | A |

XII. System Performance

The system performance was acceptable.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XIV. Field Duplicates

Samples SL-628-SA5A-SB-0.0-0.5 and SL-928-SA5A-SB-0.0-0.5 were identified as field duplicates. No polychlorinated dioxins/dibenzofurans were detected in any of the samples with the following exceptions:

| Compound | Concentration (ng/Kg) | | RPD (Limits) | Flag | A or P |
|---------------------|------------------------|------------------------|-----------------|---|--------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| 2,3,7,8-TCDD | 0.102 | 0.192 | 61 (≤50) | J (all detects) | A |
| 1,2,3,7,8-PeCDD | 0.263 | 0.860 | 106 (≤50) | J (all detects) | A |
| 1,2,3,4,7,8-HxCDD | 0.327 | 0.574 | 55 (≤50) | J (all detects) | A |
| 1,2,3,6,7,8-HxCDD | 1.03 | 0.940 | 9 (≤50) | - | - |
| 1,2,3,7,8,9-HxCDD | 0.654 | 0.746 | 13 (≤50) | - | - |
| 1,2,3,4,6,7,8-HpCDD | 30.8 | 13.9 | 76 (≤50) | J (all detects) | A |
| OCDD | 297 | 186 | 46 (≤50) | - | - |
| 2,3,7,8-TCDF | 0.990U | 0.355 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| 1,2,3,7,8-PeCDF | 0.922 | 1.87 | 68 (≤50) | J (all detects) | A |
| 2,3,4,7,8-PeCDF | 0.389 | 1.10 | 96 (≤50) | J (all detects) | A |
| 1,2,3,4,7,8-HxCDF | 0.378 | 0.703 | 60 (≤50) | J (all detects) | A |
| 1,2,3,6,7,8-HxCDF | 0.262 | 0.724 | 94 (≤50) | J (all detects) | A |
| 2,3,4,6,7,8-HxCDF | 0.301 | 0.983 | 106 (≤50) | J (all detects) | A |
| 1,2,3,7,8,9-HxCDF | 0.207 | 0.846 | 121 (≤50) | J (all detects) | A |
| 1,2,3,4,6,7,8-HpCDF | 3.47 | 1.50 | 79 (≤50) | J (all detects) | A |
| 1,2,3,4,7,8,9-HpCDF | 0.266 | 0.766 | 97 (≤50) | J (all detects) | A |
| OCDF | 8.55 | 4.35 | 65 (≤50) | J (all detects) | A |

**Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Data Qualification Summary - SDG PH126**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|--|---|---|--------|---|
| PH126 | SL-628-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HpCDD | J (all detects) | A | Matrix spike/Matrix spike duplicate (RPD) (E) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 | OCDD | J (all detects) UJ (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q,E) |
| PH126 | SL-928-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDF | None | P | Compound quantitation (column confirmation) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,4,6,7,8-HpCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) | A | Field duplicates (RPD) (FD) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDF | J (all detects) UJ (all non-detects) | A | Field duplicates (RPD) (FD) |

**Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG PH126**

| SDG | Sample | Analyte | Modified Final Concentration | A or P | Code |
|-------|------------------------|---|--|--------|------|
| PH126 | SL-628-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,7,8,9-HpCDF | 0.102U ng/Kg 0.263U ng/Kg 0.378U ng/Kg 0.301U ng/Kg 0.207U ng/Kg 0.266U ng/Kg | A | B |
| PH126 | SL-928-SA5A-SB-0.0-0.5 | 2,3,7,8-TCDD | 0.192U ng/Kg | A | B |

| SDG | Sample | Analyte | Modified Final Concentration | A or P | Code |
|-------|------------------------|--|--|--------|------|
| PH126 | SL-628-SA5A-SB-6.5-7.5 | 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF | 0.0950U ng/Kg 0.0620U ng/Kg 0.132U ng/Kg 0.211U ng/Kg 0.179U ng/Kg 0.130U ng/Kg 0.0888U ng/Kg 0.0773U ng/Kg 0.103U ng/Kg 0.172U ng/Kg 0.142U ng/Kg 0.145U ng/Kg 0.614U ng/Kg | A | B |

**Santa Susana Field Laboratory
Dioxins/Dibenzofurans - Field Blank Data Qualification Summary - SDG PH126**

No Sample Data Qualified in this SDG

LDC #: 31035B21

VALIDATION COMPLETENESS WORKSHEET

Date: 1-9-14

SDG #: PH126

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: Jhr

2nd Reviewer: A

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|---|
| I. | Technical holding times | A | Sampling dates: 11/12/13 |
| II. | HRGC/HRMS Instrument performance check | A | |
| III. | Initial calibration | A | ≤ 20/35 |
| IV. | Continuing Calibration | A | QC limits |
| V. | Blanks | SW | |
| VI. | Matrix spike/Matrix spike duplicates | SW | |
| VII. | Laboratory control samples | A | OPR |
| VIII. | Regional quality assurance and quality control | N | |
| IX. | Internal standards | A | |
| X. | Target compound identifications | A | |
| XI. | Compound quantitation/RL/LOQ/LODs | SW | |
| XII. | System performance | A | |
| XIII. | Overall assessment of data | A | |
| XIV. | Field duplicates | SW | D=1+2 |
| XV. | Field blanks | SW | EB-11/4/13 (PH129); FB-04/16/13 (PH033) |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: Soils

| | | | | | | | |
|----|---------------------------|----|------------|----|--|----|--|
| 1 | SL-628-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-928-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | SL-628-SA5A-SB-6.5-7.5 | 13 | | 23 | | 33 | |
| 4 | SL-628-SA5A-SB-0.0-0.5MS | 14 | | 24 | | 34 | |
| 5 | SL-628-SA5A-SB-0.0-0.5MSD | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | BLK 324003 | 30 | | 40 | |

Notes:

Method: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. GC/MS Instrument performance check | | | | |
| Was PFK exact mass 380.9760 verified? | / | | | |
| Were the retention time windows established for all homologues? | / | | | |
| Was the chromatographic resolution between 2,3,7,8-TCDD and peaks representing any other unlabeled TCDD isomers $\leq 25\%$? | / | | | |
| Is the static resolving power at least 10,000 (10% valley definition)? | / | | | |
| Was the mass resolution adequately check with PFK? | / | | | |
| Was the presence of 1,2,8,9-TCDD and 1,3,4,6,8-PeCDF verified? | / | | | |
| III. Initial calibration | | | | |
| Was the initial calibration performed at 5 concentration levels? | / | | | |
| Were all percent relative standard deviations (%RSD) $\leq 20\%$ for unlabeled compounds and $\leq 35\%$ for labeled compounds ? | / | | | |
| Did all calibration standards meet the Ion Abundance Ratio criteria? | / | | | |
| Was the signal to noise ratio for each target compound ≥ 2.5 and for each recovery and internal standard > 10 ? | / | | | |
| IV. Continuing calibration | | | | |
| Was a routine calibration performed at the beginning and end of each 12 hour period? | / | | | |
| Were all the concentrations for the unlabeled compounds and labeled compounds within the QC limits (Method 1613B, Table 6)? | / | | | |
| Did all routine calibration standards meet the Ion Abundance Ratio criteria? | / | | | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was a method blank performed for each matrix and concentration? | | | / | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet? | / | | | |
| VI. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | / | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | | / | | |
| VII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |
| Was an LCS analyzed per extraction batch? | | | / | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | / | | | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|----|-------------------|
| VIII. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | | / | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| IX. Internal standards | | | | |
| Were internal standard recoveries within the 25-150% criteria? | / | | | |
| Was the minimum S/N ratio of all internal standard peaks ≥ 10 ? | / | | | |
| X. Target compound identification | | | | |
| For 2,3,7,8 substituted congeners with associated labeled standards, were the retention times of the two quantitation peaks within -1 to 3 sec. of the RT of the labeled standard? | / | | | |
| For 2,3,7,8 substituted congeners without associated labeled standards, were the relative retention times of the two quantitation peaks within 0.005 time units of the RRT measured in the routine calibration? | / | | | |
| For non-2,3,7,8 substituted congeners, were the retention times of the two quantitation peaks within RT established in the performance check solution? | | | / | |
| Did compound spectra contain all characteristic ions listed in the table attached? | / | | | |
| Was the Ion Abundance Ratio for the two quantitation ions within criteria? | | / | | |
| Was the signal to noise ratio for each target compound and labeled standard ≥ 2.5 ? | / | | | |
| Does the maximum intensity of each specified characteristic ion coincide within ± 2 seconds (includes labeled standards)? | / | | | |
| For PCDF identification, was any signal ($S/N \geq 2.5$, at \pm seconds RT) detected in the corresponding PCDPE channel? | | / | | |
| Was an acceptable lock mass recorded and monitored? | / | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound? | / | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target compounds were detected in the field duplicates. | / | | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | / | | | |

VALIDATION FINDINGS WORKSHEET

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

| | | | | |
|----------------------|------------------------|------------------------|------------------------|----------------|
| A. 2,3,7,8-TCDD | F. 1,2,3,4,6,7,8-HpCDD | K. 1,2,3,4,7,8-HxCDF | P. 1,2,3,4,7,8,9-HpCDF | U. Total HpCDD |
| B. 1,2,3,7,8-PeCDD | G. OCDD | L. 1,2,3,6,7,8-HxCDF | Q. OCDF | V. Total TCDF |
| C. 1,2,3,4,7,8-HxCDD | H. 2,3,7,8-TCDF | M. 2,3,4,6,7,8-HxCDF | R. Total TCDD | W. Total PeCDF |
| D. 1,2,3,6,7,8-HxCDD | I. 1,2,3,7,8-PeCDF | N. 1,2,3,7,8,9-HxCDF | S. Total PeCDD | X. Total HxCDF |
| E. 1,2,3,7,8,9-HxCDD | J. 2,3,4,7,8-PeCDF | O. 1,2,3,4,6,7,8-HpCDF | T. Total HxCDD | Y. Total HpCDF |

Notes: _____

VALIDATION FINDINGS WORKSHEET
Blanks

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- N N/A Were all samples associated with a method blank?
- N N/A Was a method blank performed for each matrix and whenever a sample extraction was performed?
- N N/A Was the method blank contaminated?

Blank extraction date: 11/20/13 Blank analysis date: 11/24/13 Associated samples: All → 5x Qual U (B)

Conc. units: pg/L

| Compound | Blank ID | Sample Identification | | | | | | | |
|----------|-----------|-----------------------|--------|--------|---------|--|--|--|--|
| | | 5x | 1 | 2 | 3 | | | | |
| | BLK324003 | | | | | | | | |
| A | 0.0670* | 0.335 | 0.102* | 0.192* | | | | | |
| B | 0.0804* | 0.402 | 0.263* | | 0.0950* | | | | |
| C | 0.0412* | 0.206 | | | 0.0620* | | | | |
| D | 0.0407* | 0.204 | | | 0.132 | | | | |
| E | 0.0742* | 0.371 | | | 0.211 | | | | |
| F | 0.0721* | 0.361 | | | | | | | |
| G | 0.213 | 1.07 | | | | | | | |
| I | 0.121* | 0.605 | | | 0.179 | | | | |
| J | 0.0714* | 0.357 | | | 0.130 | | | | |
| K | 0.0890* | 0.445 | 0.378 | | 0.0888 | | | | |
| L | 0.0519* | 0.260 | | | 0.0773 | | | | |
| M | 0.0893 | 0.447 | 0.301 | | 0.103* | | | | |
| N | 0.0575* | 0.288 | 0.207 | | 0.172* | | | | |
| O | 0.0746 | 0.373 | | | 0.142 | | | | |
| P | 0.0711* | 0.356 | 0.266* | | 0.145 | | | | |
| Q | 0.233* | 1.17 | | | 0.614 | | | | |

*EMPC

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins (EPA Method 1613B)

Blank units: pg/L **Associated sample units:** ng/kg

Sampling date: 11/14/13

Field blank type: (circle one) Field Blank / Rinsate / Other: EB **Associated Samples:** All >5x

| Compound | Blank ID | Sample Identification | | | | | | | |
|----------|-----------|-----------------------|--|--|--|--|--|--|--|
| | | 5X | | | | | | | |
| | EB-111413 | | | | | | | | |
| B | 0.426* | 0.00213 | | | | | | | |
| C | 0.291* | 0.00146 | | | | | | | |
| D | 0.578 | 0.00289 | | | | | | | |
| E | 0.691 | 0.00346 | | | | | | | |
| F | 0.636 | 0.00318 | | | | | | | |
| G | 2.00* | 0.01000 | | | | | | | |
| H | 0.366 | 0.00183 | | | | | | | |
| I | 0.594* | 0.00297 | | | | | | | |
| J | 0.500* | 0.00250 | | | | | | | |
| K | 0.706* | 0.00353 | | | | | | | |
| L | 0.519 | 0.00260 | | | | | | | |
| M | 0.649* | 0.00325 | | | | | | | |
| N | 0.510* | 0.00255 | | | | | | | |
| O | 0.485 | 0.00243 | | | | | | | |
| P | 0.576* | 0.00288 | | | | | | | |
| Q | 1.70* | 0.00850 | | | | | | | |

* EMPC

EB-111413 (PH129)

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: HRGC/HRMS Dioxins (EPA Method 1613B)

Blank units: pg/L **Associated sample units:** ng/kg

Sampling date: 04/16/13

Field blank type: (circle one) Field Blank / Rinsate / Other: FB **Associated Samples:** All >5x

| Compound | Blank ID | Sample Identification | | | | | | | |
|----------|-----------|-----------------------|--|--|--|--|--|--|--|
| | | 5X | | | | | | | |
| | FB-041613 | 5X | | | | | | | |
| B | 0.434* | 0.00217 | | | | | | | |
| F | 0.309* | 0.00155 | | | | | | | |
| G | 0.838* | 0.00419 | | | | | | | |
| I | 0.324 | 0.00162 | | | | | | | |
| J | 0.429* | 0.00215 | | | | | | | |
| K | 0.257 | 0.00129 | | | | | | | |
| N | 0.241* | 0.00121 | | | | | | | |
| M | 0.284* | 0.00142 | | | | | | | |
| O | 0.314* | 0.00157 | | | | | | | |
| Q | 0.357* | 0.00179 | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

* EMPC

FB-041613 (PH032)

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the blank concentration were qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

| # | Date | MS/MSD ID | Compound | MS %R (Limits) | MSD %R (Limits) | RPD (Limits) | Associated Samples | Qualifications |
|---|------|-----------|----------|----------------|-----------------|--------------|--------------------|-----------------------|
| | | 4/5 | F | () | () | 28 (20) | 1 | Jdets/A (F) (Q) |
| | | ✓ | G | 10 (40-135) | 166 (40-135) | 81 (20) | ✓ | J/U/A Jdets/A (G) (Q) |
| | | | | () | () | () | | |
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VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported RLs

METHOD: GC/MS Dioxins/Dibenzofurans (EPA Method 1613B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were the correct internal standard (IS), quantitation ions and relative response factors (RRF) used to quantitate the compound?
Y N N/A Compound quantitation and RLs were adjusted to reflect all sample dilutions and dry weight factors (if necessary).

| # | Date | Compound | Finding | Associated Samples | Qualifications |
|---|------|----------|---------------------------------------|--------------------|----------------|
| | | | | | |
| | | H | No 2,3,7,8-TCDF confirmation analysis | 2 | None/P |
| | | | | | |
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Comments: See sample calculation verification worksheet for recalculations

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Method: Dioxins/Furans EPA Method 1613

| Analyte | Concentration (ng/kg) | | RPD (≤ 50) | Qualifiers (Parents Only) |
|---------|-----------------------|-------|---------------|---------------------------|
| | 1 | 2 | | |
| A | 0.102 | 0.192 | 61 | Jdets/A (FD) |
| B | 0.263 | 0.860 | 106 | Jdets/A (FD) |
| C | 0.327 | 0.574 | 55 | Jdets/A (FD) |
| D | 1.03 | 0.940 | 9 | -- |
| E | 0.654 | 0.746 | 13 | -- |
| F | 30.8 | 13.9 | 76 | Jdets/A (FD) |
| G | 297 | 186 | 46 | -- |
| H | 0.990U | 0.355 | 200 | J/US-Jdets/A (FD) |
| I | 0.922 | 1.87 | 68 | Jdets/A (FD) |
| J | 0.389 | 1.10 | 96 | Jdets/A (FD) |
| K | 0.378 | 0.703 | 60 | Jdets/A (FD) |
| L | 0.262 | 0.724 | 94 | Jdets/A (FD) |
| M | 0.301 | 0.983 | 106 | Jdets/A (FD) |
| N | 0.207 | 0.846 | 121 | Jdets/A (FD) |
| O | 3.47 | 1.50 | 79 | Jdets/A (FD) |
| P | 0.266 | 0.766 | 97 | Jdets/A (FD) |
| Q | 8.55 | 4.35 | 65 | Jdets/A (FD) |
| | | | | |

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of compound,

C_x = Concentration of compound,

S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

X = Mean of the RRFs

| # | Standard ID | Calibration Date | Compound (Reference Internal Standard) | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|---|-----------------------|-----------------------|---------------|---------------|----------|--------------|
| | | | | Average RRF (initial) | Average RRF (initial) | RRF (CS3 std) | RRF (CS3 std) | %RSD | %RSD |
| 1 | ICAL | 11-14-13 | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | 0.9962 | 0.9963 | 0.9281 | 0.9281 | 6.11 | 6.11 |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | 1.1633 | 1.1633 | 1.0583 | 1.0583 | 12.37 | 12.37 |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | 0.9236 | 0.9236 | 0.9062 | 0.9062 | 3.51 | 3.51 |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | 1.0225 | 1.0225 | 0.9873 | 0.9873 | 1.93 | 1.93 |
| | | | OCDF (¹³ C-OCDD) | 0.9268 | 0.9268 | 0.9173 | 0.9173 | 5.16 | 5.16 |
| 2 | | | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | | | | | | |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | | | | | | |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | | | | | | |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | | | | | | |
| | | | OCDF (¹³ C-OCDD) | | | | | | |
| 3 | | | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | | | | | | |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | | | | | | |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | | | | | | |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | | | | | | |
| | | | OCDF (¹³ C-OCDD) | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Routine Calibration Results Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
 RRF = (A_x)(C_{is})/(A_{is})(C_x)

Where: ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 A_x = Area of compound,
 C_x = Concentration of compound,
 A_{is} = Area of associated internal standard
 C_{is} = Concentration of internal standard

| # | Standard ID | Calibration Date | Compound (Reference Internal Standard) | Spiked Conc (ng/mL) | Reported | Recalculated | Reported | Recalculated |
|---|-------------|------------------|---|---------------------|--------------|--------------|----------|--------------|
| | | | | | Conc (ng/mL) | Conc (ng/mL) | %R | %R |
| 1 | CS30002 | 11-24-13 | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | 10 | 9.67 | 9.675 | 97 | 97 |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | 10 | 9.37 | 9.37 | 94 | 94 |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | 50 | 50.54 | 50.54 | 101 | 101 |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | 50 | 50.09 | 50.09 | 100 | 100 |
| | | | OCDF (¹³ C-OCDF) | 100 | 101.89 | 101.89 | 102 | 102 |
| 2 | | | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | 10 | | | | |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | 10 | | | | |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | 50 | | | | |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | 50 | | | | |
| | | | OCDF (¹³ C-OCDF) | 100 | | | | |
| 3 | | | 2,3,7,8-TCDF (¹³ C-2,3,7,8-TCDF) | 10 | | | | |
| | | | 2,3,7,8-TCDD (¹³ C-2,3,7,8-TCDD) | 10 | | | | |
| | | | 1,2,3,6,7,8-HxCDD (¹³ C-1,2,3,6,7,8-HxCDD) | 50 | | | | |
| | | | 1,2,3,4,6,7,8-HpCDD (¹³ C-1,2,4,6,7,8,-HpCDD) | 50 | | | | |
| | | | OCDF (¹³ C-OCDF) | 100 | | | | |

Comments: Refer to Routine Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSR - SR)/SA

Where: SSR = Spiked sample result, SR = Sample result
 SA = Spike added

RPD = |MSR - MSDR| * 2 / (MSR + MSDR)

MSR = Matrix spike percent recovery MSDR = Matrix spike duplicate percent recovery

MS/MSD samples: 4/5

| Compound | Spike Added (ng/kg) | | Sample Concentration (ng/kg) | Spiked Sample Concentration (ng/kg) | | Matrix Spike | | Matrix Spike Duplicate | | Reported | Recalculated |
|---------------------|---------------------|------|------------------------------|-------------------------------------|------|------------------|--------|------------------------|--------|----------|--------------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | RPD |
| | | | | | | Reported | Recalc | Reported | Recalc | | |
| 2,3,7,8-TCDD | 27.4 | 28.3 | 0.102 | 27.7 | 28.0 | 101 | 101 | 98 | 98 | 1 | 1 |
| 1,2,3,7,8-PeCDD | 137 | 142 | 0.263 | 149 | 158 | 109 | 109 | 111 | 111 | 6 | 6 |
| 1,2,3,4,7,8-HxCDD | 137 | 142 | 0.327 | 150 | 157 | 109 | 109 | 111 | 110 | 5 | 5 |
| 1,2,3,4,7,8,9-HpCDF | 137 | 142 | 0.266 | 152 | 158 | 111 | 111 | 111 | 111 | 3 | 4 |
| OCDF | 274 | 283 | 8.55 | 300 | 328 | 106 | 106 | 113 | 113 | 9 | 9 |
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Comments: Refer to Matrix Spike/Matrix Spike Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

N N/A
 N N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).

RRF = Relative Response Factor (average) from the initial calibration

Df = Dilution Factor.

%S = Percent solids, applicable to soil and solid matrices only.

Example:

Sample I.D. 1, A:

$$\text{Conc.} = \frac{(105 + 256)(2000)(1)}{(340279 + 264523)(1.1633)(10.28)(.983)}$$

= 0.102 ng/Kg

| # | Sample ID | Compound | Reported Concentration () | Calculated Concentration () | Qualification |
|---|-----------|----------|-------------------------------|---------------------------------|---------------|
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Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: November 12, 2013
LDC Report Date: January 13, 2014
Matrix: Soil
Parameters: Alcohols
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH126

Sample Identification

SL-628-SA5A-SB-0.0-0.5
SL-928-SA5A-SB-0.0-0.5
SL-628-SA5A-SB-6.5-7.5
SL-628-SA5A-SB-0.0-0.5MS
SL-628-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 5 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015C for Alcohols.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

Retention time windows were evaluated and considered technically acceptable.

III. Calibration Verification

Calibration verification was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 20.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

IV. Blanks

Method blanks were reviewed for each matrix as applicable. No alcohol contaminants were found in the method blanks.

Sample EB-111413 (from SDG PH129) was identified as an equipment blank. No alcohol contaminants were found.

Sample FB-041613 (from SDG PH032) was identified as a field blank. No alcohol contaminants were found.

V. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Target Compound Identification

All target compound identifications were within validation criteria.

IX. Compound Quantitation

All compound quantitations were within validation criteria.

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

| Sample | Compound | RPD | Flag | A or P |
|------------------------|----------|-----|-----------------|--------|
| SL-628-SA5A-SB-0.0-0.5 | Methanol | 55 | J (all detects) | A |

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH126 | All compounds reported below the RL. | J (all detects) | A |

X. System Performance

The system performance was acceptable.

XI. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XII. Field Duplicates

Samples SL-628-SA5A-SB-0.0-0.5 and SL-928-SA5A-SB-0.0-0.5 were identified as field duplicates. No alcohols were detected in any of the samples with the following exceptions:

| Compound | Concentration (ug/Kg) | | RPD (Limits) | Flag | A or P |
|----------|------------------------|------------------------|--------------|---|--------|
| | SL-628-SA5A-SB-0.0-0.5 | SL-928-SA5A-SB-0.0-0.5 | | | |
| Methanol | 480 | 1000U | 200 (≤50) | J (all detects) UJ (all non-detects) | A |

**Santa Susana Field Laboratory
Alcohols - Data Qualification Summary - SDG PH126**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|--|--------------------------------------|---|--------|-----------------------------------|
| PH126 | SL-628-SA5A-SB-0.0-0.5 | Methanol | J (all detects) | A | Compound quantitation (RPD) (*IX) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 SL-628-SA5A-SB-6.5-7.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |
| PH126 | SL-628-SA5A-SB-0.0-0.5 SL-928-SA5A-SB-0.0-0.5 | Methanol | J (all detects) UJ (all non-detects) | A | Field duplicate (RPD) (FD) |

**Santa Susana Field Laboratory
Alcohols - Laboratory Blank Data Qualification Summary - SDG PH126**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Alcohols - Field Blank Data Qualification Summary - SDG PH126**

No Sample Data Qualified in this SDG

LDC #: 31035B43

VALIDATION COMPLETENESS WORKSHEET

Date: 1/9/14

SDG #: PH026

Level IV

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: FJ

2nd Reviewer: E

METHOD: GC Alcohols (EPA SW 846 Method 8015C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--------------------------------------|----|--|
| I. | Technical holding times | Δ | Sampling dates: 11/12/13 |
| II | Initial calibration | Δ | % RSD ≤ 20 |
| III. | Calibration verification/ICV | Δ | 100% / CV ≤ 20 |
| IV. | Blanks | Δ | |
| V | Surrogate recovery | Δ | |
| VI. | Matrix spike/Matrix spike duplicates | A | |
| VII. | Laboratory control samples | A | LCS |
| VIII. | Target compound identification | Δ | |
| IX. | Compound quantitation/RL/LOQ/LODs | SW | |
| X. | System Performance | Δ | |
| XI. | Overall assessment of data | A | |
| XII. | Field duplicates | SW | D = 1, 2 SPGH |
| XIII. | Field blanks | ND | FB = FB - 041613 (PH032) EB = EB - 111413 (PH129) |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
SOIL

| | | | | | | | |
|----|---------------------------|----|------------|----|--|----|--|
| 1 | SL-628-SA5A-SB-0.0-0.5 | 11 | PBLK 34323 | 21 | | 31 | |
| 2 | SL-928-SA5A-SB-0.0-0.5 | 12 | | 22 | | 32 | |
| 3 | SL-628-SA5A-SB-6.5-7.5 | 13 | | 23 | | 33 | |
| 4 | SL-628-SA5A-SB-0.0-0.5MS | 14 | | 24 | | 34 | |
| 5 | SL-628-SA5A-SB-0.0-0.5MSD | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes: _____

Method: GC HPLC

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| Technical holding times | | | | |
| All technical holding times were met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Cooler temperature criteria was met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| II. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) < 20%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Did the initial calibration meet the curve fit acceptance criteria? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were the RT windows properly established? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| III. Continuing calibration | | | | |
| What type of continuing calibration calculation was performed? ___%D or ___%R | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a continuing calibration analyzed daily? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all percent differences (%D) < 20%.0 or percent recoveries 80-120%? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were all the retention times within the acceptance windows? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IV. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a method blank analyzed for each matrix and concentration? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| V. Surrogate spikes | | | | |
| Were all surrogate %R within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| VI. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| VII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Validation Area | Yes | No | NA | Findings/Comments |
|---|-----|----|--------------|-------------------|
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | | / | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| X. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | / | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XIV. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target compounds were detected in the field duplicates. | / | | | |
| XV. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | / | | | |

LDC #: 31035B43

VALIDATION FINDINGS WORKSHEET Compound Quantitation and Reported CRQLs

Page: 1 of 1
Reviewer: F
2nd Reviewer: A

METHOD: GC HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?

Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results? code = * 1X

| # | Compound Name | % RPD Bet ² Finding <u>CO 1 ≤ 40</u> | Associated Samples | Qualifications |
|---|-----------------|--|--------------------|------------------|
| | <u>Methanol</u> | <u>55</u> | <u>1</u> | <u>1 / A det</u> |
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Comments: See sample calculation verification worksheet for recalculations

LDC #: 31035 B43

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1

Reviewer: F7

2nd reviewer: EA

METHOD: GC HPLC

Y N N/A Were field duplicate pairs identified in this SDG?

Y N N/A Were target compounds detected in the field duplicate pairs?

code = Fd

| Compound | Concentration (<u>ug/Kg</u>) | | %RPD Limit <u>SD</u> | Qualification Parent only / All Samples |
|-----------------|--------------------------------|--------------|-------------------------|--|
| | <u>1</u> | <u>2</u> | | |
| <u>Methanol</u> | <u>480</u> | <u>10004</u> | <u>200</u> | <u>J/UJ/A</u> |
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| Compound | Concentration () | | %RPD Limit _____ | Qualification Parent only / All Samples |
|----------|-------------------|--|---------------------|--|
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LDC #: 31035B43

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: F7
 2nd Reviewer: [Signature]

METHOD: GC HPLC

The calibration factors (CF) and relative standard deviation (%RSD) were recalculated using the following calculations:

CF = A/C
 Average CF = sum of the CF/number of standards
 %RSD = 100 * (S/X)

Where: A = Area of compound
 C = Concentration of compound
 S = Standard deviation of calibration factors
 X = Mean of calibration factors

| # | Standard ID | Calibration Date | Compound | Reported | Recalculated | Reported | Recalculated | Reported | Recalculated |
|---|----------------|------------------|-----------|---------------|---------------|--------------|--------------|----------|--------------|
| | | | | CF (5000 std) | CF (5000 std) | CF (initial) | CF (initial) | %RSD | %RSD |
| 1 | ICAL H2739A | 11/18/13 | Methano / | 8.0734 | 8.0734 | 7.6106 | 7.6106 | 8 | 8 |
| 2 | ICAL H2739B | 11/18/13 | ↓ | 3.052624 | 3.052624 | 3.142624 | 3.142624 | 8.044 | 8.044 |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035B43

VALIDATION FINDINGS WORKSHEET Continuing Calibration Results Verification

Page: 1 of 1

Reviewer: FJ

2nd Reviewer: [Signature]

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. CF} - \text{CF}) / \text{ave. CF}$

Where: ave. CF = initial calibration average CF

CF = continuing calibration CF

A = Area of compound

C = Concentration of compound

| # | Standard ID | Calibration Date | Compound | Average CF(Ical)/ CCV Conc. | Reported | Recalculated | Reported | Recalculated |
|---|---------------|------------------|--------------------------|-----------------------------|---------------|---------------|----------|--------------|
| | | | | | CF/ Conc. CCV | CF/ Conc. CCV | %D | %D |
| 1 | cevd 16:43 | 11/19/13 | Methano ¹ (A) | 5000.0 | 4899.08 | 4899.08 | 2 | 2 |
| | | | (B) | 5000.0 | 4786.33 | 4786.33 | 4 | 4 |
| 2 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3 | | | | | | | | |
| | | | | | | | | |
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| 4 | | | | | | | | |
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Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035BY3

VALIDATION FINDINGS WORKSHEET Surrogate Results Verification

Reviewer: [Signature]

2nd reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| Acetone | ch B | 2500 | 2677.332 | 107 | 107 | 0 |
| | | | | | | |
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Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
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Sample ID: _____

| Surrogate | Column/Detector | Surrogate Spiked | Surrogate Found | Percent Recovery | Percent Recovery | Percent Difference |
|-----------|-----------------|------------------|-----------------|------------------|------------------|--------------------|
| | | | | Reported | Recalculated | |
| | | | | | | |
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LDC #: 31035 B43

VALIDATION FINDINGS WORKSHEET

Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
 Reviewer: F7
 2nd Reviewer: ←

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

Where

SSC = Spiked sample concentration

MS = Matrix spike

SC = Sample concentration

MSD = Matrix spike duplicate

SA = Spike added

$\text{RPD} = \frac{((\text{SSCMS} - \text{SSCMSD}) * 2)}{(\text{SSCMS} + \text{SSCMSD})} * 100$

MS/MSD samples: 4 + 5

| Compound | Spike Added (ng/kg) | | Sample Conc. (ng/kg) | Spike Sample Concentration (ng/kg) | | Matrix spike | | Matrix Spike Duplicate | | MS/MSD | |
|------------------------------|------------------------|------|-------------------------|---------------------------------------|--------|------------------|---------|------------------------|---------|----------|---------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | | |
| Methano / | 2500 | 2500 | 469.28 | 2557.63 | 2608.4 | 84 | 84 | 86 | 86 | 2 | 2 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035B43

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FJ

2nd Reviewer: [Signature]

METHOD: GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC}/\text{SA})$

$\text{RPD} = ((\text{SSCLCS} - \text{SSCLCSD}) / 2) / ((\text{SSCLCS} + \text{SSCLCSD}) / 2) * 100$

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample

SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS 34323

| Compound | Spike Added (ug/kg) | | Spike Sample Concentration (ug/kg) | | LCS | | LCSD | | LCS/LCSD | |
|------------------------------|------------------------|------|---------------------------------------|------|------------------|---------|------------------|---------|----------|---------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | |
| Methane (RSK-175) | | | | | | | | | | |
| 2,4-D (8151) | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | |
| Methanol | 2500 | NA | 2515 | NA | 101 | 101 | NA | | | |

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 31035B43

VALIDATION FINDINGS WORKSHEET Sample Calculation Verification

Page: 1 of 1
Reviewer: F7
2nd Reviewer: [Signature]

METHOD: GC HPLC

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?
Were all recalculated results for detected target compounds within 10% of the reported results?

$$\text{Concentration} = \frac{(A)(F_v)(D_f)}{(RF)(V_s \text{ or } W_s)(\%S/100)}$$

Example:

Sample ID: #1 Compound Name Methanol

- A= Area or height of the compound to be measured
- Fv= Final Volume of extract
- Df= Dilution Factor
- RF= Average response factor of the compound
In the initial calibration
- Vs= Initial volume of the sample
- Ws= Initial weight of the sample
- %S= Percent Solid

$$\begin{aligned} \text{Concentration} &= \frac{1475 (10)}{3.1426 (10) (0.983)} \\ &= 480 \text{ ug/kg} \end{aligned}$$

| # | Sample ID | Compound | Reported Concentrations () | Recalculated Results Concentrations () | Qualifications |
|---|-----------|----------|--------------------------------|--|----------------|
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Comments: _____

**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5A

SDG: PH128

Prepared for

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555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

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2701 Loker Ave West, Suite 220
Carlsbad, California 92010

January 2, 2014

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on November 13, 2013. Data validation was performed in accordance with the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)

Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A

Metals by EPA SW 846 Method 6010C, 6020A and 7471B

Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M

TPH as Extractables by EPA SW 846 Method 8015M

Dioxins and Dibenzofurans by EPA Method 1613B

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks, field blanks and field duplicate samples. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the ICB/CCBs and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met QC criteria.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of two blanks for metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one MS/MSD pair for SVOCs, metals and TPH as extractables. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

IX. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one

LCS/LCSD pair for PCBs. No data were qualified due to high %Rs since the associated results were non-detected.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

| Diluted Sample | Analyte | %D (Limits) | Associated Samples | Flag | A or P |
|------------------------|---------|-------------|-------------------------------|---|--------|
| SL-654-SA5A-SB-3.0-4.0 | Iron | 11 (≤10) | All soil samples in SDG PH128 | J (all detects) UJ (all non-detects) | A |

The associated sample results were qualified as detected estimated (J).

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--|-----------------|--------|
| All samples in SDG PH128 | All compounds reported as detected below the RL. | J (all detects) | A |

XIII. Field Duplicate Samples

One field duplicate pair was collected and analyzed for SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables and dioxins. All RPDs were within QC limits with the exception of several SVOCs, metals and dioxins. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The field duplicate result comparisons are provided in Enclosure I.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No volatile contaminants were found in the trip blank.

One equipment blank (from SDG PH129) was collected and analyzed for SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables and dioxins. The equipment blank had detections for SVOCs and dioxins. The associated sample results were not detected or were significantly greater than the concentrations found in the equipment blanks, therefore no data were qualified.

One field blank (from SDG PH032) was collected and analyzed for SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables and dioxins. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

No data associated with this sampling event were rejected. The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. All data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1

Sample Cross Reference

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 13-Nov-2013 | TB-111313 | 7277010 | TB | 5030B | 8015M | III |
| 13-Nov-2013 | SL-654-SA5A-SB-0.0-0.5 | 7276995 | N | 3050B | 6010C | III |
| 13-Nov-2013 | SL-654-SA5A-SB-0.0-0.5 | 7276995 | N | 3050B | 6020A | III |
| 13-Nov-2013 | SL-654-SA5A-SB-0.0-0.5 | 7276995 | N | 3546 | 8015M | III |
| 13-Nov-2013 | SL-654-SA5A-SB-0.0-0.5 | 7276995 | N | 3546 | 8082A | III |
| 13-Nov-2013 | SL-654-SA5A-SB-0.0-0.5 | 7276995 | N | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-654-SA5A-SB-0.0-0.5 | 7276995 | N | METHOD | 1613B | III |
| 13-Nov-2013 | SL-654-SA5A-SB-0.0-0.5 | 7276995 | N | METHOD | 7471B | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0 | 7276996 | N | 3050B | 6010C | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0 | 7276996 | N | 3050B | 6020A | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0 | 7276996 | N | 3546 | 8015M | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0 | 7276996 | N | 3546 | 8082A | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0 | 7276996 | N | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0 | 7276996 | N | 5035A | 8015M | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0 | 7276996 | N | METHOD | 1613B | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0 | 7276996 | N | METHOD | 7471B | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MS | 7276997 | MS | 3050B | 6010C | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MS | 7276997 | MS | 3050B | 6020A | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MS | 7276997 | MS | 3546 | 8015M | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MS | 7276997 | MS | 3546 | 8082A | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MS | 7276997 | MS | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MS | 7276997 | MS | 5035A | 8015M | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MS | 7276997 | MS | METHOD | 1613B | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MS | 7276997 | MS | METHOD | 7471B | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MSD | 7276998 | MSD | 3050B | 6010C | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MSD | 7276998 | MSD | 3050B | 6020A | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MSD | 7276998 | MSD | 3546 | 8015M | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MSD | 7276998 | MSD | 3546 | 8082A | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MSD | 7276998 | MSD | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MSD | 7276998 | MSD | 5035A | 8015M | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MSD | 7276998 | MSD | METHOD | 1613B | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0MSD | 7276998 | MSD | METHOD | 7471B | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0DUP | 7276999 | DUP | 3050B | 6010C | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0DUP | 7276999 | DUP | 3050B | 6020A | III |
| 13-Nov-2013 | SL-654-SA5A-SB-3.0-4.0DUP | 7276999 | DUP | METHOD | 7471B | III |
| 13-Nov-2013 | SL-954-SA5A-SB-3.0-4.0 | 7277000 | FD | 3050B | 6010C | III |
| 13-Nov-2013 | SL-954-SA5A-SB-3.0-4.0 | 7277000 | FD | 3050B | 6020A | III |
| 13-Nov-2013 | SL-954-SA5A-SB-3.0-4.0 | 7277000 | FD | 3546 | 8015M | III |
| 13-Nov-2013 | SL-954-SA5A-SB-3.0-4.0 | 7277000 | FD | 3546 | 8082A | III |
| 13-Nov-2013 | SL-954-SA5A-SB-3.0-4.0 | 7277000 | FD | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-954-SA5A-SB-3.0-4.0 | 7277000 | FD | 5035A | 8015M | III |
| 13-Nov-2013 | SL-954-SA5A-SB-3.0-4.0 | 7277000 | FD | METHOD | 1613B | III |
| 13-Nov-2013 | SL-954-SA5A-SB-3.0-4.0 | 7277000 | FD | METHOD | 7471B | III |
| 13-Nov-2013 | SL-657-SA5A-SB-0.0-0.5 | 7277003 | N | 3050B | 6010C | III |
| 13-Nov-2013 | SL-657-SA5A-SB-0.0-0.5 | 7277003 | N | 3050B | 6020A | III |
| 13-Nov-2013 | SL-657-SA5A-SB-0.0-0.5 | 7277003 | N | 3546 | 8015M | III |
| 13-Nov-2013 | SL-657-SA5A-SB-0.0-0.5 | 7277003 | N | 3546 | 8082A | III |
| 13-Nov-2013 | SL-657-SA5A-SB-0.0-0.5 | 7277003 | N | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-657-SA5A-SB-0.0-0.5 | 7277003 | N | METHOD | 1613B | III |
| 13-Nov-2013 | SL-657-SA5A-SB-0.0-0.5 | 7277003 | N | METHOD | 7471B | III |
| 13-Nov-2013 | SL-657-SA5A-SB-7.0-8.0 | 7277001 | N | 3050B | 6010C | III |
| 13-Nov-2013 | SL-657-SA5A-SB-7.0-8.0 | 7277001 | N | 3050B | 6020A | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 13-Nov-2013 | SL-657-SA5A-SB-7.0-8.0 | 7277001 | N | 3546 | 8015M | III |
| 13-Nov-2013 | SL-657-SA5A-SB-7.0-8.0 | 7277001 | N | 3546 | 8082A | III |
| 13-Nov-2013 | SL-657-SA5A-SB-7.0-8.0 | 7277001 | N | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-657-SA5A-SB-7.0-8.0 | 7277001 | N | 5035A | 8015M | III |
| 13-Nov-2013 | SL-657-SA5A-SB-7.0-8.0 | 7277001 | N | METHOD | 1613B | III |
| 13-Nov-2013 | SL-657-SA5A-SB-7.0-8.0 | 7277001 | N | METHOD | 7471B | III |
| 13-Nov-2013 | SL-658-SA5A-SB-0.0-0.5 | 7277002 | N | 3050B | 6010C | III |
| 13-Nov-2013 | SL-658-SA5A-SB-0.0-0.5 | 7277002 | N | 3050B | 6020A | III |
| 13-Nov-2013 | SL-658-SA5A-SB-0.0-0.5 | 7277002 | N | 3546 | 8015M | III |
| 13-Nov-2013 | SL-658-SA5A-SB-0.0-0.5 | 7277002 | N | 3546 | 8082A | III |
| 13-Nov-2013 | SL-658-SA5A-SB-0.0-0.5 | 7277002 | N | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-658-SA5A-SB-0.0-0.5 | 7277002 | N | METHOD | 1613B | III |
| 13-Nov-2013 | SL-658-SA5A-SB-0.0-0.5 | 7277002 | N | METHOD | 7471B | III |
| 13-Nov-2013 | SL-658-SA5A-SB-7.0-8.0 | 7277004 | N | 3050B | 6010C | III |
| 13-Nov-2013 | SL-658-SA5A-SB-7.0-8.0 | 7277004 | N | 3050B | 6020A | III |
| 13-Nov-2013 | SL-658-SA5A-SB-7.0-8.0 | 7277004 | N | 3546 | 8015M | III |
| 13-Nov-2013 | SL-658-SA5A-SB-7.0-8.0 | 7277004 | N | 3546 | 8082A | III |
| 13-Nov-2013 | SL-658-SA5A-SB-7.0-8.0 | 7277004 | N | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-658-SA5A-SB-7.0-8.0 | 7277004 | N | 5035A | 8015M | III |
| 13-Nov-2013 | SL-658-SA5A-SB-7.0-8.0 | 7277004 | N | METHOD | 1613B | III |
| 13-Nov-2013 | SL-658-SA5A-SB-7.0-8.0 | 7277004 | N | METHOD | 7471B | III |
| 13-Nov-2013 | SL-670-SA5A-SB-0.0-0.5 | 7277009 | N | 3050B | 6010C | III |
| 13-Nov-2013 | SL-670-SA5A-SB-0.0-0.5 | 7277009 | N | 3050B | 6020A | III |
| 13-Nov-2013 | SL-670-SA5A-SB-0.0-0.5 | 7277009 | N | 3546 | 8015M | III |
| 13-Nov-2013 | SL-670-SA5A-SB-0.0-0.5 | 7277009 | N | 3546 | 8082A | III |
| 13-Nov-2013 | SL-670-SA5A-SB-0.0-0.5 | 7277009 | N | 3546 | 8270D SIM | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 13-Nov-2013 | SL-670-SA5A-SB-0.0-0.5 | 7277009 | N | METHOD | 1613B | III |
| 13-Nov-2013 | SL-670-SA5A-SB-0.0-0.5 | 7277009 | N | METHOD | 7471B | III |
| 13-Nov-2013 | SL-667-SA5A-SB-0.0-0.5 | 7277007 | N | 3050B | 6010C | III |
| 13-Nov-2013 | SL-667-SA5A-SB-0.0-0.5 | 7277007 | N | 3050B | 6020A | III |
| 13-Nov-2013 | SL-667-SA5A-SB-0.0-0.5 | 7277007 | N | 3546 | 8015M | III |
| 13-Nov-2013 | SL-667-SA5A-SB-0.0-0.5 | 7277007 | N | 3546 | 8082A | III |
| 13-Nov-2013 | SL-667-SA5A-SB-0.0-0.5 | 7277007 | N | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-667-SA5A-SB-0.0-0.5 | 7277007 | N | METHOD | 1613B | III |
| 13-Nov-2013 | SL-667-SA5A-SB-0.0-0.5 | 7277007 | N | METHOD | 7471B | III |
| 13-Nov-2013 | SL-667-SA5A-SB-3.0-4.0 | 7277008 | N | 3050B | 6010C | III |
| 13-Nov-2013 | SL-667-SA5A-SB-3.0-4.0 | 7277008 | N | 3050B | 6020A | III |
| 13-Nov-2013 | SL-667-SA5A-SB-3.0-4.0 | 7277008 | N | 3546 | 8015M | III |
| 13-Nov-2013 | SL-667-SA5A-SB-3.0-4.0 | 7277008 | N | 3546 | 8082A | III |
| 13-Nov-2013 | SL-667-SA5A-SB-3.0-4.0 | 7277008 | N | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-667-SA5A-SB-3.0-4.0 | 7277008 | N | 5035A | 8015M | III |
| 13-Nov-2013 | SL-667-SA5A-SB-3.0-4.0 | 7277008 | N | METHOD | 1613B | III |
| 13-Nov-2013 | SL-667-SA5A-SB-3.0-4.0 | 7277008 | N | METHOD | 7471B | III |
| 13-Nov-2013 | SL-658-SA5A-SB-4.0-5.0 | 7277006 | N | 3050B | 6010C | III |
| 13-Nov-2013 | SL-658-SA5A-SB-4.0-5.0 | 7277006 | N | 3050B | 6020A | III |
| 13-Nov-2013 | SL-658-SA5A-SB-4.0-5.0 | 7277006 | N | 3546 | 8015M | III |
| 13-Nov-2013 | SL-658-SA5A-SB-4.0-5.0 | 7277006 | N | 3546 | 8082A | III |
| 13-Nov-2013 | SL-658-SA5A-SB-4.0-5.0 | 7277006 | N | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-658-SA5A-SB-4.0-5.0 | 7277006 | N | 5035A | 8015M | III |
| 13-Nov-2013 | SL-658-SA5A-SB-4.0-5.0 | 7277006 | N | METHOD | 1613B | III |
| 13-Nov-2013 | SL-658-SA5A-SB-4.0-5.0 | 7277006 | N | METHOD | 7471B | III |
| 13-Nov-2013 | SL-657-SA5A-SB-4.0-5.0 | 7277005 | N | 3050B | 6010C | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 13-Nov-2013 | SL-657-SA5A-SB-4.0-5.0 | 7277005 | N | 3050B | 6020A | III |
| 13-Nov-2013 | SL-657-SA5A-SB-4.0-5.0 | 7277005 | N | 3546 | 8015M | III |
| 13-Nov-2013 | SL-657-SA5A-SB-4.0-5.0 | 7277005 | N | 3546 | 8082A | III |
| 13-Nov-2013 | SL-657-SA5A-SB-4.0-5.0 | 7277005 | N | 3546 | 8270D SIM | III |
| 13-Nov-2013 | SL-657-SA5A-SB-4.0-5.0 | 7277005 | N | 5035A | 8015M | III |
| 13-Nov-2013 | SL-657-SA5A-SB-4.0-5.0 | 7277005 | N | METHOD | 1613B | III |
| 13-Nov-2013 | SL-657-SA5A-SB-4.0-5.0 | 7277005 | N | METHOD | 7471B | III |

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-654-SA5A-SB-0.0-0.5 Collected: 11/13/2013 8:05:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 4.00 | U | 0.740 | MDL | 4.00 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.581 | J | 0.0670 | MDL | 0.999 | PQL | mg/Kg | J | Z |
| BORON | 2.86 | J | 0.839 | MDL | 9.99 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.127 | J | 0.0760 | MDL | 0.999 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.419 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | F |
| SODIUM | 88.5 | J | 16.7 | MDL | 99.9 | PQL | mg/Kg | J | Z |
| TIN | 2.88 | J | 0.220 | MDL | 9.99 | PQL | mg/Kg | U | B |
| Zirconium | 3.88 | J | 0.839 | MDL | 5.00 | PQL | mg/Kg | J | Z |
| IRON | 22800 | | 3.62 | MDL | 40.0 | PQL | mg/Kg | J | A |

Sample ID: SL-654-SA5A-SB-3.0-4.0 Collected: 11/13/2013 8:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.14 | U | 0.765 | MDL | 4.14 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.687 | J | 0.0693 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| BORON | 2.32 | J | 0.869 | MDL | 10.3 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.0962 | J | 0.0786 | MDL | 1.03 | PQL | mg/Kg | J | Z, FD |
| IRON | 26800 | | 3.74 | MDL | 41.4 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.442 | J | 0.176 | MDL | 2.07 | PQL | mg/Kg | U | F |
| SODIUM | 98.7 | J | 17.3 | MDL | 103 | PQL | mg/Kg | J | Z |
| TIN | 3.18 | J | 0.228 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 4.64 | J | 0.869 | MDL | 5.17 | PQL | mg/Kg | J | Z |

Sample ID: SL-657-SA5A-SB-0.0-0.5 Collected: 11/13/2013 9:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.08 | U | 0.755 | MDL | 4.08 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.522 | J | 0.0683 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 2.98 | J | 0.857 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.110 | J | 0.0775 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| IRON | 20900 | | 3.69 | MDL | 40.8 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.474 | J | 0.173 | MDL | 2.04 | PQL | mg/Kg | U | F |
| SODIUM | 90.2 | J | 17.0 | MDL | 102 | PQL | mg/Kg | J | Z |
| TIN | 2.45 | J | 0.224 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 2.57 | J | 0.857 | MDL | 5.10 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

| Sample ID: SL-657-SA5A-SB-4.0-5.0 | | Collected: 11/13/2013 2:20:00 | | Analysis Type: RES | | | | Dilution: 1 | |
|-----------------------------------|------------|-------------------------------|--------|--------------------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.21 | U | 0.779 | MDL | 4.21 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.83 | J | 0.737 | MDL | 4.21 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.607 | J | 0.0706 | MDL | 1.05 | PQL | mg/Kg | J | Z |
| BORON | 1.75 | J | 0.885 | MDL | 10.5 | PQL | mg/Kg | J | Z |
| IRON | 22600 | | 3.81 | MDL | 42.1 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.211 | J | 0.179 | MDL | 2.11 | PQL | mg/Kg | U | F |
| SODIUM | 104 | J | 17.6 | MDL | 105 | PQL | mg/Kg | J | Z |
| TIN | 2.89 | J | 0.232 | MDL | 10.5 | PQL | mg/Kg | U | B |
| Zirconium | 3.17 | J | 0.885 | MDL | 5.27 | PQL | mg/Kg | J | Z |

| Sample ID: SL-657-SA5A-SB-7.0-8.0 | | Collected: 11/13/2013 9:50:00 | | Analysis Type: RES | | | | Dilution: 1 | |
|-----------------------------------|------------|-------------------------------|--------|--------------------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.12 | U | 0.762 | MDL | 4.12 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.523 | J | 0.0690 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| BORON | 1.89 | J | 0.865 | MDL | 10.3 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.0875 | J | 0.0782 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| IRON | 22800 | | 3.73 | MDL | 41.2 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.253 | J | 0.175 | MDL | 2.06 | PQL | mg/Kg | U | F |
| TIN | 3.00 | J | 0.227 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 4.26 | J | 0.865 | MDL | 5.15 | PQL | mg/Kg | J | Z |

| Sample ID: SL-658-SA5A-SB-0.0-0.5 | | Collected: 11/13/2013 10:35:00 | | Analysis Type: RES | | | | Dilution: 1 | |
|-----------------------------------|------------|--------------------------------|--------|--------------------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ANTIMONY | 4.01 | U | 0.742 | MDL | 4.01 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.691 | J | 0.0672 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 3.72 | J | 0.842 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.120 | J | 0.0762 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| IRON | 24300 | | 3.63 | MDL | 40.1 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.425 | J | 0.171 | MDL | 2.01 | PQL | mg/Kg | U | F |
| TIN | 2.57 | J | 0.221 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 4.25 | J | 0.842 | MDL | 5.01 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-658-SA5A-SB-4.0-5.0 Collected: 11/13/2013 2:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.42 | U | 0.818 | MDL | 4.42 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.882 | J | 0.0741 | MDL | 1.11 | PQL | mg/Kg | J | Z |
| BORON | 2.15 | J | 0.928 | MDL | 11.1 | PQL | mg/Kg | J | Z |
| IRON | 28000 | | 4.00 | MDL | 44.2 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.690 | J | 0.188 | MDL | 2.21 | PQL | mg/Kg | U | F |
| TIN | 3.31 | J | 0.243 | MDL | 11.1 | PQL | mg/Kg | U | B |
| Zirconium | 5.25 | J | 0.928 | MDL | 5.53 | PQL | mg/Kg | J | Z |

Sample ID: SL-658-SA5A-SB-7.0-8.0 Collected: 11/13/2013 10:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.32 | U | 0.799 | MDL | 4.32 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.626 | J | 0.0723 | MDL | 1.08 | PQL | mg/Kg | J | Z |
| BORON | 1.94 | J | 0.907 | MDL | 10.8 | PQL | mg/Kg | J | Z |
| IRON | 21000 | | 3.91 | MDL | 43.2 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.483 | J | 0.184 | MDL | 2.16 | PQL | mg/Kg | U | F |
| TIN | 2.69 | J | 0.238 | MDL | 10.8 | PQL | mg/Kg | U | B |
| Zirconium | 4.10 | J | 0.907 | MDL | 5.40 | PQL | mg/Kg | J | Z |

Sample ID: SL-667-SA5A-SB-0.0-0.5 Collected: 11/13/2013 1:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.01 | U | 0.743 | MDL | 4.01 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.574 | J | 0.0672 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 4.84 | J | 0.843 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.211 | J | 0.0763 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| IRON | 19100 | | 3.63 | MDL | 40.1 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.454 | J | 0.171 | MDL | 2.01 | PQL | mg/Kg | U | F |
| TIN | 2.47 | J | 0.221 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 3.20 | J | 0.843 | MDL | 5.02 | PQL | mg/Kg | J | Z |

Sample ID: SL-667-SA5A-SB-3.0-4.0 Collected: 11/13/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.09 | U | 0.757 | MDL | 4.09 | PQL | mg/Kg | UJ | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-667-SA5A-SB-3.0-4.0

Collected: 11/13/2013 1:40:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| BERYLLIUM | 0.541 | J | 0.0685 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 1.53 | J | 0.859 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| IRON | 21600 | | 3.70 | MDL | 40.9 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.186 | J | 0.174 | MDL | 2.04 | PQL | mg/Kg | U | F |
| TIN | 2.84 | J | 0.225 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 3.18 | J | 0.859 | MDL | 5.11 | PQL | mg/Kg | J | Z |

Sample ID: SL-670-SA5A-SB-0.0-0.5

Collected: 11/13/2013 12:50:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.07 | U | 0.753 | MDL | 4.07 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.698 | J | 0.0682 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 4.90 | J | 0.855 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.275 | J | 0.0773 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| IRON | 24000 | | 3.68 | MDL | 40.7 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.280 | J | 0.173 | MDL | 2.04 | PQL | mg/Kg | U | F |
| TIN | 2.98 | J | 0.224 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 4.24 | J | 0.855 | MDL | 5.09 | PQL | mg/Kg | J | Z |

Sample ID: SL-954-SA5A-SB-3.0-4.0

Collected: 11/13/2013 8:25:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.10 | U | 0.758 | MDL | 4.10 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.680 | J | 0.0686 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 2.42 | J | 0.861 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| CADMIUM | 1.02 | U | 0.0779 | MDL | 1.02 | PQL | mg/Kg | UJ | FD |
| IRON | 25800 | | 3.71 | MDL | 41.0 | PQL | mg/Kg | J | A |
| MOLYBDENUM | 0.361 | J | 0.174 | MDL | 2.05 | PQL | mg/Kg | U | F |
| TIN | 2.87 | J | 0.225 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 4.12 | J | 0.861 | MDL | 5.12 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6020A **Matrix:** SO

Sample ID: SL-654-SA5A-SB-0.0-0.5 Collected: 11/13/2013 8:05:00 Analysis Type: REA Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.135 | J | 0.0999 | MDL | 0.400 | PQL | mg/Kg | J | Z |

Sample ID: SL-654-SA5A-SB-0.0-0.5 Collected: 11/13/2013 8:05:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.156 | J | 0.0260 | MDL | 0.200 | PQL | mg/Kg | J | Z |
| STRONTIUM | 18.8 | | 0.0680 | MDL | 0.400 | PQL | mg/Kg | J | Q |

Sample ID: SL-654-SA5A-SB-3.0-4.0 Collected: 11/13/2013 8:20:00 Analysis Type: REA Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.194 | J | 0.103 | MDL | 0.414 | PQL | mg/Kg | J | Z |

Sample ID: SL-654-SA5A-SB-3.0-4.0 Collected: 11/13/2013 8:20:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0393 | J | 0.0269 | MDL | 0.207 | PQL | mg/Kg | J | Z |
| STRONTIUM | 20.4 | | 0.0703 | MDL | 0.414 | PQL | mg/Kg | J | Q |

Sample ID: SL-657-SA5A-SB-0.0-0.5 Collected: 11/13/2013 9:35:00 Analysis Type: REA Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.123 | J | 0.102 | MDL | 0.408 | PQL | mg/Kg | J | Z |

Sample ID: SL-657-SA5A-SB-0.0-0.5 Collected: 11/13/2013 9:35:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0291 | J | 0.0265 | MDL | 0.204 | PQL | mg/Kg | J | Z |
| STRONTIUM | 17.0 | | 0.0693 | MDL | 0.408 | PQL | mg/Kg | J | Q |

Sample ID: SL-657-SA5A-SB-4.0-5.0 Collected: 11/13/2013 2:20:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 20.6 | | 0.0716 | MDL | 0.421 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6020A **Matrix:** SO

Sample ID: SL-657-SA5A-SB-7.0-8.0 Collected: 11/13/2013 9:50:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 21.1 | | 0.0700 | MDL | 0.412 | PQL | mg/Kg | J | Q |

Sample ID: SL-658-SA5A-SB-0.0-0.5 Collected: 11/13/2013 10:35:00 Analysis Type: REA Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.173 | J | 0.100 | MDL | 0.401 | PQL | mg/Kg | J | Z |

Sample ID: SL-658-SA5A-SB-0.0-0.5 Collected: 11/13/2013 10:35:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0421 | J | 0.0261 | MDL | 0.201 | PQL | mg/Kg | J | Z |
| STRONTIUM | 21.0 | | 0.0682 | MDL | 0.401 | PQL | mg/Kg | J | Q |

Sample ID: SL-658-SA5A-SB-4.0-5.0 Collected: 11/13/2013 2:00:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0629 | J | 0.0287 | MDL | 0.221 | PQL | mg/Kg | J | Z |
| STRONTIUM | 26.6 | | 0.0752 | MDL | 0.442 | PQL | mg/Kg | J | Q |

Sample ID: SL-658-SA5A-SB-7.0-8.0 Collected: 11/13/2013 10:45:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0545 | J | 0.0281 | MDL | 0.216 | PQL | mg/Kg | J | Z |
| STRONTIUM | 16.6 | | 0.0734 | MDL | 0.432 | PQL | mg/Kg | J | Q |

Sample ID: SL-667-SA5A-SB-0.0-0.5 Collected: 11/13/2013 1:30:00 Analysis Type: REA Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.144 | J | 0.100 | MDL | 0.401 | PQL | mg/Kg | J | Z |

Sample ID: SL-667-SA5A-SB-0.0-0.5 Collected: 11/13/2013 1:30:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0283 | J | 0.0261 | MDL | 0.201 | PQL | mg/Kg | J | Z |
| STRONTIUM | 19.2 | | 0.0683 | MDL | 0.401 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6020A **Matrix: SO**

Sample ID: SL-667-SA5A-SB-3.0-4.0 Collected: 11/13/2013 1:40:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 20.2 | | 0.0695 | MDL | 0.409 | PQL | mg/Kg | J | Q |

Sample ID: SL-670-SA5A-SB-0.0-0.5 Collected: 11/13/2013 12:50:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0276 | J | 0.0265 | MDL | 0.204 | PQL | mg/Kg | J | Z |
| STRONTIUM | 38.3 | | 0.0692 | MDL | 0.407 | PQL | mg/Kg | J | Q |

Sample ID: SL-954-SA5A-SB-3.0-4.0 Collected: 11/13/2013 8:25:00 Analysis Type: REA Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.198 | J | 0.102 | MDL | 0.410 | PQL | mg/Kg | J | Z |

Sample ID: SL-954-SA5A-SB-3.0-4.0 Collected: 11/13/2013 8:25:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0490 | J | 0.0266 | MDL | 0.205 | PQL | mg/Kg | J | Z |
| STRONTIUM | 21.5 | | 0.0697 | MDL | 0.410 | PQL | mg/Kg | J | Q |

Method Category: METALS
Method: 7471B **Matrix: SO**

Sample ID: SL-658-SA5A-SB-4.0-5.0 Collected: 11/13/2013 2:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0110 | J | 0.0107 | MDL | 0.0178 | PQL | mg/Kg | J | Z |

Sample ID: SL-658-SA5A-SB-7.0-8.0 Collected: 11/13/2013 10:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0118 | J | 0.0108 | MDL | 0.0180 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

| Sample ID: SL-654-SA5A-SB-0.0-0.5 | Collected: 11/13/2013 8:05:00 | | | Analysis Type: RES | | | Dilution: 1 | | |
|-----------------------------------|-------------------------------|----------|--------|--------------------|-------|---------|-------------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,4,6,7,8-HPCDF | 2.54 | JB | 0.0417 | MDL | 4.94 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.264 | JBQ | 0.0557 | MDL | 4.94 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.120 | JQ | 0.0405 | MDL | 4.94 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.229 | JB | 0.0301 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.739 | J | 0.0410 | MDL | 4.94 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.207 | JB | 0.0270 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.569 | JB | 0.0388 | MDL | 4.94 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.314 | JBQ | 0.0319 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.114 | JBQ | 0.0400 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.584 | JB | 0.0235 | MDL | 4.94 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.185 | JB | 0.0287 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.241 | JB | 0.0235 | MDL | 4.94 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0396 | JQ | 0.0349 | MDL | 0.988 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.119 | JQ | 0.0516 | MDL | 0.988 | PQL | ng/Kg | J | Z |
| OCDF | 6.63 | JB | 0.0360 | MDL | 9.88 | PQL | ng/Kg | J | Z |

| Sample ID: SL-654-SA5A-SB-3.0-4.0 | Collected: 11/13/2013 8:20:00 | | | Analysis Type: RES | | | Dilution: 1 | | |
|-----------------------------------|-------------------------------|----------|--------|--------------------|-------|---------|-------------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,4,6,7,8-HPCDD | 7.49 | B | 0.0436 | MDL | 4.92 | PQL | ng/Kg | J | FD |
| 1,2,3,4,6,7,8-HPCDF | 1.25 | JB | 0.0386 | MDL | 4.92 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8,9-HPCDF | 0.126 | JB | 0.0571 | MDL | 4.92 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 0.145 | J | 0.0477 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.199 | JBQ | 0.0359 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.404 | JQ | 0.0503 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.215 | JBQ | 0.0307 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.440 | JB | 0.0471 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.258 | JB | 0.0366 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.134 | JBQ | 0.0418 | MDL | 4.92 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDF | 0.520 | JB | 0.0290 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.156 | JBQ | 0.0317 | MDL | 4.92 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,7,8-PECDF | 0.266 | JBQ | 0.0286 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0817 | JQ | 0.0562 | MDL | 0.985 | PQL | ng/Kg | J | Z, FD |
| OCDD | 76.1 | B | 0.0457 | MDL | 9.85 | PQL | ng/Kg | J | FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-654-SA5A-SB-3.0-4.0 Collected: 11/13/2013 8:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| OCDF | 3.27 | JB | 0.0445 | MDL | 9.85 | PQL | ng/Kg | J | Z, FD |

Sample ID: SL-657-SA5A-SB-0.0-0.5 Collected: 11/13/2013 9:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 1.67 | JB | 0.0437 | MDL | 5.13 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.353 | JBQ | 0.0178 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0550 | JBQ | 0.0301 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0459 | JQ | 0.0438 | MDL | 5.13 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.0645 | JBQ | 0.0353 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.318 | J | 0.0474 | MDL | 5.13 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0757 | JBQ | 0.0306 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.449 | JB | 0.0428 | MDL | 5.13 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.262 | JB | 0.0378 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.101 | JBQ | 0.0528 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.160 | JBQ | 0.0291 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0977 | JBQ | 0.0312 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.158 | JBQ | 0.0311 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0629 | JQ | 0.0568 | MDL | 1.03 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.0996 | JQ | 0.0608 | MDL | 1.03 | PQL | ng/Kg | J | Z |
| OCDF | 0.944 | JBQ | 0.0535 | MDL | 10.3 | PQL | ng/Kg | J | Z |

Sample ID: SL-657-SA5A-SB-4.0-5.0 Collected: 11/13/2013 2:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.174 | JBQ | 0.0276 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0887 | JB | 0.00947 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0617 | JBQ | 0.0153 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0695 | J | 0.0229 | MDL | 5.29 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.152 | JB | 0.0216 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.0951 | JQ | 0.0246 | MDL | 5.29 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.173 | JB | 0.0190 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.114 | JBQ | 0.0233 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.130 | JBQ | 0.0238 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.230 | JBQ | 0.0310 | MDL | 5.29 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-657-SA5A-SB-4.0-5.0 Collected: 11/13/2013 2:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,7,8-PECDF | 0.336 | JB | 0.0195 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.123 | JBQ | 0.0195 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.243 | JB | 0.0204 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0826 | J | 0.0410 | MDL | 1.06 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.0707 | JQ | 0.0417 | MDL | 1.06 | PQL | ng/Kg | J | Z |
| OCDD | 0.869 | JB | 0.0316 | MDL | 10.6 | PQL | ng/Kg | U | B |
| OCDF | 0.211 | JB | 0.0345 | MDL | 10.6 | PQL | ng/Kg | U | B |

Sample ID: SL-657-SA5A-SB-7.0-8.0 Collected: 11/13/2013 9:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.319 | JB | 0.0369 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.131 | JB | 0.0135 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0733 | JBQ | 0.0220 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0552 | JQ | 0.0285 | MDL | 5.22 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.0788 | JBQ | 0.0261 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.0899 | JQ | 0.0306 | MDL | 5.22 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0746 | JBQ | 0.0231 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.0919 | JB | 0.0273 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0826 | JBQ | 0.0276 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0589 | JBQ | 0.0503 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.105 | JBQ | 0.0251 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0754 | JBQ | 0.0249 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0993 | JBQ | 0.0264 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0638 | JQ | 0.0543 | MDL | 1.04 | PQL | ng/Kg | J | Z |
| OCDD | 2.37 | JB | 0.0408 | MDL | 10.4 | PQL | ng/Kg | J | Z |
| OCDF | 0.405 | JBQ | 0.0437 | MDL | 10.4 | PQL | ng/Kg | U | B |

Sample ID: SL-658-SA5A-SB-0.0-0.5 Collected: 11/13/2013 10:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.235 | JBQ | 0.0286 | MDL | 5.06 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0671 | JBQ | 0.0102 | MDL | 5.06 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0717 | JBQ | 0.0164 | MDL | 5.06 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0613 | JBQ | 0.0214 | MDL | 5.06 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-658-SA5A-SB-0.0-0.5 Collected: 11/13/2013 10:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,6,7,8-HXCDD | 0.150 | JQ | 0.0322 | MDL | 5.06 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0442 | JBQ | 0.0182 | MDL | 5.06 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.428 | JBQ | 0.0294 | MDL | 5.06 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.237 | JBQ | 0.0241 | MDL | 5.06 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0746 | JBQ | 0.0375 | MDL | 5.06 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0870 | JB | 0.0196 | MDL | 5.06 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0642 | JB | 0.0197 | MDL | 5.06 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0596 | JBQ | 0.0212 | MDL | 5.06 | PQL | ng/Kg | U | B |
| OCDD | 1.91 | JB | 0.0318 | MDL | 10.1 | PQL | ng/Kg | J | Z |
| OCDF | 0.237 | JBQ | 0.0338 | MDL | 10.1 | PQL | ng/Kg | U | B |

Sample ID: SL-658-SA5A-SB-4.0-5.0 Collected: 11/13/2013 2:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 1.14 | JB | 0.0455 | MDL | 5.48 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.120 | JBQ | 0.0156 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0603 | JBQ | 0.0231 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0447 | JQ | 0.0313 | MDL | 5.48 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.0852 | JB | 0.0218 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.0987 | JQ | 0.0326 | MDL | 5.48 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0790 | JB | 0.0200 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.0978 | JB | 0.0327 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0847 | JBQ | 0.0214 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.177 | JB | 0.0406 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.170 | JB | 0.0251 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0667 | JBQ | 0.0201 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.164 | JBQ | 0.0250 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0760 | JQ | 0.0446 | MDL | 1.10 | PQL | ng/Kg | J | Z |
| OCDD | 6.64 | JB | 0.0442 | MDL | 11.0 | PQL | ng/Kg | J | Z |
| OCDF | 0.349 | JBQ | 0.0392 | MDL | 11.0 | PQL | ng/Kg | U | B |

Sample ID: SL-658-SA5A-SB-7.0-8.0 Collected: 11/13/2013 10:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.136 | JBQ | 0.0292 | MDL | 5.41 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-658-SA5A-SB-7.0-8.0 Collected: 11/13/2013 10:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 0.160 | JB | 0.0132 | MDL | 5.41 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.132 | JBQ | 0.0202 | MDL | 5.41 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0973 | J | 0.0289 | MDL | 5.41 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.136 | JBQ | 0.0303 | MDL | 5.41 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.130 | J | 0.0317 | MDL | 5.41 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.165 | JB | 0.0264 | MDL | 5.41 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.0991 | JBQ | 0.0287 | MDL | 5.41 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.113 | JB | 0.0303 | MDL | 5.41 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.210 | JBQ | 0.0432 | MDL | 5.41 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.264 | JB | 0.0296 | MDL | 5.41 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.134 | JBQ | 0.0269 | MDL | 5.41 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.287 | JB | 0.0294 | MDL | 5.41 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.130 | JQ | 0.0587 | MDL | 1.08 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.0646 | JQ | 0.0503 | MDL | 1.08 | PQL | ng/Kg | J | Z |
| OCDD | 0.473 | JB | 0.0434 | MDL | 10.8 | PQL | ng/Kg | U | B |
| OCDF | 0.313 | JB | 0.0492 | MDL | 10.8 | PQL | ng/Kg | U | B |

Sample ID: SL-667-SA5A-SB-0.0-0.5 Collected: 11/13/2013 1:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.102 | JBQ | 0.0240 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0567 | JBQ | 0.00950 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0398 | JBQ | 0.0161 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0350 | J | 0.0280 | MDL | 5.13 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.0349 | JB | 0.0212 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.306 | JQ | 0.0291 | MDL | 5.13 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0527 | JBQ | 0.0186 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.441 | JB | 0.0287 | MDL | 5.13 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.285 | JB | 0.0220 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.111 | JBQ | 0.0382 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0865 | JBQ | 0.0204 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0232 | JBQ | 0.0188 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0614 | JBQ | 0.0212 | MDL | 5.13 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0422 | JQ | 0.0411 | MDL | 1.03 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-667-SA5A-SB-0.0-0.5 Collected: 11/13/2013 1:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 2,3,7,8-TCDF | 0.0540 | JQ | 0.0450 | MDL | 1.03 | PQL | ng/Kg | J | Z |
| OCDD | 0.737 | JB | 0.0330 | MDL | 10.3 | PQL | ng/Kg | U | B |
| OCDF | 0.136 | JBQ | 0.0342 | MDL | 10.3 | PQL | ng/Kg | U | B |

Sample ID: SL-667-SA5A-SB-3.0-4.0 Collected: 11/13/2013 1:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.0927 | JBQ | 0.0338 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0462 | JBQ | 0.0152 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0242 | JBQ | 0.0189 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.0347 | JQ | 0.0245 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0271 | JBQ | 0.0168 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.0551 | JBQ | 0.0216 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0327 | JBQ | 0.0187 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0468 | JB | 0.0211 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0274 | JBQ | 0.0181 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0397 | JBQ | 0.0208 | MDL | 5.11 | PQL | ng/Kg | U | B |
| OCDD | 0.358 | JBQ | 0.0504 | MDL | 10.2 | PQL | ng/Kg | U | B |
| OCDF | 0.123 | JBQ | 0.0460 | MDL | 10.2 | PQL | ng/Kg | U | B |

Sample ID: SL-670-SA5A-SB-0.0-0.5 Collected: 11/13/2013 12:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 2.03 | JB | 0.0340 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.286 | JB | 0.0129 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0336 | JBQ | 0.0181 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0567 | JBQ | 0.0231 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.138 | JQ | 0.0411 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0730 | JBQ | 0.0213 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.271 | JB | 0.0382 | MDL | 5.09 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.0876 | JB | 0.0228 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.358 | JB | 0.0613 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0768 | JB | 0.0249 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0543 | JBQ | 0.0219 | MDL | 5.09 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0419 | JBQ | 0.0246 | MDL | 5.09 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-670-SA5A-SB-0.0-0.5 Collected: 11/13/2013 12:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 2,3,7,8-TCDD | 0.198 | JQ | 0.0474 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| OCDF | 0.545 | JB | 0.0342 | MDL | 10.2 | PQL | ng/Kg | U | B |

Sample ID: SL-954-SA5A-SB-3.0-4.0 Collected: 11/13/2013 8:25:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 2.72 | JB | 0.0503 | MDL | 5.00 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,6,7,8-HPCDF | 0.705 | JB | 0.0270 | MDL | 5.00 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8,9-HPCDF | 0.304 | JB | 0.0367 | MDL | 5.00 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8-HxCDD | 0.240 | JQ | 0.0481 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.319 | JBQ | 0.0412 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 0.390 | J | 0.0507 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.247 | JB | 0.0359 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.417 | JB | 0.0450 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.387 | JB | 0.0429 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.314 | JBQ | 0.0594 | MDL | 5.00 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDF | 0.385 | JBQ | 0.0328 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.296 | JB | 0.0389 | MDL | 5.00 | PQL | ng/Kg | J | Z, FD |
| 2,3,4,7,8-PECDF | 0.295 | JBQ | 0.0329 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 1.00 | U | 0.0601 | MDL | 1.00 | PQL | ng/Kg | UJ | FD |
| OCDD | 27.7 | B | 0.0419 | MDL | 10.0 | PQL | ng/Kg | J | FD |
| OCDF | 1.79 | JB | 0.0486 | MDL | 10.0 | PQL | ng/Kg | J | Z, FD |

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-654-SA5A-SB-0.0-0.5 Collected: 11/13/2013 8:05:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 0.75 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-654-SA5A-SB-0.0-0.5 Collected: 11/13/2013 8:05:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 1.3 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-654-SA5A-SB-0.0-0.5 Collected: 11/13/2013 8:05:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ACENAPHTHYLENE | 1.5 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 1.3 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-654-SA5A-SB-3.0-4.0 Collected: 11/13/2013 8:20:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 0.42 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(A)ANTHRACENE | 4.1 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BENZO(A)PYRENE | 6.2 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BENZO(B)FLUORANTHENE | 11 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BENZO(E)PYRENE | 7.1 | J | 3.4 | MDL | 17 | PQL | ug/Kg | J | Z, Q, FD |
| BENZO(G,H,I)PERYLENE | 4.5 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BENZO(K)FLUORANTHENE | 3.6 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| CHRYSENE | 6.1 | | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| DIBENZO(A,H)ANTHRACENE | 1.5 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| FLUORANTHENE | 4.4 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| INDENO(1,2,3-CD)PYRENE | 5.4 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| PHENANTHRENE | 1.6 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| PYRENE | 3.9 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |

Sample ID: SL-657-SA5A-SB-0.0-0.5 Collected: 11/13/2013 9:35:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.4 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| CHRYSENE | 0.61 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-658-SA5A-SB-4.0-5.0 Collected: 11/13/2013 2:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 0.88 | J | 0.75 | MDL | 1.9 | PQL | ug/Kg | J | Z |

Sample ID: SL-658-SA5A-SB-4.0-5.0 Collected: 11/13/2013 2:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 1.5 | J | 0.75 | MDL | 1.9 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-658-SA5A-SB-4.0-5.0 Collected: 11/13/2013 2:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 0.43 | J | 0.37 | MDL | 1.9 | PQL | ug/Kg | J | Z |

Sample ID: SL-670-SA5A-SB-0.0-0.5 Collected: 11/13/2013 12:50:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 0.84 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)ANTHRACENE | 0.92 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 1.1 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(B)FLUORANTHENE | 1.3 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 1.6 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 1.0 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 0.82 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-954-SA5A-SB-3.0-4.0 Collected: 11/13/2013 8:25:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 1.7 | U | 0.34 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(A)ANTHRACENE | 0.84 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(A)PYRENE | 1.2 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(B)FLUORANTHENE | 2.8 | | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BENZO(E)PYRENE | 18 | U | 3.4 | MDL | 18 | PQL | ug/Kg | UJ | FD |
| BENZO(G,H,I)PERYLENE | 1.1 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(K)FLUORANTHENE | 1.7 | U | 0.69 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| CHRYSENE | 1.6 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| DIBENZO(A,H)ANTHRACENE | 1.7 | U | 0.69 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| FLUORANTHENE | 1.1 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| INDENO(1,2,3-CD)PYRENE | 1.1 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| PHENANTHRENE | 1.7 | U | 0.69 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| PYRENE | 0.90 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|--|
| *# | Professional Judgment |
| A | ICP Serial Dilution |
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| FD | Field Duplicate Precision |
| L | Laboratory Control Spike Upper Estimation |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| S | Surrogate/Tracer Recovery Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH128

Method Blank Outlier Report

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|---|--|--|
| BLK3250B370310 | 11/25/2013 3:10:00 AM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF OCDD OCDF | 0.0754 ng/Kg 0.0733 ng/Kg 0.0426 ng/Kg 0.0540 ng/Kg 0.0522 ng/Kg 0.0270 ng/Kg 0.0889 ng/Kg 0.0848 ng/Kg 0.0700 ng/Kg 0.0585 ng/Kg 0.0792 ng/Kg 0.225 ng/Kg 0.168 ng/Kg | SL-654-SA5A-SB-0.0-0.5 SL-654-SA5A-SB-3.0-4.0 SL-657-SA5A-SB-0.0-0.5 SL-657-SA5A-SB-4.0-5.0 SL-657-SA5A-SB-7.0-8.0 SL-658-SA5A-SB-0.0-0.5 SL-658-SA5A-SB-4.0-5.0 SL-658-SA5A-SB-7.0-8.0 SL-667-SA5A-SB-0.0-0.5 SL-667-SA5A-SB-3.0-4.0 SL-670-SA5A-SB-0.0-0.5 SL-954-SA5A-SB-3.0-4.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-654-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.229 ng/Kg | 0.229U ng/Kg |
| SL-654-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.207 ng/Kg | 0.207U ng/Kg |
| SL-654-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.314 ng/Kg | 0.314U ng/Kg |
| SL-654-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.114 ng/Kg | 0.114U ng/Kg |
| SL-654-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.185 ng/Kg | 0.185U ng/Kg |
| SL-654-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.241 ng/Kg | 0.241U ng/Kg |
| SL-654-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.126 ng/Kg | 0.126U ng/Kg |
| SL-654-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,7,8-HXCDF | 0.199 ng/Kg | 0.199U ng/Kg |
| SL-654-SA5A-SB-3.0-4.0(RES) | 1,2,3,6,7,8-HXCDF | 0.215 ng/Kg | 0.215U ng/Kg |
| SL-654-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8,9-HXCDF | 0.258 ng/Kg | 0.258U ng/Kg |
| SL-654-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8-PECDD | 0.134 ng/Kg | 0.134U ng/Kg |
| SL-654-SA5A-SB-3.0-4.0(RES) | 2,3,4,6,7,8-HXCDF | 0.156 ng/Kg | 0.156U ng/Kg |
| SL-654-SA5A-SB-3.0-4.0(RES) | 2,3,4,7,8-PECDF | 0.266 ng/Kg | 0.266U ng/Kg |
| SL-657-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.353 ng/Kg | 0.353U ng/Kg |
| SL-657-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0550 ng/Kg | 0.0550U ng/Kg |
| SL-657-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0845 ng/Kg | 0.0845U ng/Kg |
| SL-657-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0757 ng/Kg | 0.0757U ng/Kg |
| SL-657-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.262 ng/Kg | 0.262U ng/Kg |
| SL-657-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.101 ng/Kg | 0.101U ng/Kg |
| SL-657-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.160 ng/Kg | 0.160U ng/Kg |
| SL-657-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0977 ng/Kg | 0.0977U ng/Kg |
| SL-657-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.158 ng/Kg | 0.158U ng/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.174 ng/Kg | 0.174U ng/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0887 ng/Kg | 0.0887U ng/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0617 ng/Kg | 0.0617U ng/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.152 ng/Kg | 0.152U ng/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.173 ng/Kg | 0.173U ng/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDD | 0.114 ng/Kg | 0.114U ng/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDF | 0.130 ng/Kg | 0.130U ng/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDD | 0.230 ng/Kg | 0.230U ng/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.336 ng/Kg | 0.336U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Method Blank Outlier Report

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-657-SA5A-SB-4.0-5.0(RES) | 2,3,4,6,7,8-HXCDF | 0.123 ng/Kg | 0.123U ng/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.243 ng/Kg | 0.243U ng/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | OCDD | 0.869 ng/Kg | 0.869U ng/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | OCDF | 0.211 ng/Kg | 0.211U ng/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.319 ng/Kg | 0.319U ng/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.131 ng/Kg | 0.131U ng/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0733 ng/Kg | 0.0733U ng/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0788 ng/Kg | 0.0788U ng/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0746 ng/Kg | 0.0746U ng/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | 1,2,3,7,8,9-HXCDD | 0.0919 ng/Kg | 0.0919U ng/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0826 ng/Kg | 0.0826U ng/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | 1,2,3,7,8-PECDD | 0.0589 ng/Kg | 0.0589U ng/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | 1,2,3,7,8-PECDF | 0.105 ng/Kg | 0.105U ng/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0754 ng/Kg | 0.0754U ng/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | 2,3,4,7,8-PECDF | 0.0993 ng/Kg | 0.0993U ng/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | OCDF | 0.405 ng/Kg | 0.405U ng/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.235 ng/Kg | 0.235U ng/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0671 ng/Kg | 0.0671U ng/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0717 ng/Kg | 0.0717U ng/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0613 ng/Kg | 0.0613U ng/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0442 ng/Kg | 0.0442U ng/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.237 ng/Kg | 0.237U ng/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.0746 ng/Kg | 0.0746U ng/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.0870 ng/Kg | 0.0870U ng/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0642 ng/Kg | 0.0642U ng/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0596 ng/Kg | 0.0596U ng/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | OCDF | 0.237 ng/Kg | 0.237U ng/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.120 ng/Kg | 0.120U ng/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0603 ng/Kg | 0.0603U ng/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0852 ng/Kg | 0.0852U ng/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0790 ng/Kg | 0.0790U ng/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDD | 0.0978 ng/Kg | 0.0978U ng/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0847 ng/Kg | 0.0847U ng/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDD | 0.177 ng/Kg | 0.177U ng/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.170 ng/Kg | 0.170U ng/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0667 ng/Kg | 0.0667U ng/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.164 ng/Kg | 0.164U ng/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | OCDF | 0.349 ng/Kg | 0.349U ng/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.136 ng/Kg | 0.136U ng/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.160 ng/Kg | 0.160U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

12/31/2013 11:24:05 AM

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Method Blank Outlier Report

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-658-SA5A-SB-7.0-8.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.132 ng/Kg | 0.132U ng/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | 1,2,3,4,7,8-HXCDF | 0.136 ng/Kg | 0.136U ng/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | 1,2,3,6,7,8-HXCDF | 0.165 ng/Kg | 0.165U ng/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | 1,2,3,7,8,9-HXCDD | 0.0991 ng/Kg | 0.0991U ng/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | 1,2,3,7,8,9-HXCDF | 0.113 ng/Kg | 0.113U ng/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | 1,2,3,7,8-PECDD | 0.210 ng/Kg | 0.210U ng/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | 1,2,3,7,8-PECDF | 0.264 ng/Kg | 0.264U ng/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | 2,3,4,6,7,8-HXCDF | 0.134 ng/Kg | 0.134U ng/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | 2,3,4,7,8-PECDF | 0.287 ng/Kg | 0.287U ng/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | OCDD | 0.473 ng/Kg | 0.473U ng/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | OCDF | 0.313 ng/Kg | 0.313U ng/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.102 ng/Kg | 0.102U ng/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0567 ng/Kg | 0.0567U ng/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0398 ng/Kg | 0.0398U ng/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0349 ng/Kg | 0.0349U ng/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0527 ng/Kg | 0.0527U ng/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.285 ng/Kg | 0.285U ng/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.111 ng/Kg | 0.111U ng/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.0865 ng/Kg | 0.0865U ng/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0232 ng/Kg | 0.0232U ng/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0614 ng/Kg | 0.0614U ng/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | OCDD | 0.737 ng/Kg | 0.737U ng/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | OCDF | 0.136 ng/Kg | 0.136U ng/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.0927 ng/Kg | 0.0927U ng/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0462 ng/Kg | 0.0462U ng/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0242 ng/Kg | 0.0242U ng/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0271 ng/Kg | 0.0271U ng/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8,9-HXCDD | 0.0551 ng/Kg | 0.0551U ng/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0327 ng/Kg | 0.0327U ng/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8-PECDF | 0.0468 ng/Kg | 0.0468U ng/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0274 ng/Kg | 0.0274U ng/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | 2,3,4,7,8-PECDF | 0.0397 ng/Kg | 0.0397U ng/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | OCDD | 0.358 ng/Kg | 0.358U ng/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | OCDF | 0.123 ng/Kg | 0.123U ng/Kg |
| SL-670-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.286 ng/Kg | 0.286U ng/Kg |
| SL-670-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0336 ng/Kg | 0.0336U ng/Kg |
| SL-670-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0567 ng/Kg | 0.0567U ng/Kg |
| SL-670-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0730 ng/Kg | 0.0730U ng/Kg |
| SL-670-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.0876 ng/Kg | 0.0876U ng/Kg |
| SL-670-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.358 ng/Kg | 0.358U ng/Kg |

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Method Blank Outlier Report

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|-------------------|-----------------|-----------------------|
| SL-670-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.0768 ng/Kg | 0.0768U ng/Kg |
| SL-670-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0543 ng/Kg | 0.0543U ng/Kg |
| SL-670-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0419 ng/Kg | 0.0419U ng/Kg |
| SL-670-SA5A-SB-0.0-0.5(RES) | OCDF | 0.545 ng/Kg | 0.545U ng/Kg |
| SL-954-SA5A-SB-3.0-4.0(RES) | 1,2,3,6,7,8-HXCDF | 0.247 ng/Kg | 0.247U ng/Kg |
| SL-954-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8,9-HXCDF | 0.387 ng/Kg | 0.387U ng/Kg |
| SL-954-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8-PECDD | 0.314 ng/Kg | 0.314U ng/Kg |
| SL-954-SA5A-SB-3.0-4.0(RES) | 2,3,4,7,8-PECDF | 0.295 ng/Kg | 0.295U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|------------------------|-----------------------------|--|--|
| P32537HB222211 | 11/24/2013 10:11:00 PM | CALCIUM MAGNESIUM TIN | 6.78 mg/Kg 4.94 mg/Kg 1.37 mg/Kg | SL-654-SA5A-SB-0.0-0.5 SL-654-SA5A-SB-3.0-4.0 SL-657-SA5A-SB-0.0-0.5 SL-657-SA5A-SB-4.0-5.0 SL-657-SA5A-SB-7.0-8.0 SL-658-SA5A-SB-0.0-0.5 SL-658-SA5A-SB-4.0-5.0 SL-658-SA5A-SB-7.0-8.0 SL-667-SA5A-SB-0.0-0.5 SL-667-SA5A-SB-3.0-4.0 SL-670-SA5A-SB-0.0-0.5 SL-954-SA5A-SB-3.0-4.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------|-----------------|-----------------------|
| SL-654-SA5A-SB-0.0-0.5(RES) | TIN | 2.88 mg/Kg | 2.88U mg/Kg |
| SL-654-SA5A-SB-3.0-4.0(RES) | TIN | 3.18 mg/Kg | 3.18U mg/Kg |
| SL-657-SA5A-SB-0.0-0.5(RES) | TIN | 2.45 mg/Kg | 2.45U mg/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | TIN | 2.89 mg/Kg | 2.89U mg/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | TIN | 3.00 mg/Kg | 3.00U mg/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | TIN | 2.57 mg/Kg | 2.57U mg/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | TIN | 3.31 mg/Kg | 3.31U mg/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | TIN | 2.69 mg/Kg | 2.69U mg/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | TIN | 2.47 mg/Kg | 2.47U mg/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | TIN | 2.84 mg/Kg | 2.84U mg/Kg |
| SL-670-SA5A-SB-0.0-0.5(RES) | TIN | 2.98 mg/Kg | 2.98U mg/Kg |
| SL-954-SA5A-SB-3.0-4.0(RES) | TIN | 2.87 mg/Kg | 2.87U mg/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Field Blank Outlier Report

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PrepPH128

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|-------------------|----------------------------|--|
| FB-041613(REA2/TOT) | 4/16/2013 3:15:00 PM | MOLYBDENUM TIN | 0.0132 mg/L 0.0029 mg/L | SL-654-SA5A-SB-0.0-0.5 SL-654-SA5A-SB-3.0-4.0 SL-657-SA5A-SB-0.0-0.5 SL-657-SA5A-SB-4.0-5.0 SL-657-SA5A-SB-7.0-8.0 SL-658-SA5A-SB-0.0-0.5 SL-658-SA5A-SB-4.0-5.0 SL-658-SA5A-SB-7.0-8.0 SL-667-SA5A-SB-0.0-0.5 SL-667-SA5A-SB-3.0-4.0 SL-670-SA5A-SB-0.0-0.5 SL-954-SA5A-SB-3.0-4.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|------------|-----------------|-----------------------|
| SL-654-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.419 mg/Kg | 0.419U mg/Kg |
| SL-654-SA5A-SB-3.0-4.0(RES) | MOLYBDENUM | 0.442 mg/Kg | 0.442U mg/Kg |
| SL-657-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.474 mg/Kg | 0.474U mg/Kg |
| SL-657-SA5A-SB-4.0-5.0(RES) | MOLYBDENUM | 0.211 mg/Kg | 0.211U mg/Kg |
| SL-657-SA5A-SB-7.0-8.0(RES) | MOLYBDENUM | 0.253 mg/Kg | 0.253U mg/Kg |
| SL-658-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.425 mg/Kg | 0.425U mg/Kg |
| SL-658-SA5A-SB-4.0-5.0(RES) | MOLYBDENUM | 0.690 mg/Kg | 0.690U mg/Kg |
| SL-658-SA5A-SB-7.0-8.0(RES) | MOLYBDENUM | 0.483 mg/Kg | 0.483U mg/Kg |
| SL-667-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.454 mg/Kg | 0.454U mg/Kg |
| SL-667-SA5A-SB-3.0-4.0(RES) | MOLYBDENUM | 0.186 mg/Kg | 0.186U mg/Kg |
| SL-670-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.280 mg/Kg | 0.280U mg/Kg |
| SL-954-SA5A-SB-3.0-4.0(RES) | MOLYBDENUM | 0.361 mg/Kg | 0.361U mg/Kg |

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Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8015M
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--------------------------------|------------|-----------|------------------------------|---------------------------|--------------------------------|-----------------|
| SL-654-SA5A-SB-3.0-4.0MS SL-654-SA5A-SB-3.0-4.0MSD (SL-654-SA5A-SB-3.0-4.0) | EFH (C21-C30) EFH (C30-C40) | 217 325 | - - | 49.00-123.00 49.00-123.00 | 84 (20.00) 122 (20.00) | EFH (C21-C30) EFH (C30-C40) | J (all detects) |

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|----------------|----------|-----------|--------------|-----------------|-----------------------|---------------------------------------|
| SL-654-SA5A-SB-3.0-4.0MS SL-654-SA5A-SB-3.0-4.0MSD (SL-654-SA5A-SB-3.0-4.0) | BENZO(E)PYRENE | 69 | 66 | 70.00-130.00 | - | BENZO(E)PYRENE | J(all detects) UJ(all non-detects) |

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--|---------------------------|-------------------------|--|------------------|--|--------------|
| SL-654-SA5A-SB-3.0-4.0MS (TOT) SL-654-SA5A-SB-3.0-4.0MSD (TOT) (SL-654-SA5A-SB-0.0-0.5 SL-654-SA5A-SB-3.0-4.0 SL-657-SA5A-SB-0.0-0.5 SL-657-SA5A-SB-4.0-5.0 SL-657-SA5A-SB-7.0-8.0 SL-658-SA5A-SB-0.0-0.5 SL-658-SA5A-SB-4.0-5.0 SL-658-SA5A-SB-7.0-8.0 SL-667-SA5A-SB-0.0-0.5 SL-667-SA5A-SB-3.0-4.0 SL-670-SA5A-SB-0.0-0.5 SL-954-SA5A-SB-3.0-4.0) | ALUMINUM CALCIUM MAGNESIUM TITANIUM | 1374 144 192 194 | 1420 - 182 169 | 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 | - - - - | ALUMINUM CALCIUM MAGNESIUM TITANIUM | No Qual, >4x |
| SL-654-SA5A-SB-3.0-4.0MS (TOT) SL-654-SA5A-SB-3.0-4.0MSD (TOT) (SL-654-SA5A-SB-0.0-0.5 SL-654-SA5A-SB-3.0-4.0 SL-657-SA5A-SB-0.0-0.5 SL-657-SA5A-SB-4.0-5.0 SL-657-SA5A-SB-7.0-8.0 SL-658-SA5A-SB-0.0-0.5 SL-658-SA5A-SB-4.0-5.0 SL-658-SA5A-SB-7.0-8.0 SL-667-SA5A-SB-0.0-0.5 SL-667-SA5A-SB-3.0-4.0 SL-670-SA5A-SB-0.0-0.5 SL-954-SA5A-SB-3.0-4.0) | IRON | -33 | 281 | 75.00-125.00 | - | IRON | No Qual, >4x |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|----------|----------|-----------|--------------|-----------------|-----------------------|---------------------------------------|
| SL-654-SA5A-SB-3.0-4.0MS (TOT) SL-654-SA5A-SB-3.0-4.0MSD (TOT) (SL-654-SA5A-SB-0.0-0.5 SL-654-SA5A-SB-3.0-4.0 SL-657-SA5A-SB-0.0-0.5 SL-657-SA5A-SB-4.0-5.0 SL-657-SA5A-SB-7.0-8.0 SL-658-SA5A-SB-0.0-0.5 SL-658-SA5A-SB-4.0-5.0 SL-658-SA5A-SB-7.0-8.0 SL-667-SA5A-SB-0.0-0.5 SL-667-SA5A-SB-3.0-4.0 SL-670-SA5A-SB-0.0-0.5 SL-954-SA5A-SB-3.0-4.0) | ANTIMONY | 62 | 64 | 75.00-125.00 | - | ANTIMONY | J(all detects) UJ(all non-detects) |

Method: 6020A
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|-----------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-654-SA5A-SB-3.0-4.0MSD (TOT) (SL-654-SA5A-SB-0.0-0.5 SL-654-SA5A-SB-3.0-4.0 SL-657-SA5A-SB-0.0-0.5 SL-657-SA5A-SB-4.0-5.0 SL-657-SA5A-SB-7.0-8.0 SL-658-SA5A-SB-0.0-0.5 SL-658-SA5A-SB-4.0-5.0 SL-658-SA5A-SB-7.0-8.0 SL-667-SA5A-SB-0.0-0.5 SL-667-SA5A-SB-3.0-4.0 SL-670-SA5A-SB-0.0-0.5 SL-954-SA5A-SB-3.0-4.0) | STRONTIUM | - | 135 | 75.00-125.00 | - | STRONTIUM | J(all detects) |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|---|-----------------------|------------|----------------|------------------------------|
| SL-654-SA5A-SB-3.0-4.0DUP (TOT) (SL-654-SA5A-SB-0.0-0.5 SL-654-SA5A-SB-3.0-4.0 SL-657-SA5A-SB-0.0-0.5 SL-657-SA5A-SB-4.0-5.0 SL-657-SA5A-SB-7.0-8.0 SL-658-SA5A-SB-0.0-0.5 SL-658-SA5A-SB-4.0-5.0 SL-658-SA5A-SB-7.0-8.0 SL-667-SA5A-SB-0.0-0.5 SL-667-SA5A-SB-3.0-4.0 SL-670-SA5A-SB-0.0-0.5 SL-954-SA5A-SB-3.0-4.0) | CADMIUM MOLYBDENUM | 200 34 | 20.00 20.00 | No Qual, OK by Difference |

Method: 6020A
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|---|----------|------------|-----------|------------------------------|
| SL-654-SA5A-SB-3.0-4.0DUP (TOT) (SL-654-SA5A-SB-0.0-0.5 SL-654-SA5A-SB-3.0-4.0 SL-657-SA5A-SB-0.0-0.5 SL-657-SA5A-SB-4.0-5.0 SL-657-SA5A-SB-7.0-8.0 SL-658-SA5A-SB-0.0-0.5 SL-658-SA5A-SB-4.0-5.0 SL-658-SA5A-SB-7.0-8.0 SL-667-SA5A-SB-0.0-0.5 SL-667-SA5A-SB-3.0-4.0 SL-670-SA5A-SB-0.0-0.5 SL-954-SA5A-SB-3.0-4.0) | SELENIUM | 48 | 20.00 | No Qual, OK by Difference |

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8082A

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--------------|-----------|------------|--------------|-----------------|--|-----------------|
| P33244AY241359A (SL-654-SA5A-SB-0.0-0.5 SL-654-SA5A-SB-3.0-4.0 SL-657-SA5A-SB-0.0-0.5 SL-657-SA5A-SB-4.0-5.0 SL-657-SA5A-SB-7.0-8.0 SL-658-SA5A-SB-0.0-0.5 SL-658-SA5A-SB-4.0-5.0 SL-658-SA5A-SB-7.0-8.0 SL-667-SA5A-SB-0.0-0.5 SL-667-SA5A-SB-3.0-4.0 SL-670-SA5A-SB-0.0-0.5 SL-954-SA5A-SB-3.0-4.0) | Aroclor 5442 | - | 88 | 62.00-87.00 | - | Aroclor 5432 Aroclor 5442 Aroclor 5460 | J (all detects) |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 160.3M

Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|------------------------|------------|-----------|-----------------------|
| | SL-654-SA5A-SB-3.0-4.0 | SL-954-SA5A-SB-3.0-4.0 | | | |
| MOISTURE | 3.3 | 4.3 | 26 | | No Qualifiers Applied |

Method: 1613B

Matrix: SO

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag | |
|---------------------|------------------------|------------------------|------------|-----------|-----------------------|---------------------------------------|
| | SL-654-SA5A-SB-3.0-4.0 | SL-954-SA5A-SB-3.0-4.0 | | | | |
| 1,2,3,4,7,8-HxCDD | 0.145 | 0.240 | 49 | 50.00 | No Qualifiers Applied | |
| 1,2,3,4,7,8-HxCDF | 0.199 | 0.319 | 46 | 50.00 | | |
| 1,2,3,6,7,8-HxCDD | 0.404 | 0.390 | 4 | 50.00 | | |
| 1,2,3,6,7,8-HxCDF | 0.215 | 0.247 | 14 | 50.00 | | |
| 1,2,3,7,8,9-HxCDD | 0.440 | 0.417 | 5 | 50.00 | | |
| 1,2,3,7,8,9-HxCDF | 0.258 | 0.387 | 40 | 50.00 | | |
| 1,2,3,7,8-PECDF | 0.520 | 0.385 | 30 | 50.00 | | |
| 2,3,4,7,8-PECDF | 0.266 | 0.295 | 10 | 50.00 | | |
| 1,2,3,4,6,7,8-HPCDD | 7.49 | 2.72 | 93 | 50.00 | | J(all detects) UJ(all non-detects) |
| 1,2,3,4,6,7,8-HPCDF | 1.25 | 0.705 | 56 | 50.00 | | |
| 1,2,3,4,7,8,9-HPCDF | 0.126 | 0.304 | 83 | 50.00 | | |
| 1,2,3,7,8-PCDD | 0.134 | 0.314 | 80 | 50.00 | | |
| 2,3,4,6,7,8-HxCDF | 0.156 | 0.296 | 62 | 50.00 | | |
| 2,3,7,8-TCDF | 0.0817 | 1.00 U | 200 | 50.00 | | |
| OCDD | 76.1 | 27.7 | 93 | 50.00 | | |
| OCDF | 3.27 | 1.79 | 58 | 50.00 | | |

Method: 6010C

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|------------------------------|------------------------------|------------|-----------|-----------------------|
| | SL-654-SA5A-SB-3.0-4.0 (TOT) | SL-954-SA5A-SB-3.0-4.0 (TOT) | | | |
| ALUMINIUM | 19900 | 19800 | 1 | 50.00 | No Qualifiers Applied |
| ARSENIC | 6.45 | 6.77 | 5 | 50.00 | |
| BARIUM | 98.3 | 85.5 | 14 | 50.00 | |
| BERYLLIUM | 0.687 | 0.680 | 1 | 50.00 | |
| BORON | 2.32 | 2.42 | 4 | 50.00 | |
| CALCIUM | 3220 | 2960 | 8 | 50.00 | |
| CHROMIUM | 23.2 | 23.5 | 1 | 50.00 | |
| COBALT | 6.30 | 6.19 | 2 | 50.00 | |
| COPPER | 11.4 | 10.0 | 13 | 50.00 | |
| IRON | 26800 | 25800 | 4 | 50.00 | |
| LEAD | 7.63 | 7.46 | 2 | 50.00 | |
| LITHIUM | 30.3 | 28.6 | 6 | 50.00 | |
| MAGNESIUM | 5770 | 5490 | 5 | 50.00 | |
| MANGANESE | 337 | 297 | 13 | 50.00 | |
| MOLYBDENUM | 0.442 | 0.361 | 20 | 50.00 | |
| NICKEL | 14.4 | 13.4 | 7 | 50.00 | |
| PHOSPHORUS | 448 | 370 | 19 | 50.00 | |
| POTASSIUM | 2880 | 2340 | 21 | 50.00 | |
| SODIUM | 98.7 | 102 | 3 | 50.00 | |
| TIN | 3.18 | 2.87 | 10 | 50.00 | |
| TITANIUM | 1390 | 1270 | 9 | 50.00 | |
| VANADIUM | 46.8 | 48.8 | 4 | 50.00 | |
| ZINC | 60.7 | 55.8 | 8 | 50.00 | |
| Zirconium | 4.64 | 4.12 | 12 | 50.00 | |
| CADMIUM | 0.0962 | 1.02 U | 200 | 50.00 | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Field Duplicate RPD Report

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6020A

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|------------------------------|------------------------------|------------|-----------|-----------------------|
| | SL-654-SA5A-SB-3.0-4.0 (TOT) | SL-954-SA5A-SB-3.0-4.0 (TOT) | | | |
| SELENIUM | 0.194 | 0.198 | 2 | 50.00 | No Qualifiers Applied |
| SILVER | 0.0393 | 0.0490 | 22 | 50.00 | |
| STRONTIUM | 20.4 | 21.5 | 5 | 50.00 | |
| THALLIUM | 0.300 | 0.289 | 4 | 50.00 | |

Method: 8270D SIM

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------------------|------------------------|------------------------|------------|-----------|---------------------------------------|
| | SL-654-SA5A-SB-3.0-4.0 | SL-954-SA5A-SB-3.0-4.0 | | | |
| ANTHRACENE | 0.42 | 1.7 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| BENZO(A)ANTHRACENE | 4.1 | 0.84 | 132 | 50.00 | |
| BENZO(A)PYRENE | 6.2 | 1.2 | 135 | 50.00 | |
| BENZO(B)FLUORANTHENE | 11 | 2.8 | 119 | 50.00 | |
| BENZO(E)PYRENE | 7.1 | 18 U | 200 | 50.00 | |
| BENZO(G,H,I)PERYLENE | 4.5 | 1.1 | 121 | 50.00 | |
| BENZO(K)FLUORANTHENE | 3.6 | 1.7 U | 200 | 50.00 | |
| CHRYSENE | 6.1 | 1.6 | 117 | 50.00 | |
| DIBENZO(A,H)ANTHRACENE | 1.5 | 1.7 U | 200 | 50.00 | |
| FLUORANTHENE | 4.4 | 1.1 | 120 | 50.00 | |
| INDENO(1,2,3-CD)PYRENE | 5.4 | 1.1 | 132 | 50.00 | |
| PHENANTHRENE | 1.6 | 1.7 U | 200 | 50.00 | |
| PYRENE | 3.9 | 0.90 | 125 | 50.00 | |

Method: 9045M

Matrix: SO

| Analyte | Concentration (pH unit) | | Sample RPD | eQAPP RPD | Flag |
|---------|-------------------------|------------------------|------------|-----------|-----------------------|
| | SL-654-SA5A-SB-3.0-4.0 | SL-954-SA5A-SB-3.0-4.0 | | | |
| PH | 8.18 | 7.92 | 3 | 50.00 | No Qualifiers Applied |

Reporting Limit Outliers

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag | | |
|------------------------|------------------------|---------------------|--------|-----------------|---------|-------|-----------------|-------|-----------------|
| SL-654-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 2.54 | 4.94 | PQL | ng/Kg | J (all detects) | | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.264 | 4.94 | PQL | ng/Kg | | | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.120 | 4.94 | PQL | ng/Kg | | | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.229 | 4.94 | PQL | ng/Kg | | | |
| | 1,2,3,6,7,8-HXCDD | J | 0.739 | 4.94 | PQL | ng/Kg | | | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.207 | 4.94 | PQL | ng/Kg | | | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.569 | 4.94 | PQL | ng/Kg | | | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.314 | 4.94 | PQL | ng/Kg | | | |
| | 1,2,3,7,8-PECDD | JBQ | 0.114 | 4.94 | PQL | ng/Kg | | | |
| | 1,2,3,7,8-PECDF | JB | 0.584 | 4.94 | PQL | ng/Kg | | | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.185 | 4.94 | PQL | ng/Kg | | | |
| | 2,3,4,7,8-PECDF | JB | 0.241 | 4.94 | PQL | ng/Kg | | | |
| | 2,3,7,8-TCDD | JQ | 0.0396 | 0.988 | PQL | ng/Kg | | | |
| | 2,3,7,8-TCDF | JQ | 0.119 | 0.988 | PQL | ng/Kg | | | |
| | OCDF | JB | 6.63 | 9.88 | PQL | ng/Kg | | | |
| | SL-654-SA5A-SB-3.0-4.0 | 1,2,3,4,6,7,8-HPCDF | JB | 1.25 | 4.92 | PQL | | ng/Kg | J (all detects) |
| | | 1,2,3,4,7,8,9-HPCDF | JB | 0.126 | 4.92 | PQL | | ng/Kg | |
| 1,2,3,4,7,8-HxCDD | | J | 0.145 | 4.92 | PQL | ng/Kg | | | |
| 1,2,3,4,7,8-HXCDF | | JBQ | 0.199 | 4.92 | PQL | ng/Kg | | | |
| 1,2,3,6,7,8-HXCDD | | JQ | 0.404 | 4.92 | PQL | ng/Kg | | | |
| 1,2,3,6,7,8-HXCDF | | JBQ | 0.215 | 4.92 | PQL | ng/Kg | | | |
| 1,2,3,7,8,9-HXCDD | | JB | 0.440 | 4.92 | PQL | ng/Kg | | | |
| 1,2,3,7,8,9-HXCDF | | JB | 0.258 | 4.92 | PQL | ng/Kg | | | |
| 1,2,3,7,8-PECDD | | JBQ | 0.134 | 4.92 | PQL | ng/Kg | | | |
| 1,2,3,7,8-PECDF | | JB | 0.520 | 4.92 | PQL | ng/Kg | | | |
| 2,3,4,6,7,8-HXCDF | | JBQ | 0.156 | 4.92 | PQL | ng/Kg | | | |
| 2,3,4,7,8-PECDF | | JBQ | 0.266 | 4.92 | PQL | ng/Kg | | | |
| 2,3,7,8-TCDF | | JQ | 0.0817 | 0.985 | PQL | ng/Kg | | | |
| OCDF | | JB | 3.27 | 9.85 | PQL | ng/Kg | | | |
| SL-657-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 1.67 | 5.13 | PQL | ng/Kg | J (all detects) | | |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.353 | 5.13 | PQL | ng/Kg | | | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0550 | 5.13 | PQL | ng/Kg | | | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0459 | 5.13 | PQL | ng/Kg | | | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0645 | 5.13 | PQL | ng/Kg | | | |
| | 1,2,3,6,7,8-HXCDD | J | 0.318 | 5.13 | PQL | ng/Kg | | | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0757 | 5.13 | PQL | ng/Kg | | | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.449 | 5.13 | PQL | ng/Kg | | | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.262 | 5.13 | PQL | ng/Kg | | | |
| | 1,2,3,7,8-PECDD | JBQ | 0.101 | 5.13 | PQL | ng/Kg | | | |
| | 1,2,3,7,8-PECDF | JBQ | 0.160 | 5.13 | PQL | ng/Kg | | | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0977 | 5.13 | PQL | ng/Kg | | | |
| | 2,3,4,7,8-PECDF | JBQ | 0.158 | 5.13 | PQL | ng/Kg | | | |
| | 2,3,7,8-TCDD | JQ | 0.0629 | 1.03 | PQL | ng/Kg | | | |
| | 2,3,7,8-TCDF | JQ | 0.0996 | 1.03 | PQL | ng/Kg | | | |
| | OCDF | JBQ | 0.944 | 10.3 | PQL | ng/Kg | | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-657-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.174 | 5.29 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.0887 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0617 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | J | 0.0695 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.152 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JQ | 0.0951 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.173 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.114 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.130 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.230 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.336 | 5.29 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.123 | 5.29 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.243 | 5.29 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | J | 0.0826 | 1.06 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0707 | 1.06 | PQL | ng/Kg | |
| | OCDD | JB | 0.869 | 10.6 | PQL | ng/Kg | |
| OCDF | JB | 0.211 | 10.6 | PQL | ng/Kg | | |
| SL-657-SA5A-SB-7.0-8.0 | 1,2,3,4,6,7,8-HPCDD | JB | 0.319 | 5.22 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.131 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0733 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0552 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0788 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JQ | 0.0899 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0746 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.0919 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0826 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0589 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.105 | 5.22 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0754 | 5.22 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0993 | 5.22 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0638 | 1.04 | PQL | ng/Kg | |
| | OCDD | JB | 2.37 | 10.4 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.405 | 10.4 | PQL | ng/Kg | |
| SL-658-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.235 | 5.06 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0671 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0717 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0613 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JQ | 0.150 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0442 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.428 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.237 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0746 | 5.06 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.0870 | 5.06 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0642 | 5.06 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0596 | 5.06 | PQL | ng/Kg | |
| | OCDD | JB | 1.91 | 10.1 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.237 | 10.1 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-658-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JB | 1.14 | 5.48 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.120 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0603 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.0447 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.0852 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JQ | 0.0987 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.0790 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.0978 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0847 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.177 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.170 | 5.48 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0667 | 5.48 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.164 | 5.48 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0760 | 1.10 | PQL | ng/Kg | |
| | OCDD | JB | 6.64 | 11.0 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.349 | 11.0 | PQL | ng/Kg | |
| SL-658-SA5A-SB-7.0-8.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.136 | 5.41 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.160 | 5.41 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.132 | 5.41 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | J | 0.0973 | 5.41 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.136 | 5.41 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | J | 0.130 | 5.41 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.165 | 5.41 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.0991 | 5.41 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.113 | 5.41 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.210 | 5.41 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.264 | 5.41 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.134 | 5.41 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.287 | 5.41 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.130 | 1.08 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0646 | 1.08 | PQL | ng/Kg | |
| | OCDD | JB | 0.473 | 10.8 | PQL | ng/Kg | |
| OCDF | JB | 0.313 | 10.8 | PQL | ng/Kg | | |
| SL-667-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.102 | 5.13 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0567 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0398 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | J | 0.0350 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.0349 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JQ | 0.306 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0527 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.441 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.285 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.111 | 5.13 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0865 | 5.13 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0232 | 5.13 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0614 | 5.13 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0422 | 1.03 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0540 | 1.03 | PQL | ng/Kg | |
| | OCDD | JB | 0.737 | 10.3 | PQL | ng/Kg | |
| OCDF | JBQ | 0.136 | 10.3 | PQL | ng/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------------------|---------------------|--------|-----------------|---------|-------|-----------------|
| SL-667-SA5A-SB-3.0-4.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.0927 | 5.11 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0462 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0242 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JQ | 0.0347 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0271 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.0551 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0327 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.0468 | 5.11 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0274 | 5.11 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0397 | 5.11 | PQL | ng/Kg | |
| | OCDD | JBQ | 0.358 | 10.2 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.123 | 10.2 | PQL | ng/Kg | |
| | SL-670-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 2.03 | 5.09 | PQL | |
| 1,2,3,4,6,7,8-HPCDF | | JB | 0.286 | 5.09 | PQL | ng/Kg | |
| 1,2,3,4,7,8,9-HPCDF | | JBQ | 0.0336 | 5.09 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HXCDF | | JBQ | 0.0567 | 5.09 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HXCDD | | JQ | 0.138 | 5.09 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HXCDF | | JBQ | 0.0730 | 5.09 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HXCDD | | JB | 0.271 | 5.09 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HXCDF | | JB | 0.0876 | 5.09 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDD | | JB | 0.358 | 5.09 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDF | | JB | 0.0768 | 5.09 | PQL | ng/Kg | |
| 2,3,4,6,7,8-HXCDF | | JBQ | 0.0543 | 5.09 | PQL | ng/Kg | |
| 2,3,4,7,8-PECDF | | JBQ | 0.0419 | 5.09 | PQL | ng/Kg | |
| 2,3,7,8-TCDD | | JQ | 0.198 | 1.02 | PQL | ng/Kg | |
| OCDF | JB | 0.545 | 10.2 | PQL | ng/Kg | | |
| SL-954-SA5A-SB-3.0-4.0 | 1,2,3,4,6,7,8-HPCDD | JB | 2.72 | 5.00 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.705 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.304 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.240 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.319 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | J | 0.390 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.247 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.417 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.387 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.314 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.385 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.296 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.295 | 5.00 | PQL | ng/Kg | |
| | OCDF | JB | 1.79 | 10.0 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag | | |
|------------------------|------------------------|-----------|--------|-----------------|---------|-------|-----------------|-----------------|-----------------|
| SL-654-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.581 | 0.999 | PQL | mg/Kg | J (all detects) | | |
| | BORON | J | 2.86 | 9.99 | PQL | mg/Kg | | | |
| | CADMIUM | J | 0.127 | 0.999 | PQL | mg/Kg | | | |
| | MOLYBDENUM | J | 0.419 | 2.00 | PQL | mg/Kg | | | |
| | SODIUM | J | 88.5 | 99.9 | PQL | mg/Kg | | | |
| | TIN | J | 2.88 | 9.99 | PQL | mg/Kg | | | |
| | Zirconium | J | 3.88 | 5.00 | PQL | mg/Kg | | | |
| SL-654-SA5A-SB-3.0-4.0 | BERYLLIUM | J | 0.687 | 1.03 | PQL | mg/Kg | J (all detects) | | |
| | BORON | J | 2.32 | 10.3 | PQL | mg/Kg | | | |
| | CADMIUM | J | 0.0962 | 1.03 | PQL | mg/Kg | | | |
| | MOLYBDENUM | J | 0.442 | 2.07 | PQL | mg/Kg | | | |
| | SODIUM | J | 98.7 | 103 | PQL | mg/Kg | | | |
| | TIN | J | 3.18 | 10.3 | PQL | mg/Kg | | | |
| | Zirconium | J | 4.64 | 5.17 | PQL | mg/Kg | | | |
| SL-657-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.522 | 1.02 | PQL | mg/Kg | J (all detects) | | |
| | BORON | J | 2.98 | 10.2 | PQL | mg/Kg | | | |
| | CADMIUM | J | 0.110 | 1.02 | PQL | mg/Kg | | | |
| | MOLYBDENUM | J | 0.474 | 2.04 | PQL | mg/Kg | | | |
| | SODIUM | J | 90.2 | 102 | PQL | mg/Kg | | | |
| | TIN | J | 2.45 | 10.2 | PQL | mg/Kg | | | |
| | Zirconium | J | 2.57 | 5.10 | PQL | mg/Kg | | | |
| SL-657-SA5A-SB-4.0-5.0 | ARSENIC | J | 3.83 | 4.21 | PQL | mg/Kg | J (all detects) | | |
| | BERYLLIUM | J | 0.607 | 1.05 | PQL | mg/Kg | | | |
| | BORON | J | 1.75 | 10.5 | PQL | mg/Kg | | | |
| | MOLYBDENUM | J | 0.211 | 2.11 | PQL | mg/Kg | | | |
| | SODIUM | J | 104 | 105 | PQL | mg/Kg | | | |
| | TIN | J | 2.89 | 10.5 | PQL | mg/Kg | | | |
| | Zirconium | J | 3.17 | 5.27 | PQL | mg/Kg | | | |
| SL-657-SA5A-SB-7.0-8.0 | BERYLLIUM | J | 0.523 | 1.03 | PQL | mg/Kg | J (all detects) | | |
| | BORON | J | 1.89 | 10.3 | PQL | mg/Kg | | | |
| | CADMIUM | J | 0.0875 | 1.03 | PQL | mg/Kg | | | |
| | MOLYBDENUM | J | 0.253 | 2.06 | PQL | mg/Kg | | | |
| | TIN | J | 3.00 | 10.3 | PQL | mg/Kg | | | |
| | Zirconium | J | 4.26 | 5.15 | PQL | mg/Kg | | | |
| | SL-658-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.691 | 1.00 | PQL | | mg/Kg | J (all detects) |
| BORON | | J | 3.72 | 10.0 | PQL | mg/Kg | | | |
| CADMIUM | | J | 0.120 | 1.00 | PQL | mg/Kg | | | |
| MOLYBDENUM | | J | 0.425 | 2.01 | PQL | mg/Kg | | | |
| TIN | | J | 2.57 | 10.0 | PQL | mg/Kg | | | |
| Zirconium | | J | 4.25 | 5.01 | PQL | mg/Kg | | | |
| SL-658-SA5A-SB-4.0-5.0 | | BERYLLIUM | J | 0.882 | 1.11 | PQL | mg/Kg | J (all detects) | |
| | BORON | J | 2.15 | 11.1 | PQL | mg/Kg | | | |
| | MOLYBDENUM | J | 0.690 | 2.21 | PQL | mg/Kg | | | |
| | TIN | J | 3.31 | 11.1 | PQL | mg/Kg | | | |
| | Zirconium | J | 5.25 | 5.53 | PQL | mg/Kg | | | |
| | SL-658-SA5A-SB-7.0-8.0 | BERYLLIUM | J | 0.626 | 1.08 | PQL | mg/Kg | | J (all detects) |
| | | BORON | J | 1.94 | 10.8 | PQL | mg/Kg | | |
| MOLYBDENUM | | J | 0.483 | 2.16 | PQL | mg/Kg | | | |
| TIN | | J | 2.69 | 10.8 | PQL | mg/Kg | | | |
| Zirconium | | J | 4.10 | 5.40 | PQL | mg/Kg | | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-667-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.574 | 1.00 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.84 | 10.0 | PQL | mg/Kg | |
| | CADMIUM | J | 0.211 | 1.00 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.454 | 2.01 | PQL | mg/Kg | |
| | TIN | J | 2.47 | 10.0 | PQL | mg/Kg | |
| | Zirconium | J | 3.20 | 5.02 | PQL | mg/Kg | |
| SL-667-SA5A-SB-3.0-4.0 | BERYLLIUM | J | 0.541 | 1.02 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 1.53 | 10.2 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.186 | 2.04 | PQL | mg/Kg | |
| | TIN | J | 2.84 | 10.2 | PQL | mg/Kg | |
| | Zirconium | J | 3.18 | 5.11 | PQL | mg/Kg | |
| SL-670-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.698 | 1.02 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.90 | 10.2 | PQL | mg/Kg | |
| | CADMIUM | J | 0.275 | 1.02 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.280 | 2.04 | PQL | mg/Kg | |
| | TIN | J | 2.98 | 10.2 | PQL | mg/Kg | |
| | Zirconium | J | 4.24 | 5.09 | PQL | mg/Kg | |
| SL-954-SA5A-SB-3.0-4.0 | BERYLLIUM | J | 0.680 | 1.02 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.42 | 10.2 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.361 | 2.05 | PQL | mg/Kg | |
| | TIN | J | 2.87 | 10.2 | PQL | mg/Kg | |
| | Zirconium | J | 4.12 | 5.12 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-654-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.135 | 0.400 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.156 | 0.200 | PQL | mg/Kg | |
| SL-654-SA5A-SB-3.0-4.0 | SELENIUM | J | 0.194 | 0.414 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0393 | 0.207 | PQL | mg/Kg | |
| SL-657-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.123 | 0.408 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0291 | 0.204 | PQL | mg/Kg | |
| SL-658-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.173 | 0.401 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0421 | 0.201 | PQL | mg/Kg | |
| SL-658-SA5A-SB-4.0-5.0 | SILVER | J | 0.0629 | 0.221 | PQL | mg/Kg | J (all detects) |
| SL-658-SA5A-SB-7.0-8.0 | SILVER | J | 0.0545 | 0.216 | PQL | mg/Kg | J (all detects) |
| SL-667-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.144 | 0.401 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0283 | 0.201 | PQL | mg/Kg | |
| SL-670-SA5A-SB-0.0-0.5 | SILVER | J | 0.0276 | 0.204 | PQL | mg/Kg | J (all detects) |
| SL-954-SA5A-SB-3.0-4.0 | SELENIUM | J | 0.198 | 0.410 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0490 | 0.205 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH128

Laboratory: LL

EDD Filename: PH128_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-658-SA5A-SB-4.0-5.0 | MERCURY | J | 0.0110 | 0.0178 | PQL | mg/Kg | J (all detects) |
| SL-658-SA5A-SB-7.0-8.0 | MERCURY | J | 0.0118 | 0.0180 | PQL | mg/Kg | J (all detects) |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-654-SA5A-SB-0.0-0.5 | 1-METHYLNAPHTHALENE | J | 0.75 | 1.7 | PQL | ug/Kg | J (all detects) |
| | 2-METHYLNAPHTHALENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| | ACENAPHTHYLENE | J | 1.5 | 1.7 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| SL-654-SA5A-SB-3.0-4.0 | ANTHRACENE | J | 0.42 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(E)PYRENE | J | 7.1 | 17 | PQL | ug/Kg | |
| | DIBENZO(A,H)ANTHRACENE | J | 1.5 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.6 | 1.7 | PQL | ug/Kg | |
| SL-657-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 1.4 | 1.7 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 0.61 | 1.7 | PQL | ug/Kg | |
| SL-658-SA5A-SB-4.0-5.0 | 1-METHYLNAPHTHALENE | J | 0.88 | 1.9 | PQL | ug/Kg | J (all detects) |
| | 2-METHYLNAPHTHALENE | J | 1.5 | 1.9 | PQL | ug/Kg | |
| | CHRYSENE | J | 0.43 | 1.9 | PQL | ug/Kg | |
| SL-670-SA5A-SB-0.0-0.5 | 2-METHYLNAPHTHALENE | J | 0.84 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)ANTHRACENE | J | 0.92 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| | BENZO(B)FLUORANTHENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 1.6 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.0 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 0.82 | 1.7 | PQL | ug/Kg | |
| SL-954-SA5A-SB-3.0-4.0 | BENZO(A)ANTHRACENE | J | 0.84 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)PYRENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| | CHRYSENE | J | 1.6 | 1.7 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| | INDENO(1,2,3-CD)PYRENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 0.90 | 1.7 | PQL | ug/Kg | |

LDC #: 31035C4
 SDG #: PH128
 Laboratory: Eurofins Lancaster Laboratories

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 12/20/13
 Page: 6 of 1
 Reviewer: OL
 2nd Reviewer: _____

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--------------------------|
| I. | Technical holding times | — | Sampling dates: 11/13/13 |
| II. | ICP/MS Tune | — | |
| III. | Calibration | — | |
| IV. | Blanks | A | |
| V. | ICP Interference Check Sample (ICS) Analysis | — | |
| VI. | Matrix Spike Analysis | SW | MS/D |
| VII. | Duplicate Sample Analysis | SW | Dup |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | SW | |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | — | (2,3) |
| XV. | Field Blanks | SW | FB=FB-041613 (PH032) |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

*ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

EB=EB-111413
 (PH129)*

Validated Samples: *501*

| | | | | | | | |
|----|------------------------|----|---------------------------|----|--|----|--|
| 1 | SL-654-SA5A-SB-0.0-0.5 | 11 | SL-667-SA5A-SB-3.0-4.0 | 21 | | 31 | |
| 2 | SL-654-SA5A-SB-3.0-4.0 | 12 | SL-670-SA5A-SB-0.0-0.5 | 22 | | 32 | |
| 3 | SL-954-SA5A-SB-3.0-4.0 | 13 | SL-654-SA5A-SB-3.0-4.0MS | 23 | | 33 | |
| 4 | SL-657-SA5A-SB-7.0-8.0 | 14 | SL-654-SA5A-SB-3.0-4.0MSD | 24 | | 34 | |
| 5 | SL-658-SA5A-SB-0.0-0.5 | 15 | SL-654-SA5A-SB-3.0-4.0DUP | 25 | | 35 | |
| 6 | SL-657-SA5A-SB-0.0-0.5 | 16 | | 26 | | 36 | |
| 7 | SL-658-SA5A-SB-7.0-8.0 | 17 | | 27 | | 37 | |
| 8 | SL-657-SA5A-SB-4.0-5.0 | 18 | | 28 | | 38 | |
| 9 | SL-658-SA5A-SB-4.0-5.0 | 19 | | 29 | | 39 | |
| 10 | SL-667-SA5A-SB-0.0-0.5 | 20 | | 30 | | 40 | |

Notes: _____

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/16/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ **Associated Samples:** All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | | | |
|---------|------------------------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| | FB-041613 (SDG: PH032) | Action Limit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Mo | 0.0132 | 6.60 | 0.42 | 0.44 | 0.36 | 0.25 | 0.43 | 0.47 | 0.48 | 0.21 | 0.69 | 0.45 | 0.19 | 0.28 |
| Sn | 0.0029 | 1.45 | | | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

MX

QUALITY ASSURANCE SUMMARY
FORM 5A (MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: PH128
Matrix: SOIL Level: LOW
(low/med):

Background Lab Sample ID: 7276996BKG Matrix Spike Lab Sample ID: 7276997MS Matrix Spike Duplicate Lab Sample ID: 7276998MSD
Batch Id(s): P32537H, P32538D

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | RPD | Control Limit | | M | |
|------------|------|------------|---|------------|---|------------|---|----------------|-----------------|-------|------|---|------|---|-----|---------------|----------|----|----|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | | %R | RPD | | |
| Aluminum | | 19215.8880 | | 21964.6440 | | 22056.4280 | | 200.0000 | 200.0000 | MG/KG | 1374 | | 1420 | | 0 | | 20 | P | |
| Antimony | | 0.7400 | U | 30.7960 | | 31.9250 | | 50.0000 | 50.0000 | MG/KG | 62 | N | 64 | N | 4 | | 75 - 125 | 20 | P |
| Arsenic | | 6.2380 | | 20.7310 | | 20.7120 | | 15.0000 | 15.0000 | MG/KG | 97 | | 96 | | 0 | | 75 - 125 | 20 | P |
| Barium | | 95.0900 | | 288.3440 | | 291.5300 | | 200.0000 | 200.0000 | MG/KG | 97 | | 98 | | 1 | | 75 - 125 | 20 | P |
| Beryllium | | 0.6640 | B | 5.7200 | | 5.7630 | | 5.0000 | 5.0000 | MG/KG | 101 | | 102 | | 1 | | 75 - 125 | 20 | P |
| Boron | | 2.2400 | B | 195.3970 | | 198.3990 | | 200.0000 | 200.0000 | MG/KG | 97 | | 98 | | 2 | | 75 - 125 | 20 | P |
| Cadmium | | 0.0930 | B | 4.7760 | | 4.9040 | | 5.0000 | 5.0000 | MG/KG | 94 | | 96 | | 3 | | 75 - 125 | 20 | P |
| Calcium | | 3115.0640 | | 3692.4620 | | 3559.9400 | | 400.0000 | 400.0000 | MG/KG | 144 | | 111 | | 4 | | | 20 | P |
| Chromium | | 22.3880 | | 42.0730 | | 43.4090 | | 20.0000 | 20.0000 | MG/KG | 98 | | 105 | | 3 | | 75 - 125 | 20 | P |
| Cobalt | | 6.0890 | | 53.5910 | | 53.7780 | | 50.0000 | 50.0000 | MG/KG | 95 | | 95 | | 0 | | 75 - 125 | 20 | P |
| Copper | | 11.0470 | | 35.9700 | | 36.8110 | | 25.0000 | 25.0000 | MG/KG | 100 | | 103 | | 2 | | 75 - 125 | 20 | P |
| Iron | | 25957.8370 | | 25925.2830 | | 26238.4550 | | 100.0000 | 100.0000 | MG/KG | -33 | | 281 | | 1 | | | 20 | P |
| Lead | | 7.3800 | | 20.7830 | | 24.4360 | | 15.0000 | 15.0000 | MG/KG | 89 | | 114 | | 16 | | 75 - 125 | 20 | P |
| Lithium | | 29.3110 | | 130.4880 | | 129.1270 | | 100.0000 | 100.0000 | MG/KG | 101 | | 100 | | 1 | | 75 - 125 | 20 | P |
| Magnesium | | 5581.4130 | | 5965.0880 | | 5945.2580 | | 200.0000 | 200.0000 | MG/KG | 192 | | 182 | | 0 | | | 20 | P |
| Manganese | | 325.6890 | | 385.1160 | | 386.0120 | | 50.0000 | 50.0000 | MG/KG | 119 | | 121 | | 0 | | | 20 | P |
| Mercury | | 0.0098 | U | 0.1802 | | 0.1733 | | 0.1611 | 0.1629 | MG/KG | 112 | | 106 | | 4 | | 65 - 135 | 20 | CV |
| Molybdenum | | 0.4270 | B | 186.8710 | | 187.4210 | | 200.0000 | 200.0000 | MG/KG | 93 | | 93 | | 0 | | 75 - 125 | 20 | P |
| Nickel | | 13.9530 | | 61.0730 | | 62.2890 | | 50.0000 | 50.0000 | MG/KG | 94 | | 97 | | 2 | | 75 - 125 | 20 | P |
| Phosphorus | | 433.5550 | | 534.5780 | | 528.3880 | | 100.0000 | 100.0000 | MG/KG | 101 | | 95 | | 1 | | | 20 | P |
| Potassium | | 2785.2100 | | 4007.0100 | | 3967.0720 | | 1000.0000 | 1000.0000 | MG/KG | 122 | | 118 | | 1 | | 75 - 125 | 20 | P |
| Selenium | 78 | 0.1879 | B | 2.3160 | | 2.2854 | | 2.0000 | 2.0000 | MG/KG | 106 | | 105 | | 1 | | 75 - 125 | 20 | MS |
| Silver | 107 | 0.0380 | B | 10.2640 | | 10.5440 | | 10.0000 | 10.0000 | MG/KG | 102 | | 105 | | 3 | | 75 - 125 | 20 | MS |
| Sodium | | 95.4820 | B | 1084.7710 | | 1059.1130 | | 1000.0000 | 1000.0000 | MG/KG | 99 | | 96 | | 2 | | 75 - 125 | 20 | P |
| Strontium | 88 | 19.7220 | | 29.7200 | | 30.5000 | | 8.0000 | 8.0000 | MG/KG | 125 | | 135 | N | 3 | | 75 - 125 | 20 | MS |
| Thallium | 203 | 0.2904 | | 0.7020 | | 0.7394 | | 0.4000 | 0.4000 | MG/KG | 103 | | 112 | | 5 | | 75 - 125 | 20 | MS |

Note: Results shown are reported on an as-received basis.

| | |
|---|---|
| <p>METHODS:</p> <p>P = ICP Atomic Emission Spectrometer CV = Cold Vapor</p> <p>MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence</p> | <p>CONCENTRATION QUALIFIERS:</p> <p>U = Below MDL, B = Below LOQ</p> <p>FLAGS:</p> <p>N = Matrix Spike OOS, * = Duplicate OOS</p> |
|---|---|

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QUALITY ASSURANCE SUMMARY
 FORM 5A (MS/MSD)
 MATRIX SPIKE/MATRIX SPIKE DUPLICATE
 SDG No.: PH128
 Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 7276996BKG Matrix Spike Lab Sample ID: 7276997MS Matrix Spike Duplicate Lab Sample ID: 7276998MSD
 Batch Id(s): P32537H, P32538D

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | RPD | Q | Control Limit | | M | |
|-----------|------|------------|---|-----------|---|------------|---|----------------|-----------------|-------|-----|---|-----|---|-----|---|---------------|-----|----|---|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | | | %R | RPD | | |
| Tin | | 3.0710 | B | 348.0210 | | 350.3130 | | 400.0000 | 400.0000 | MG/KG | 86 | | 87 | | 1 | | 75 - 125 | 20 | P | |
| Titanium | | 1346.7530 | | 1540.7510 | | 1515.4020 | | 100.0000 | 100.0000 | MG/KG | 194 | | 169 | | 2 | | | | 20 | P |
| Vanadium | | 45.2300 | | 95.3110 | | 97.3980 | | 50.0000 | 50.0000 | MG/KG | 100 | | 104 | | 2 | | 75 - 125 | 20 | P | |
| Zinc | | 58.6780 | | 107.0170 | | 110.0400 | | 50.0000 | 50.0000 | MG/KG | 97 | | 103 | | 3 | | 75 - 125 | 20 | P | |
| Zirconium | | 4.4850 | B | 98.8330 | | 98.0230 | | 100.0000 | 100.0000 | MG/KG | 94 | | 94 | | 1 | | 75 - 125 | 20 | P | |

Note: Results shown are reported on an as-received basis.

| | |
|---|--|
| METHODS: P = ICP Atomic Emission Spectrometer CV = Cold Vapor MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence | CONCENTRATION QUALIFIERS: U= Below MDL, B= Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS |
|---|--|

Background Lab Sample ID: 7276996BKG

Duplicate Lab Sample ID: 7276999DUP

Batch ID(s): P32537H, P32538D

Concentration Units: MG/KG

| Analyte | Mass | Control Limit | Samples (S) | C | Duplicate (D) | C | RPD | Q | M |
|------------|------|---------------|-------------|---|---------------|---|-----|---|----|
| Aluminum | | | 19215.8880 | | 18670.8370 | | 3 | | P |
| Antimony | | | 0.7400 | U | 0.7400 | U | | | P |
| Arsenic | | 4.0 | 6.2380 | | 5.7190 | | 9 | | P |
| Barium | | | 95.0900 | | 88.5940 | | 7 | | P |
| Beryllium | | | 0.6640 | B | 0.6630 | B | 0 | | P |
| Boron | | | 2.2400 | B | 2.1030 | B | 6 | | P |
| Cadmium | | | 0.0930 | B | 0.0760 | U | 200 | | P |
| Calcium | | | 3115.0640 | | 3033.4690 | | 3 | | P |
| Chromium | | | 22.3880 | | 22.7110 | | 1 | | P |
| Cobalt | | | 6.0890 | | 6.4160 | | 5 | | P |
| Copper | | | 11.0470 | | 10.4610 | | 5 | | P |
| Iron | | | 25957.8370 | | 24991.5960 | | 4 | | P |
| Lead | | 3.0 | 7.3800 | | 6.6870 | | 10 | | P |
| Lithium | | | 29.3110 | | 27.5940 | | 6 | | P |
| Magnesium | | | 5581.4130 | | 5544.6400 | | 1 | | P |
| Manganese | | | 325.6890 | | 354.2690 | | 8 | | P |
| Mercury | | | 0.0098 | U | 0.0096 | U | | | CV |
| Molybdenum | | | 0.4270 | B | 0.3040 | B | 34 | | P |
| Nickel | | | 13.9530 | | 13.0000 | | 7 | | P |
| Phosphorus | | | 433.5550 | | 422.2490 | | 3 | | P |
| Potassium | | | 2785.2100 | | 2652.0870 | | 5 | | P |
| Selenium | 78 | | 0.1879 | B | 0.1147 | B | 48 | | MS |
| Silver | 107 | | 0.0380 | B | 0.0413 | B | 8 | | MS |
| Sodium | | | 95.4820 | B | 92.4430 | B | 3 | | P |
| Strontium | 88 | | 19.7220 | | 21.3000 | | 8 | | MS |
| Thallium | 203 | 0.2 | 0.2904 | | 0.2924 | | 1 | | MS |
| Tin | | | 3.0710 | B | 2.8900 | B | 6 | | P |
| Titanium | | | 1346.7530 | | 1295.0220 | | 4 | | P |
| Vanadium | | | 45.2300 | | 45.0890 | | 0 | | P |
| Zinc | | | 58.6780 | | 56.7900 | | 3 | | P |
| Zirconium | | | 4.4850 | B | 4.5260 | B | 1 | | P |

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

ok by difference

Note: Results shown are reported on an as-received basis.

| | |
|---|---|
| <p>METHODS:</p> <p>P = ICP Atomic Emission Spectrometer</p> <p>MS = ICP Mass Spectrometry</p> <p>CV = Cold Vapor</p> <p>AF = Cold Vapor Atomic Fluorescence</p> | <p>CONCENTRATION QUALIFIERS:</p> <p>U= Below MDL</p> <p>B= Below LOQ</p> <p>FLAGS:</p> <p>* = Duplicate Out of Spec</p> |
|---|---|

QUALITY ASSURANCE SUMMARY

FORM 9
 SERIAL DILUTIONS
 SDG No.: PH128
 Matrix: SOIL

Level LOW
 (low/med):

Background Lab Sample ID: 7276996BKG Serial Dilution Lab Sample ID: 7276996L
 Batch ID(s): P32537H
 Concentration Units: UG/L

| Analyte | Mass | Initial Sample Result (I) | C | Serial Dilution Result (S) | C | % Diff. | Q | M |
|------------|------|---------------------------|---|----------------------------|---|---------|---|----|
| Aluminum | | 192158.8800 | | 186252.1500 | | 3 | | P |
| Antimony | | 7.4000 | U | 37.0000 | U | | | P |
| Arsenic | | 62.3800 | | 56.3500 | B | 10 | | P |
| Barium | | 950.9000 | | 938.0000 | | 1 | | P |
| Beryllium | | 6.6400 | B | 5.2500 | B | 21 | | P |
| Boron | | 22.4000 | B | 55.0500 | B | 146 | | P |
| Cadmium | | 0.9300 | B | 3.8000 | U | 100 | | P |
| Calcium | | 31150.6400 | | 30220.6500 | | 3 | | P |
| Chromium | | 223.8800 | | 220.6500 | | 1 | | P |
| Cobalt | | 60.8900 | | 62.7000 | | 3 | | P |
| Copper | | 110.4700 | | 119.6500 | | 8 | | P |
| Iron | | 259578.3700 | | 231748.7500 | | 11 | E | P |
| Lead | | 73.8000 | | 67.6500 | B | 8 | | P |
| Lithium | | 293.1100 | | 283.0000 | | 3 | | P |
| Magnesium | | 55814.1300 | | 53321.9500 | | 4 | | P |
| Manganese | | 3256.8900 | | 3249.9000 | | 0 | | P |
| Molybdenum | | 4.2700 | B | 12.4000 | B | 190 | | P |
| Nickel | | 139.5300 | | 140.3500 | | 1 | | P |
| Phosphorus | | 4335.5500 | | 4113.4500 | | 5 | | P |
| Potassium | | 27852.1000 | | 26512.0000 | | 5 | | P |
| Selenium | 78 | 0.9395 | B | 2.5000 | U | 100 | | MS |
| Silver | 107 | 0.1902 | B | 0.6500 | U | 100 | | MS |
| Sodium | | 954.8200 | B | 880.8000 | B | 8 | | P |
| Strontium | 88 | 98.6100 | | 102.6500 | | 4 | | MS |
| Thallium | 203 | 1.4520 | | 1.3725 | B | 5 | | MS |
| Tin | | 30.7100 | B | 31.3000 | B | 2 | | P |
| Titanium | | 13467.5300 | | 13460.0500 | | 0 | | P |
| Vanadium | | 452.3000 | | 443.4000 | | 2 | | P |
| Zinc | | 586.7800 | | 554.7500 | | 5 | | P |
| Zirconium | | 44.8500 | B | 55.3000 | B | 23 | | P |

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

J/S/A

METHODS:

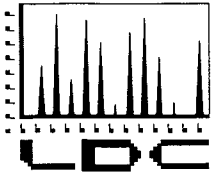
P = ICP Atomic Emission Spectrometer
 MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:

U= Below MDL
 B= Below LOQ

FLAGS:

E = Matrix Effects exist as proven by



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

CDM
555 17th Street, Suite 1100
Denver, CO 80202
ATTN: Mrs. Cherie Zakowski

January 16, 2014

SUBJECT: Santa Susana Field Laboratory, SA 5A Data Validation

Dear Mrs. Zakowski,

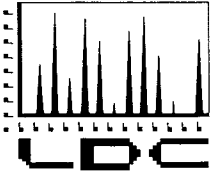
Enclosed is the final validation report for the fractions listed below. This SDG was received on December 31, 2013. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 31093:

| <u>SDG #</u> | <u>Fraction</u> |
|---------------------|--|
| PH129 | Volatiles, 1,4-Dioxane, Semivolatiles, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Total Petroleum Hydrocarbons as Gasoline, Total Petroleum Hydrocarbons as Extractables, Dioxins/Dibenzofurans, Alcohols, Wet Chemistry |

The data validation was performed under Level III Guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan for Santa Susana Field Laboratory, RCRA Facility Investigation, Surficial Media Operable Unit, March 2009, Revision 4
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, January 2010
- Polychlorinated Dioxins/Dibenzofurans Data Review, September 2005
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007



Please feel free to contact us if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Shauna McKellar', written in a cursive style.

Shauna McKellar
Project Manager/Chemist

**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5A

SDG: PH129

Prepared for

CDM Smith
555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

Laboratory Data Consultants, Inc
2701 Loker Ave West, Suite 220
Carlsbad, California 92010

January 16, 2014

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on November 14, 2013. Data validation was performed in accordance with the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Volatiles (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260B
1,4-Dioxane by EPA SW 846 Method 8260B utilizing Selective Ion Monitoring (SIM)
Semivolatiles (SVOCs) by EPA SW 846 Method 8270D SIM
Pesticides by EPA SW 846 Method 8081B
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A, 7470A and 7471B
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M
TPH as Extractables by EPA SW 846 Method 8015M
Alcohols by EPA SW 846 Method 8015C
Dioxins and Dibenzofurans by EPA Method 1613B

Wet Chemistry:

Hexavalent Chromium by EPA Method 7199
Formaldehyde by EPA Method 8315A

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks, field blanks and field duplicate samples. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the ICB/CCBs and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met with the exception of one sample for formaldehyde. The associated sample results was qualified as non-detected estimated (UJ). The details regarding the qualification of data are provided in Enclosure I.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met QC criteria.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of several blanks for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the exception of one sample for formaldehyde. No data were qualified due to high %Rs since the associated results were non-detected.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one MS/MSD pair for VOCs, SVOCs, metals, TPH as extractables and hexavalent chromium. The hexavalent chromium result in sample SL-521-SA5A-SB-0.0-0.5 was qualified as rejected (R) due to MS/MSD %Rs grossly outside QC limits (i.e., $\leq 30\%$). The remainder of the associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the exception of one DUP for hexavalent chromium. The associated sample results were qualified as detected estimated (J). The details regarding the qualification of data are provided in Enclosure I.

IX. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of three LCS/LCSD pairs for SVOCs, PCBs and TPH as extractables. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--|-----------------|--------|
| All samples in SDG PH129 | All compounds reported as detected below the RL. | J (all detects) | A |

XIII. Field Duplicate Samples

One field duplicate pair was collected and analyzed for VOCs, 1,4-dioxane, SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables, dioxins, formaldehyde and hexavalent chromium. All RPDs were within QC limits with the exception of several VOCs, SVOCs, TPH as extractables, dioxins and hexavalent chromium. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The field duplicate result comparisons are provided in Enclosure I.

XIV. Field Blank Samples

One trip blank was collected and analyzed for VOCs, 1,4-dioxane and TPH as gasoline. No contaminants were found in the trip blank.

One equipment blank was collected and analyzed for VOCs, 1,4-dioxane, SVOCs, pesticides, PCBs, metals, TPH as gasoline, TPH as extractables, alcohols, dioxins, formaldehyde and hexavalent chromium. The equipment blank had detections for SVOCs, dioxins, and pesticides. The sample results were not detected or were significantly greater than the concentrations found in the equipment blank, therefore no data were qualified.

One field blank (from SDG PH032) was collected and analyzed for VOCs, 1,4-dioxane, SVOCs, pesticides, PCBs, metals, TPH as extractables, alcohols, dioxins, hexavalent chromium and formaldehyde. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

One hexavalent chromium result was rejected due to MS/MSD %Rs grossly outside of QC limits. This result is not useable for all purposes.

The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. The remainder of the data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|--------------------------|---------------|-------------|-------------|-------------------|--------------|
| 14-Nov-2013 | TB-111413 | 7279105 | TB | 5030B | 8015M | III |
| 14-Nov-2013 | TB-111413 | 7279105 | TB | 5030B | 8260B | III |
| 14-Nov-2013 | TB-111413 | 7279105 | TB | 5030B | 8260B SIM | III |
| 14-Nov-2013 | SL-508-SA5A-SB-33.0-34.0 | 7279104 | N | 3050B | 6010C | III |
| 14-Nov-2013 | SL-508-SA5A-SB-33.0-34.0 | 7279104 | N | 3050B | 6020A | III |
| 14-Nov-2013 | SL-508-SA5A-SB-33.0-34.0 | 7279104 | N | 3546 | 8015M | III |
| 14-Nov-2013 | SL-508-SA5A-SB-33.0-34.0 | 7279104 | N | 3546 | 8082A | III |
| 14-Nov-2013 | SL-508-SA5A-SB-33.0-34.0 | 7279104 | N | 3546 | 8270D SIM | III |
| 14-Nov-2013 | SL-508-SA5A-SB-33.0-34.0 | 7279104 | N | 5035A | 8015M | III |
| 14-Nov-2013 | SL-508-SA5A-SB-33.0-34.0 | 7279104 | N | METHOD | 1613B | III |
| 14-Nov-2013 | SL-508-SA5A-SB-33.0-34.0 | 7279104 | N | METHOD | 7471B | III |
| 14-Nov-2013 | SL-508-SA5A-SB-0.0-0.5 | 7279099 | N | 3050B | 6010C | III |
| 14-Nov-2013 | SL-508-SA5A-SB-0.0-0.5 | 7279099 | N | 3050B | 6020A | III |
| 14-Nov-2013 | SL-508-SA5A-SB-0.0-0.5 | 7279099 | N | 3546 | 8015M | III |
| 14-Nov-2013 | SL-508-SA5A-SB-0.0-0.5 | 7279099 | N | 3546 | 8082A | III |
| 14-Nov-2013 | SL-508-SA5A-SB-0.0-0.5 | 7279099 | N | 3546 | 8270D SIM | III |
| 14-Nov-2013 | SL-508-SA5A-SB-0.0-0.5 | 7279099 | N | METHOD | 1613B | III |
| 14-Nov-2013 | SL-508-SA5A-SB-0.0-0.5 | 7279099 | N | METHOD | 7471B | III |
| 14-Nov-2013 | SL-508-SA5A-SB-4.0-5.0 | 7279100 | N | 3050B | 6010C | III |
| 14-Nov-2013 | SL-508-SA5A-SB-4.0-5.0 | 7279100 | N | 3050B | 6020A | III |
| 14-Nov-2013 | SL-508-SA5A-SB-4.0-5.0 | 7279100 | N | 3546 | 8015M | III |
| 14-Nov-2013 | SL-508-SA5A-SB-4.0-5.0 | 7279100 | N | 3546 | 8082A | III |
| 14-Nov-2013 | SL-508-SA5A-SB-4.0-5.0 | 7279100 | N | 3546 | 8270D SIM | III |
| 14-Nov-2013 | SL-508-SA5A-SB-4.0-5.0 | 7279100 | N | 5035A | 8015M | III |
| 14-Nov-2013 | SL-508-SA5A-SB-4.0-5.0 | 7279100 | N | METHOD | 1613B | III |
| 14-Nov-2013 | SL-508-SA5A-SB-4.0-5.0 | 7279100 | N | METHOD | 7471B | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|--------------------------|---------------|-------------|-------------|-------------------|--------------|
| 14-Nov-2013 | SL-508-SA5A-SB-9.0-10.0 | 7279101 | N | 3050B | 6010C | III |
| 14-Nov-2013 | SL-508-SA5A-SB-9.0-10.0 | 7279101 | N | 3050B | 6020A | III |
| 14-Nov-2013 | SL-508-SA5A-SB-9.0-10.0 | 7279101 | N | 3546 | 8015M | III |
| 14-Nov-2013 | SL-508-SA5A-SB-9.0-10.0 | 7279101 | N | 3546 | 8082A | III |
| 14-Nov-2013 | SL-508-SA5A-SB-9.0-10.0 | 7279101 | N | 3546 | 8270D SIM | III |
| 14-Nov-2013 | SL-508-SA5A-SB-9.0-10.0 | 7279101 | N | 5035A | 8015M | III |
| 14-Nov-2013 | SL-508-SA5A-SB-9.0-10.0 | 7279101 | N | METHOD | 1613B | III |
| 14-Nov-2013 | SL-508-SA5A-SB-9.0-10.0 | 7279101 | N | METHOD | 7471B | III |
| 14-Nov-2013 | SL-508-SA5A-SB-17.0-18.0 | 7279102 | N | 3050B | 6010C | III |
| 14-Nov-2013 | SL-508-SA5A-SB-17.0-18.0 | 7279102 | N | 3050B | 6020A | III |
| 14-Nov-2013 | SL-508-SA5A-SB-17.0-18.0 | 7279102 | N | 3546 | 8015M | III |
| 14-Nov-2013 | SL-508-SA5A-SB-17.0-18.0 | 7279102 | N | 3546 | 8082A | III |
| 14-Nov-2013 | SL-508-SA5A-SB-17.0-18.0 | 7279102 | N | 3546 | 8270D SIM | III |
| 14-Nov-2013 | SL-508-SA5A-SB-17.0-18.0 | 7279102 | N | 5035A | 8015M | III |
| 14-Nov-2013 | SL-508-SA5A-SB-17.0-18.0 | 7279102 | N | METHOD | 1613B | III |
| 14-Nov-2013 | SL-508-SA5A-SB-17.0-18.0 | 7279102 | N | METHOD | 7471B | III |
| 14-Nov-2013 | SL-508-SA5A-SB-21.0-22.0 | 7279103 | N | 3050B | 6010C | III |
| 14-Nov-2013 | SL-508-SA5A-SB-21.0-22.0 | 7279103 | N | 3050B | 6020A | III |
| 14-Nov-2013 | SL-508-SA5A-SB-21.0-22.0 | 7279103 | N | 3546 | 8015M | III |
| 14-Nov-2013 | SL-508-SA5A-SB-21.0-22.0 | 7279103 | N | 3546 | 8082A | III |
| 14-Nov-2013 | SL-508-SA5A-SB-21.0-22.0 | 7279103 | N | 3546 | 8270D SIM | III |
| 14-Nov-2013 | SL-508-SA5A-SB-21.0-22.0 | 7279103 | N | 5035A | 8015M | III |
| 14-Nov-2013 | SL-508-SA5A-SB-21.0-22.0 | 7279103 | N | METHOD | 1613B | III |
| 14-Nov-2013 | SL-508-SA5A-SB-21.0-22.0 | 7279103 | N | METHOD | 7471B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-0.0-0.5 | 7279106 | N | 3050B | 6010C | III |
| 14-Nov-2013 | SL-521-SA5A-SB-0.0-0.5 | 7279106 | N | 3050B | 6020A | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|--------------------------|---------------|-------------|-------------|-------------------|--------------|
| 14-Nov-2013 | SL-521-SA5A-SB-0.0-0.5 | 7279106 | N | 3060A | 7199 | III |
| 14-Nov-2013 | SL-521-SA5A-SB-0.0-0.5 | 7279106 | N | 3546 | 8015M | III |
| 14-Nov-2013 | SL-521-SA5A-SB-0.0-0.5 | 7279106 | N | 3546 | 8082A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-0.0-0.5 | 7279106 | N | 3546 | 8270D SIM | III |
| 14-Nov-2013 | SL-521-SA5A-SB-0.0-0.5 | 7279106 | N | METHOD | 1613B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-0.0-0.5 | 7279106 | N | METHOD | 7471B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-0.0-0.5 | 7279106 | N | METHOD | 8315A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-9.0-10.0 | 7279107 | N | 3050B | 6010C | III |
| 14-Nov-2013 | SL-521-SA5A-SB-9.0-10.0 | 7279107 | N | 3050B | 6020A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-9.0-10.0 | 7279107 | N | 3060A | 7199 | III |
| 14-Nov-2013 | SL-521-SA5A-SB-9.0-10.0 | 7279107 | N | 3546 | 8015M | III |
| 14-Nov-2013 | SL-521-SA5A-SB-9.0-10.0 | 7279107 | N | 3546 | 8082A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-9.0-10.0 | 7279107 | N | 3546 | 8270D SIM | III |
| 14-Nov-2013 | SL-521-SA5A-SB-9.0-10.0 | 7279107 | N | 5035A | 8015M | III |
| 14-Nov-2013 | SL-521-SA5A-SB-9.0-10.0 | 7279107 | N | METHOD | 1613B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-9.0-10.0 | 7279107 | N | METHOD | 7471B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-9.0-10.0 | 7279107 | N | METHOD | 8315A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0 | 7279108 | N | 3050B | 6010C | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0 | 7279108 | N | 3050B | 6020A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0 | 7279108 | N | 3060A | 7199 | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0 | 7279108 | N | 3546 | 8015M | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0 | 7279108 | N | 3546 | 8082A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0 | 7279108 | N | 3546 | 8270D SIM | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0 | 7279108 | N | 5035A | 8015M | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0 | 7279108 | N | 5035A | 8260B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0 | 7279108 | N | 5035A | 8260B SIM | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0 | 7279108 | N | METHOD | 1613B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0 | 7279108 | N | METHOD | 7471B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0 | 7279108 | N | METHOD | 8315A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279109 | MS | 3050B | 6010C | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279109 | MS | 3050B | 6020A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279109 | MS | 3546 | 8015M | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279109 | MS | 3546 | 8082A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279109 | MS | 3546 | 8270D SIM | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279109 | MS | 5035A | 8015M | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279109 | MS | 5035A | 8260B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279109 | MS | 5035A | 8260B SIM | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279109 | MS | METHOD | 1613B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279109 | MS | METHOD | 7471B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279109 | MS | METHOD | 8315A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279111 | MS | 3060A | 7199 | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0M | 7279112 | MS | 3060A | 7199 | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0D | 7279114 | DUP | 3050B | 6010C | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0D | 7279114 | DUP | 3050B | 6020A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0D | 7279114 | DUP | 3060A | 7199 | III |
| 14-Nov-2013 | SL-521-SA5A-SB-11.0-12.0D | 7279114 | DUP | METHOD | 7471B | III |
| 14-Nov-2013 | SL-821-SA5A-SB-11.0-12.0 | 7279115 | FD | 3050B | 6010C | III |
| 14-Nov-2013 | SL-821-SA5A-SB-11.0-12.0 | 7279115 | FD | 3050B | 6020A | III |
| 14-Nov-2013 | SL-821-SA5A-SB-11.0-12.0 | 7279115 | FD | 3060A | 7199 | III |
| 14-Nov-2013 | SL-821-SA5A-SB-11.0-12.0 | 7279115 | FD | 3546 | 8015M | III |
| 14-Nov-2013 | SL-821-SA5A-SB-11.0-12.0 | 7279115 | FD | 3546 | 8082A | III |
| 14-Nov-2013 | SL-821-SA5A-SB-11.0-12.0 | 7279115 | FD | 3546 | 8270D SIM | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|--------------------------|---------------|-------------|-------------|-------------------|--------------|
| 14-Nov-2013 | SL-821-SA5A-SB-11.0-12.0 | 7279115 | FD | 5035A | 8015M | III |
| 14-Nov-2013 | SL-821-SA5A-SB-11.0-12.0 | 7279115 | FD | 5035A | 8260B | III |
| 14-Nov-2013 | SL-821-SA5A-SB-11.0-12.0 | 7279115 | FD | 5035A | 8260B SIM | III |
| 14-Nov-2013 | SL-821-SA5A-SB-11.0-12.0 | 7279115 | FD | METHOD | 1613B | III |
| 14-Nov-2013 | SL-821-SA5A-SB-11.0-12.0 | 7279115 | FD | METHOD | 7471B | III |
| 14-Nov-2013 | SL-821-SA5A-SB-11.0-12.0 | 7279115 | FD | METHOD | 8315A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-14.0-15.0 | 7279116 | N | 3050B | 6010C | III |
| 14-Nov-2013 | SL-521-SA5A-SB-14.0-15.0 | 7279116 | N | 3050B | 6020A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-14.0-15.0 | 7279116 | N | 3060A | 7199 | III |
| 14-Nov-2013 | SL-521-SA5A-SB-14.0-15.0 | 7279116 | N | 3546 | 8015M | III |
| 14-Nov-2013 | SL-521-SA5A-SB-14.0-15.0 | 7279116 | N | 3546 | 8082A | III |
| 14-Nov-2013 | SL-521-SA5A-SB-14.0-15.0 | 7279116 | N | 3546 | 8270D SIM | III |
| 14-Nov-2013 | SL-521-SA5A-SB-14.0-15.0 | 7279116 | N | 5035A | 8015M | III |
| 14-Nov-2013 | SL-521-SA5A-SB-14.0-15.0 | 7279116 | N | 5035A | 8260B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-14.0-15.0 | 7279116 | N | 5035A | 8260B SIM | III |
| 14-Nov-2013 | SL-521-SA5A-SB-14.0-15.0 | 7279116 | N | METHOD | 1613B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-14.0-15.0 | 7279116 | N | METHOD | 7471B | III |
| 14-Nov-2013 | SL-521-SA5A-SB-14.0-15.0 | 7279116 | N | METHOD | 8315A | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | 3005A | 6010C | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | 3510C | 8015M | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | 3510C | 8081B | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | 3510C | 8082A | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | 3510C | 8270D SIM | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | 5030B | 8015M | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | 5030B | 8260B | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | 5030B | 8260B SIM | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|-----------------|---------------|-------------|-------------|-------------------|--------------|
| 14-Nov-2013 | EB-111413 | 7279098 | EB | Gen Prep | 7199 | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | Gen Prep | 8015C | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | M3010A | 6020A | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | METHOD | 1613B | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | METHOD | 7470A | III |
| 14-Nov-2013 | EB-111413 | 7279098 | EB | METHOD | 8315A | III |

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-508-SA5A-SB-0.0-0.5 Collected: 11/14/2013 9:35:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 13400 | | 7.54 | MDL | 41.8 | PQL | mg/Kg | J | E |
| ANTIMONY | 4.18 | U | 0.774 | MDL | 4.18 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.502 | J | 0.0701 | MDL | 1.05 | PQL | mg/Kg | J | Z |
| BORON | 2.33 | J | 0.879 | MDL | 10.5 | PQL | mg/Kg | J | Z |
| CALCIUM | 2640 | | 3.49 | MDL | 20.9 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.339 | J | 0.178 | MDL | 2.09 | PQL | mg/Kg | U | F |
| POTASSIUM | 3080 | | 8.73 | MDL | 105 | PQL | mg/Kg | J | Q |
| SODIUM | 89.6 | J | 17.5 | MDL | 105 | PQL | mg/Kg | J | Z |
| TIN | 2.90 | J | 0.230 | MDL | 10.5 | PQL | mg/Kg | U | B |
| Zirconium | 2.83 | J | 0.879 | MDL | 5.23 | PQL | mg/Kg | J | Z |
| PHOSPHORUS | 349 | | 3.02 | MDL | 10.5 | PQL | mg/Kg | J | Q |

Sample ID: SL-508-SA5A-SB-17.0-18.0 Collected: 11/14/2013 10:02:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 16900 | | 7.86 | MDL | 43.6 | PQL | mg/Kg | J | E |
| ANTIMONY | 4.36 | U | 0.807 | MDL | 4.36 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.619 | J | 0.0731 | MDL | 1.09 | PQL | mg/Kg | J | Z |
| BORON | 3.21 | J | 0.916 | MDL | 10.9 | PQL | mg/Kg | J | Z |
| CALCIUM | 2360 | | 3.64 | MDL | 21.8 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.196 | J | 0.185 | MDL | 2.18 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 325 | | 3.15 | MDL | 10.9 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3070 | | 9.09 | MDL | 109 | PQL | mg/Kg | J | Q |
| TIN | 3.04 | J | 0.240 | MDL | 10.9 | PQL | mg/Kg | U | B |
| Zirconium | 3.08 | J | 0.916 | MDL | 5.45 | PQL | mg/Kg | J | Z |

Sample ID: SL-508-SA5A-SB-21.0-22.0 Collected: 11/14/2013 10:09:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 16600 | | 7.89 | MDL | 43.8 | PQL | mg/Kg | J | E |
| ANTIMONY | 4.38 | U | 0.810 | MDL | 4.38 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.632 | J | 0.0733 | MDL | 1.09 | PQL | mg/Kg | J | Z |
| BORON | 3.35 | J | 0.919 | MDL | 10.9 | PQL | mg/Kg | J | Z |
| CALCIUM | 3590 | | 3.66 | MDL | 21.9 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.311 | J | 0.186 | MDL | 2.19 | PQL | mg/Kg | U | F |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-508-SA5A-SB-21.0-22.0 Collected: 11/14/2013 10:09:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| PHOSPHORUS | 363 | | 3.16 | MDL | 10.9 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3250 | | 9.13 | MDL | 109 | PQL | mg/Kg | J | Q |
| TIN | 3.06 | J | 0.241 | MDL | 10.9 | PQL | mg/Kg | U | B |
| Zirconium | 3.71 | J | 0.919 | MDL | 5.47 | PQL | mg/Kg | J | Z |

Sample ID: SL-508-SA5A-SB-33.0-34.0 Collected: 11/14/2013 9:18:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 10100 | | 8.17 | MDL | 45.4 | PQL | mg/Kg | J | E |
| ANTIMONY | 4.54 | U | 0.839 | MDL | 4.54 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.401 | J | 0.0760 | MDL | 1.13 | PQL | mg/Kg | J | Z |
| BORON | 2.32 | J | 0.952 | MDL | 11.3 | PQL | mg/Kg | J | Z |
| CALCIUM | 6090 | | 3.79 | MDL | 22.7 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.366 | J | 0.193 | MDL | 2.27 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 356 | | 3.28 | MDL | 11.3 | PQL | mg/Kg | J | Q |
| POTASSIUM | 2780 | | 9.46 | MDL | 113 | PQL | mg/Kg | J | Q |
| TIN | 2.86 | J | 0.249 | MDL | 11.3 | PQL | mg/Kg | U | B |
| Zirconium | 2.68 | J | 0.952 | MDL | 5.67 | PQL | mg/Kg | J | Z |

Sample ID: SL-508-SA5A-SB-4.0-5.0 Collected: 11/14/2013 9:47:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 12900 | | 7.79 | MDL | 43.2 | PQL | mg/Kg | J | E |
| ANTIMONY | 4.32 | U | 0.799 | MDL | 4.32 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.454 | J | 0.0724 | MDL | 1.08 | PQL | mg/Kg | J | Z |
| BORON | 2.62 | J | 0.907 | MDL | 10.8 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.113 | J | 0.0821 | MDL | 1.08 | PQL | mg/Kg | J | Z |
| CALCIUM | 3610 | | 3.61 | MDL | 21.6 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 1.26 | J | 0.184 | MDL | 2.16 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 416 | | 3.12 | MDL | 10.8 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3040 | | 9.01 | MDL | 108 | PQL | mg/Kg | J | Q |
| TIN | 2.88 | J | 0.238 | MDL | 10.8 | PQL | mg/Kg | U | B |
| Zirconium | 4.31 | J | 0.907 | MDL | 5.40 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-508-SA5A-SB-9.0-10.0 Collected: 11/14/2013 9:55:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 13300 | | 7.91 | MDL | 43.9 | PQL | mg/Kg | J | E |
| ANTIMONY | 4.39 | U | 0.812 | MDL | 4.39 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.513 | J | 0.0735 | MDL | 1.10 | PQL | mg/Kg | J | Z |
| BORON | 2.38 | J | 0.922 | MDL | 11.0 | PQL | mg/Kg | J | Z |
| CALCIUM | 7570 | | 3.67 | MDL | 22.0 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.510 | J | 0.187 | MDL | 2.20 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 366 | | 3.17 | MDL | 11.0 | PQL | mg/Kg | J | Q |
| POTASSIUM | 2820 | | 9.15 | MDL | 110 | PQL | mg/Kg | J | Q |
| TIN | 3.01 | J | 0.241 | MDL | 11.0 | PQL | mg/Kg | U | B |
| Zirconium | 2.81 | J | 0.922 | MDL | 5.49 | PQL | mg/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-0.0-0.5 Collected: 11/14/2013 1:18:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 16900 | | 7.63 | MDL | 42.3 | PQL | mg/Kg | J | E |
| ANTIMONY | 4.23 | U | 0.783 | MDL | 4.23 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.847 | J | 0.0709 | MDL | 1.06 | PQL | mg/Kg | J | Z |
| BORON | 2.92 | J | 0.889 | MDL | 10.6 | PQL | mg/Kg | J | Z |
| CALCIUM | 4190 | | 3.54 | MDL | 21.2 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.264 | J | 0.180 | MDL | 2.12 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 423 | | 3.06 | MDL | 10.6 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3530 | | 8.83 | MDL | 106 | PQL | mg/Kg | J | Q |
| TIN | 3.23 | J | 0.233 | MDL | 10.6 | PQL | mg/Kg | U | B |
| Zirconium | 3.39 | J | 0.889 | MDL | 5.29 | PQL | mg/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:20:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 15500 | | 7.86 | MDL | 43.6 | PQL | mg/Kg | J | E |
| ANTIMONY | 4.36 | U | 0.807 | MDL | 4.36 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 4.30 | J | 0.763 | MDL | 4.36 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.562 | J | 0.0731 | MDL | 1.09 | PQL | mg/Kg | J | Z |
| BORON | 3.94 | J | 0.916 | MDL | 10.9 | PQL | mg/Kg | J | Z |
| CALCIUM | 2250 | | 3.64 | MDL | 21.8 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.422 | J | 0.185 | MDL | 2.18 | PQL | mg/Kg | U | F |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-521-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:20:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| PHOSPHORUS | 340 | | 3.15 | MDL | 10.9 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3210 | | 9.09 | MDL | 109 | PQL | mg/Kg | J | Q |
| TIN | 2.74 | J | 0.240 | MDL | 10.9 | PQL | mg/Kg | U | B |
| Zirconium | 3.91 | J | 0.916 | MDL | 5.45 | PQL | mg/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-14.0-15.0 Collected: 11/14/2013 2:35:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 22800 | | 7.78 | MDL | 43.1 | PQL | mg/Kg | J | E |
| ANTIMONY | 4.31 | U | 0.798 | MDL | 4.31 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.807 | J | 0.0723 | MDL | 1.08 | PQL | mg/Kg | J | Z |
| BORON | 2.70 | J | 0.906 | MDL | 10.8 | PQL | mg/Kg | J | Z |
| CALCIUM | 3400 | | 3.60 | MDL | 21.6 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.232 | J | 0.183 | MDL | 2.16 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 233 | | 3.12 | MDL | 10.8 | PQL | mg/Kg | J | Q |
| POTASSIUM | 1400 | | 9.00 | MDL | 108 | PQL | mg/Kg | J | Q |
| TIN | 3.33 | J | 0.237 | MDL | 10.8 | PQL | mg/Kg | U | B |
| Zirconium | 4.06 | J | 0.906 | MDL | 5.39 | PQL | mg/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-9.0-10.0 Collected: 11/14/2013 1:50:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ALUMINUM | 14800 | | 7.73 | MDL | 42.9 | PQL | mg/Kg | J | E |
| ANTIMONY | 4.29 | U | 0.793 | MDL | 4.29 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 4.15 | J | 0.750 | MDL | 4.29 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.549 | J | 0.0718 | MDL | 1.07 | PQL | mg/Kg | J | Z |
| BORON | 2.39 | J | 0.900 | MDL | 10.7 | PQL | mg/Kg | J | Z |
| CALCIUM | 2810 | | 3.58 | MDL | 21.4 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.227 | J | 0.182 | MDL | 2.14 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 266 | | 3.10 | MDL | 10.7 | PQL | mg/Kg | J | Q |
| POTASSIUM | 2700 | | 8.94 | MDL | 107 | PQL | mg/Kg | J | Q |
| TIN | 2.78 | J | 0.236 | MDL | 10.7 | PQL | mg/Kg | U | B |
| Zirconium | 2.81 | J | 0.900 | MDL | 5.36 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

| Sample ID: SL-821-SA5A-SB-11.0-12.0 | Collected: 11/14/2013 2:25:00 | Analysis Type: REA | Dilution: 1 | | | | | | |
|-------------------------------------|-------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| ALUMINUM | 17100 | | 7.70 | MDL | 42.7 | PQL | mg/Kg | J | E |
| ANTIMONY | 4.27 | U | 0.791 | MDL | 4.27 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.636 | J | 0.0716 | MDL | 1.07 | PQL | mg/Kg | J | Z |
| BORON | 3.65 | J | 0.897 | MDL | 10.7 | PQL | mg/Kg | J | Z |
| CALCIUM | 2330 | | 3.57 | MDL | 21.4 | PQL | mg/Kg | J | E |
| MOLYBDENUM | 0.405 | J | 0.182 | MDL | 2.14 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 396 | | 3.09 | MDL | 10.7 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3600 | | 8.91 | MDL | 107 | PQL | mg/Kg | J | Q |
| TIN | 2.49 | J | 0.235 | MDL | 10.7 | PQL | mg/Kg | U | B |
| Zirconium | 4.14 | J | 0.897 | MDL | 5.34 | PQL | mg/Kg | J | Z |

Method Category: METALS
Method: 6020A **Matrix:** SO

| Sample ID: SL-508-SA5A-SB-0.0-0.5 | Collected: 11/14/2013 9:35:00 | Analysis Type: REA2 | Dilution: 2 | | | | | | |
|-----------------------------------|-------------------------------|---------------------|-------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0318 | J | 0.0272 | MDL | 0.209 | PQL | mg/Kg | J | Z |

| Sample ID: SL-508-SA5A-SB-0.0-0.5 | Collected: 11/14/2013 9:35:00 | Analysis Type: REA3 | Dilution: 2 | | | | | | |
|-----------------------------------|-------------------------------|---------------------|-------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.131 | J | 0.105 | MDL | 0.418 | PQL | mg/Kg | J | Z |

| Sample ID: SL-508-SA5A-SB-17.0-18.0 | Collected: 11/14/2013 10:02:00 | Analysis Type: REA2 | Dilution: 2 | | | | | | |
|-------------------------------------|--------------------------------|---------------------|-------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0362 | J | 0.0284 | MDL | 0.218 | PQL | mg/Kg | J | Z |

| Sample ID: SL-508-SA5A-SB-17.0-18.0 | Collected: 11/14/2013 10:02:00 | Analysis Type: REA3 | Dilution: 2 | | | | | | |
|-------------------------------------|--------------------------------|---------------------|-------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.161 | J | 0.109 | MDL | 0.436 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6020A **Matrix:** SO

| Sample ID: SL-508-SA5A-SB-21.0-22.0 | | Collected: 11/14/2013 10:09:00 | | | Analysis Type: REA2 | | | Dilution: 2 | |
|-------------------------------------|------------|--------------------------------|--------|---------|---------------------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0346 | J | 0.0285 | MDL | 0.219 | PQL | mg/Kg | J | Z |

| Sample ID: SL-508-SA5A-SB-21.0-22.0 | | Collected: 11/14/2013 10:09:00 | | | Analysis Type: REA3 | | | Dilution: 2 | |
|-------------------------------------|------------|--------------------------------|-------|---------|---------------------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.155 | J | 0.109 | MDL | 0.438 | PQL | mg/Kg | J | Z |

| Sample ID: SL-508-SA5A-SB-33.0-34.0 | | Collected: 11/14/2013 9:18:00 | | | Analysis Type: REA2 | | | Dilution: 2 | |
|-------------------------------------|------------|-------------------------------|--------|---------|---------------------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0313 | J | 0.0295 | MDL | 0.227 | PQL | mg/Kg | J | Z |
| THALLIUM | 0.218 | J | 0.0340 | MDL | 0.227 | PQL | mg/Kg | J | Z |

| Sample ID: SL-508-SA5A-SB-33.0-34.0 | | Collected: 11/14/2013 9:18:00 | | | Analysis Type: REA3 | | | Dilution: 2 | |
|-------------------------------------|------------|-------------------------------|-------|---------|---------------------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.212 | J | 0.113 | MDL | 0.454 | PQL | mg/Kg | J | Z |

| Sample ID: SL-508-SA5A-SB-4.0-5.0 | | Collected: 11/14/2013 9:47:00 | | | Analysis Type: REA2 | | | Dilution: 2 | |
|-----------------------------------|------------|-------------------------------|--------|---------|---------------------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0404 | J | 0.0281 | MDL | 0.216 | PQL | mg/Kg | J | Z |

| Sample ID: SL-508-SA5A-SB-4.0-5.0 | | Collected: 11/14/2013 9:47:00 | | | Analysis Type: REA3 | | | Dilution: 2 | |
|-----------------------------------|------------|-------------------------------|-------|---------|---------------------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.151 | J | 0.108 | MDL | 0.432 | PQL | mg/Kg | J | Z |

| Sample ID: SL-508-SA5A-SB-9.0-10.0 | | Collected: 11/14/2013 9:55:00 | | | Analysis Type: REA2 | | | Dilution: 2 | |
|------------------------------------|------------|-------------------------------|--------|---------|---------------------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0687 | J | 0.0285 | MDL | 0.220 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 6020A **Matrix: SO**

Sample ID: SL-508-SA5A-SB-9.0-10.0 Collected: 11/14/2013 9:55:00 Analysis Type: REA3 Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.314 | J | 0.110 | MDL | 0.439 | PQL | mg/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-0.0-0.5 Collected: 11/14/2013 1:18:00 Analysis Type: REA3 Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.154 | J | 0.106 | MDL | 0.423 | PQL | mg/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:20:00 Analysis Type: REA2 Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0438 | J | 0.0284 | MDL | 0.218 | PQL | mg/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:20:00 Analysis Type: REA3 Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.153 | J | 0.109 | MDL | 0.436 | PQL | mg/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-14.0-15.0 Collected: 11/14/2013 2:35:00 Analysis Type: REA2 Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0550 | J | 0.0280 | MDL | 0.216 | PQL | mg/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-14.0-15.0 Collected: 11/14/2013 2:35:00 Analysis Type: REA3 Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.208 | J | 0.108 | MDL | 0.431 | PQL | mg/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-9.0-10.0 Collected: 11/14/2013 1:50:00 Analysis Type: REA2 Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0281 | J | 0.0279 | MDL | 0.214 | PQL | mg/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-9.0-10.0 Collected: 11/14/2013 1:50:00 Analysis Type: REA3 Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.138 | J | 0.107 | MDL | 0.429 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

| Sample ID: SL-821-SA5A-SB-11.0-12.0 | Collected: 11/14/2013 2:25:00 | Analysis Type: REA2 | Dilution: 2 | | | | | | |
|-------------------------------------|-------------------------------|---------------------|-------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SILVER | 0.0344 | J | 0.0278 | MDL | 0.214 | PQL | mg/Kg | J | Z |

| Sample ID: SL-821-SA5A-SB-11.0-12.0 | Collected: 11/14/2013 2:25:00 | Analysis Type: REA3 | Dilution: 2 | | | | | | |
|-------------------------------------|-------------------------------|---------------------|-------------|---------|-------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| SELENIUM | 0.157 | J | 0.107 | MDL | 0.427 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|---------------|-------------------|
| Method Category: | METALS | |
| Method: | 7199 | Matrix: SO |

| Sample ID: SL-521-SA5A-SB-0.0-0.5 | Collected: 11/14/2013 1:18:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-----------------------------------|-------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| HEXAVALENT CHROMIUM | 0.43 | U | 0.15 | MDL | 0.43 | PQL | mg/Kg | R | Q |

| Sample ID: SL-521-SA5A-SB-11.0-12.0 | Collected: 11/14/2013 2:20:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-------------------------------------|-------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| HEXAVALENT CHROMIUM | 1.3 | | 0.16 | MDL | 0.44 | PQL | mg/Kg | J | Q, E, FD |

| Sample ID: SL-521-SA5A-SB-14.0-15.0 | Collected: 11/14/2013 2:35:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-------------------------------------|-------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| HEXAVALENT CHROMIUM | 0.44 | J | 0.16 | MDL | 0.45 | PQL | mg/Kg | J | Z, Q, E |

| Sample ID: SL-521-SA5A-SB-9.0-10.0 | Collected: 11/14/2013 1:50:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|------------------------------------|-------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| HEXAVALENT CHROMIUM | 0.41 | J | 0.15 | MDL | 0.44 | PQL | mg/Kg | J | Z, Q, E |

| Sample ID: SL-821-SA5A-SB-11.0-12.0 | Collected: 11/14/2013 2:25:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-------------------------------------|-------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| HEXAVALENT CHROMIUM | 0.33 | J | 0.16 | MDL | 0.45 | PQL | mg/Kg | J | Z, Q, E, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: METALS
Method: 7471B **Matrix:** SO

| Sample ID: SL-508-SA5A-SB-0.0-0.5 | Collected: 11/14/2013 9:35:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-----------------------------------|-------------------------------|--------------------|-------------|---------|--------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MERCURY | 0.0148 | J | 0.0105 | MDL | 0.0174 | PQL | mg/Kg | J | Z |

| Sample ID: SL-521-SA5A-SB-9.0-10.0 | Collected: 11/14/2013 1:50:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|------------------------------------|-------------------------------|--------------------|-------------|---------|--------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MERCURY | 0.0125 | J | 0.0109 | MDL | 0.0181 | PQL | mg/Kg | J | Z |

Method Category: SVOA
Method: 1613B **Matrix:** AQ

| Sample ID: EB-111413 | Collected: 11/14/2013 3:30:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|----------------------|-------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,4,6,7,8-HPCDD | 0.636 | JB | 0.353 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.485 | JB | 0.127 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.576 | JBQ | 0.174 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,4,7,8-HxCDD | 0.291 | JBQ | 0.242 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,4,7,8-HxCDF | 0.706 | JBQ | 0.189 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,6,7,8-HxCDD | 0.578 | J | 0.265 | MDL | 9.78 | PQL | pg/L | J | Z |
| 1,2,3,6,7,8-HxCDF | 0.519 | JB | 0.192 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,7,8,9-HxCDD | 0.691 | JB | 0.252 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,7,8,9-HxCDF | 0.649 | JBQ | 0.219 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,7,8-PECDD | 0.426 | JBQ | 0.397 | MDL | 9.78 | PQL | pg/L | U | B |
| 1,2,3,7,8-PECDF | 0.594 | JBQ | 0.251 | MDL | 9.78 | PQL | pg/L | U | B |
| 2,3,4,6,7,8-HxCDF | 0.510 | JBQ | 0.189 | MDL | 9.78 | PQL | pg/L | U | B |
| 2,3,4,7,8-PECDF | 0.500 | JBQ | 0.235 | MDL | 9.78 | PQL | pg/L | U | B |
| 2,3,7,8-TCDF | 0.366 | J | 0.306 | MDL | 1.96 | PQL | pg/L | J | Z |
| OCDD | 2.00 | JBQ | 0.530 | MDL | 19.6 | PQL | pg/L | U | B |
| OCDF | 1.70 | JBQ | 0.572 | MDL | 19.6 | PQL | pg/L | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-508-SA5A-SB-0.0-0.5 Collected: 11/14/2013 9:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 2.71 | JB | 0.0502 | MDL | 5.29 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.470 | JB | 0.0371 | MDL | 5.29 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.124 | JBQ | 0.0398 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0867 | JBQ | 0.0371 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0833 | JBQ | 0.0296 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.155 | JBQ | 0.0379 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.131 | JB | 0.0320 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.170 | JB | 0.0371 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0869 | JBQ | 0.0337 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0790 | JB | 0.0434 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.197 | JBQ | 0.0274 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.101 | JBQ | 0.0300 | MDL | 5.29 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.155 | JBQ | 0.0245 | MDL | 5.29 | PQL | ng/Kg | U | B |
| OCDF | 1.00 | JBQ | 0.103 | MDL | 10.6 | PQL | ng/Kg | U | B |

Sample ID: SL-508-SA5A-SB-17.0-18.0 Collected: 11/14/2013 10:02:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 2.81 | JB | 0.0874 | MDL | 5.39 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.643 | JB | 0.0423 | MDL | 5.39 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.211 | JBQ | 0.0589 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.131 | JBQ | 0.0587 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.185 | JB | 0.0382 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.182 | JB | 0.0604 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0775 | JBQ | 0.0379 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.142 | JBQ | 0.0591 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.299 | JB | 0.0441 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0978 | JBQ | 0.0314 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.128 | JB | 0.0377 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0871 | JBQ | 0.0311 | MDL | 5.39 | PQL | ng/Kg | U | B |
| OCDF | 1.30 | JB | 0.0878 | MDL | 10.8 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-508-SA5A-SB-21.0-22.0

Collected: 11/14/2013 10:09:00 Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 1.02 | JBQ | 0.0995 | MDL | 5.37 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.224 | JB | 0.0410 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.128 | JBQ | 0.0714 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.124 | JB | 0.0680 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.170 | JBQ | 0.0508 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.241 | JBQ | 0.0708 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.116 | JBQ | 0.0449 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.214 | JBQ | 0.0649 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.249 | JBQ | 0.0489 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0973 | JBQ | 0.0809 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.150 | JBQ | 0.0459 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0613 | JBQ | 0.0481 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0664 | JB | 0.0419 | MDL | 5.37 | PQL | ng/Kg | U | B |
| OCDD | 7.70 | JB | 0.0933 | MDL | 10.7 | PQL | ng/Kg | J | Z |
| OCDF | 0.506 | JBQ | 0.115 | MDL | 10.7 | PQL | ng/Kg | U | B |

Sample ID: SL-508-SA5A-SB-33.0-34.0

Collected: 11/14/2013 9:18:00 Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 1.26 | JB | 0.0651 | MDL | 5.64 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.265 | JB | 0.0263 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0871 | JBQ | 0.0397 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.108 | JBQ | 0.0405 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.100 | JB | 0.0357 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.0559 | JBQ | 0.0430 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.138 | JB | 0.0356 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.148 | JB | 0.0632 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.192 | JBQ | 0.0379 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.130 | JBQ | 0.0347 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.158 | JBQ | 0.0341 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.131 | JQ | 0.0569 | MDL | 1.13 | PQL | ng/Kg | J | Z |
| OCDD | 8.57 | JB | 0.0667 | MDL | 11.3 | PQL | ng/Kg | J | Z |
| OCDF | 0.488 | JB | 0.0794 | MDL | 11.3 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-508-SA5A-SB-4.0-5.0 Collected: 11/14/2013 9:47:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 1.47 | JB | 0.0930 | MDL | 5.33 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.387 | JB | 0.0490 | MDL | 5.33 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.261 | JBQ | 0.0660 | MDL | 5.33 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0750 | JB | 0.0522 | MDL | 5.33 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.250 | JBQ | 0.0538 | MDL | 5.33 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.147 | JBQ | 0.0564 | MDL | 5.33 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.300 | JB | 0.0505 | MDL | 5.33 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 0.139 | JBQ | 0.0592 | MDL | 5.33 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.167 | JBQ | 0.0660 | MDL | 5.33 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.160 | JBQ | 0.0381 | MDL | 5.33 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0899 | JBQ | 0.0570 | MDL | 5.33 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.275 | JBQ | 0.0322 | MDL | 5.33 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0870 | J | 0.0567 | MDL | 1.07 | PQL | ng/Kg | J | Z |
| OCDF | 1.07 | JB | 0.248 | MDL | 10.7 | PQL | ng/Kg | U | B |

Sample ID: SL-508-SA5A-SB-9.0-10.0 Collected: 11/14/2013 9:55:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.523 | JBQ | 0.203 | MDL | 5.44 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.477 | JBQ | 0.111 | MDL | 5.44 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.277 | JBQ | 0.162 | MDL | 5.44 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.298 | JBQ | 0.117 | MDL | 5.44 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.283 | JBQ | 0.171 | MDL | 5.44 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.172 | JB | 0.115 | MDL | 5.44 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.291 | JBQ | 0.169 | MDL | 5.44 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.368 | JBQ | 0.120 | MDL | 5.44 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.447 | JB | 0.224 | MDL | 5.44 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.319 | JBQ | 0.115 | MDL | 5.44 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.258 | JBQ | 0.102 | MDL | 5.44 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.378 | JB | 0.112 | MDL | 5.44 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.233 | JQ | 0.186 | MDL | 1.09 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.204 | JQ | 0.143 | MDL | 1.09 | PQL | ng/Kg | J | Z |
| OCDD | 3.82 | JBQ | 0.182 | MDL | 10.9 | PQL | ng/Kg | J | Z |
| OCDF | 0.533 | JB | 0.201 | MDL | 10.9 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-521-SA5A-SB-0.0-0.5 Collected: 11/14/2013 1:18:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 1.51 | JB | 0.0301 | MDL | 5.28 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.176 | JB | 0.0369 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.213 | JBQ | 0.0580 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.313 | JBQ | 0.0418 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.708 | JBQ | 0.0621 | MDL | 5.28 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.255 | JBQ | 0.0402 | MDL | 5.28 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 0.406 | JB | 0.0575 | MDL | 5.28 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.234 | JBQ | 0.0408 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.131 | JB | 0.0609 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 1.26 | JBQ | 0.0418 | MDL | 5.28 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.215 | JB | 0.0427 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.177 | JBQ | 0.0384 | MDL | 5.28 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0583 | JQ | 0.0474 | MDL | 1.06 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.0723 | JQ | 0.0542 | MDL | 1.06 | PQL | ng/Kg | J | Z |
| OCDF | 3.38 | JB | 0.0605 | MDL | 10.6 | PQL | ng/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.384 | JB | 0.0453 | MDL | 5.31 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.153 | JBQ | 0.0149 | MDL | 5.31 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0955 | JBQ | 0.0209 | MDL | 5.31 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 0.0550 | JBQ | 0.0378 | MDL | 5.31 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HXCDF | 0.0939 | JB | 0.0271 | MDL | 5.31 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HxCDD | 0.335 | JBQ | 0.0387 | MDL | 5.31 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0747 | JBQ | 0.0256 | MDL | 5.31 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8,9-HxCDD | 0.409 | JBQ | 0.0370 | MDL | 5.31 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.375 | JBQ | 0.0278 | MDL | 5.31 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.118 | JBQ | 0.0472 | MDL | 5.31 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDF | 0.145 | JBQ | 0.0304 | MDL | 5.31 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,6,7,8-HXCDF | 0.119 | JBQ | 0.0264 | MDL | 5.31 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,7,8-PECDF | 0.0714 | JBQ | 0.0297 | MDL | 5.31 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDD | 1.06 | U | 0.0566 | MDL | 1.06 | PQL | ng/Kg | UJ | FD |
| 2,3,7,8-TCDF | 0.0626 | J | 0.0548 | MDL | 1.06 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-521-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| OCDD | 2.27 | JB | 0.0448 | MDL | 10.6 | PQL | ng/Kg | J | Z |
| OCDF | 0.368 | JB | 0.0530 | MDL | 10.6 | PQL | ng/Kg | U | B |

Sample ID: SL-521-SA5A-SB-14.0-15.0 Collected: 11/14/2013 2:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.971 | JBQ | 0.0574 | MDL | 5.43 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.232 | JB | 0.0200 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0604 | JBQ | 0.0246 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.102 | JB | 0.0448 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.119 | JBQ | 0.0397 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.185 | JBQ | 0.0472 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.143 | JB | 0.0372 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.121 | JBQ | 0.0403 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.103 | JBQ | 0.0267 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.124 | JBQ | 0.0717 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.131 | JBQ | 0.0382 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.126 | JBQ | 0.0349 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.135 | JBQ | 0.0378 | MDL | 5.43 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.109 | JQ | 0.0478 | MDL | 1.09 | PQL | ng/Kg | J | Z |
| OCDD | 8.66 | JB | 0.0518 | MDL | 10.9 | PQL | ng/Kg | J | Z |
| OCDF | 0.518 | JBQ | 0.0718 | MDL | 10.9 | PQL | ng/Kg | U | B |

Sample ID: SL-521-SA5A-SB-9.0-10.0 Collected: 11/14/2013 1:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 3.03 | JB | 0.0769 | MDL | 5.37 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.385 | JBQ | 0.0311 | MDL | 5.37 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0840 | JBQ | 0.0381 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.109 | JBQ | 0.0441 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.187 | JBQ | 0.0589 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0739 | JB | 0.0435 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.146 | JBQ | 0.0536 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.147 | JBQ | 0.0446 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0893 | JBQ | 0.0777 | MDL | 5.37 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-521-SA5A-SB-9.0-10.0 Collected: 11/14/2013 1:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,7,8-PECDF | 0.134 | JBQ | 0.0397 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0632 | JB | 0.0424 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0751 | JBQ | 0.0379 | MDL | 5.37 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.138 | JQ | 0.108 | MDL | 1.07 | PQL | ng/Kg | J | Z |
| OCDF | 0.768 | JBQ | 0.0787 | MDL | 10.7 | PQL | ng/Kg | U | B |

Sample ID: SL-821-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:25:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.388 | JB | 0.0356 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.217 | JB | 0.0181 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.238 | JB | 0.0251 | MDL | 5.34 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 0.212 | JBQ | 0.0459 | MDL | 5.34 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HXCDF | 0.219 | JB | 0.0377 | MDL | 5.34 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HXCDD | 0.338 | JBQ | 0.0473 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.256 | JBQ | 0.0366 | MDL | 5.34 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HXCDD | 0.398 | JB | 0.0421 | MDL | 5.34 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.458 | JB | 0.0306 | MDL | 5.34 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.281 | JB | 0.0538 | MDL | 5.34 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDF | 0.299 | JBQ | 0.0341 | MDL | 5.34 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,6,7,8-HXCDF | 0.243 | JB | 0.0366 | MDL | 5.34 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,7,8-PECDF | 0.282 | JBQ | 0.0311 | MDL | 5.34 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDD | 0.107 | JQ | 0.0403 | MDL | 1.07 | PQL | ng/Kg | J | Z, FD |
| 2,3,7,8-TCDF | 0.0519 | JQ | 0.0439 | MDL | 1.07 | PQL | ng/Kg | J | Z |
| OCDD | 1.55 | JB | 0.0374 | MDL | 10.7 | PQL | ng/Kg | J | Z |
| OCDF | 0.553 | JB | 0.0612 | MDL | 10.7 | PQL | ng/Kg | U | B |

Method Category: SVOA
Method: 8015M **Matrix:** AQ

Sample ID: EB-111413 Collected: 11/14/2013 3:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| EFH (C30-C40) | 0.49 | U | 0.099 | MDL | 0.49 | PQL | mg/L | UJ | L |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 8015M | Matrix: | AQ |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: EB-111413 Collected: 11/14/2013 3:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| EFH (C8-C11) | 0.099 | U | 0.049 | MDL | 0.099 | PQL | mg/L | UJ | L |

| | | | | | |
|-------------------------|------|----------------|-------|----------------|----|
| Method Category: | SVOA | Method: | 8015M | Matrix: | SO |
|-------------------------|------|----------------|-------|----------------|----|

Sample ID: SL-508-SA5A-SB-17.0-18.0 Collected: 11/14/2013 10:02:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| EFH (C30-C40) | 9.8 | J | 4.4 | MDL | 11 | PQL | mg/Kg | J | Z |

Sample ID: SL-508-SA5A-SB-33.0-34.0 Collected: 11/14/2013 9:18:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 4.3 | J | 2.3 | MDL | 5.7 | PQL | mg/Kg | J | Z |
| EFH (C30-C40) | 6.7 | J | 4.5 | MDL | 11 | PQL | mg/Kg | J | Z |

Sample ID: SL-508-SA5A-SB-4.0-5.0 Collected: 11/14/2013 9:47:00 Analysis Type: RES Dilution: 247.5

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| GASOLINE RANGE ORGANICS (C5-C12) | 3.4 | J | 2.1 | MDL | 11 | PQL | mg/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:20:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 5.7 | | 2.2 | MDL | 5.5 | PQL | mg/Kg | J | Q, FD |
| EFH (C30-C40) | 12 | | 4.4 | MDL | 11 | PQL | mg/Kg | J | Q, Q, FD |

Sample ID: SL-521-SA5A-SB-9.0-10.0 Collected: 11/14/2013 1:50:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 4.6 | J | 2.2 | MDL | 5.6 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 8015M **Matrix:** SO

Sample ID: SL-821-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:25:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 2.5 | J | 2.2 | MDL | 5.6 | PQL | mg/Kg | J | Z, FD |
| EFH (C30-C40) | 5.4 | J | 4.4 | MDL | 11 | PQL | mg/Kg | J | Z, FD |

Method Category: SVOA
Method: 8081B **Matrix:** AQ

Sample ID: EB-111413 Collected: 11/14/2013 3:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| BETA-BHC | 0.0037 | J | 0.0027 | MDL | 0.0080 | PQL | ug/L | J | Z |

Method Category: SVOA
Method: 8082A **Matrix:** SO

Sample ID: SL-508-SA5A-SB-4.0-5.0 Collected: 11/14/2013 9:47:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| AROCLOR 1254 | 8.0 | J | 4.7 | MDL | 18 | PQL | ug/Kg | J | Z,L |

Sample ID: SL-521-SA5A-SB-0.0-0.5 Collected: 11/14/2013 1:18:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| Aroclor 5460 | 29 | J | 11 | MDL | 35 | PQL | ug/Kg | J | Z |

Method Category: SVOA
Method: 8270D SIM **Matrix:** AQ

Sample ID: EB-111413 Collected: 11/14/2013 3:30:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|-------|---------|-----|---------|-------|------------------|-------------|
| BIS(2-ETHYLHEXYL)PHTHALATE | 0.52 | J | 0.052 | MDL | 1.0 | PQL | ug/L | U | B |
| Diethylphthalate | 0.29 | J | 0.052 | MDL | 1.0 | PQL | ug/L | U | B |
| Di-n-butylphthalate | 0.21 | J | 0.052 | MDL | 1.0 | PQL | ug/L | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-508-SA5A-SB-0.0-0.5 Collected: 11/14/2013 9:35:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)ANTHRACENE | 13 | J | 7.1 | MDL | 18 | PQL | ug/Kg | J | Z |
| BENZO(E)PYRENE | 180 | U | 36 | MDL | 180 | PQL | ug/Kg | UJ | L |
| BENZO(G,H,I)PERYLENE | 15 | J | 7.1 | MDL | 18 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 190 | U | 64 | MDL | 190 | PQL | ug/Kg | UJ | L |
| DIBENZO(A,H)ANTHRACENE | 7.9 | J | 7.1 | MDL | 18 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 190 | U | 64 | MDL | 190 | PQL | ug/Kg | UJ | L |
| PYRENE | 13 | J | 7.1 | MDL | 18 | PQL | ug/Kg | J | Z |

Sample ID: SL-508-SA5A-SB-17.0-18.0 Collected: 11/14/2013 10:02:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 0.92 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BENZO(E)PYRENE | 19 | U | 3.6 | MDL | 19 | PQL | ug/Kg | UJ | L |
| BIS(2-ETHYLHEXYL)PHTHALATE | 20 | U | 6.6 | MDL | 20 | PQL | ug/Kg | UJ | L |
| CHRYSENE | 0.39 | J | 0.36 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 20 | U | 6.6 | MDL | 20 | PQL | ug/Kg | UJ | L |
| FLUORANTHENE | 1.6 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 0.91 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| PYRENE | 1.4 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-508-SA5A-SB-21.0-22.0 Collected: 11/14/2013 10:09:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 0.88 | J | 0.74 | MDL | 1.9 | PQL | ug/Kg | J | Z |
| BENZO(E)PYRENE | 19 | U | 3.7 | MDL | 19 | PQL | ug/Kg | UJ | L |
| BIS(2-ETHYLHEXYL)PHTHALATE | 20 | U | 6.7 | MDL | 20 | PQL | ug/Kg | UJ | L |
| Di-n-octylphthalate | 20 | U | 6.7 | MDL | 20 | PQL | ug/Kg | UJ | L |
| FLUORANTHENE | 1.0 | J | 0.74 | MDL | 1.9 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 0.77 | J | 0.74 | MDL | 1.9 | PQL | ug/Kg | J | Z |

Sample ID: SL-508-SA5A-SB-33.0-34.0 Collected: 11/14/2013 9:18:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 0.77 | J | 0.75 | MDL | 1.9 | PQL | ug/Kg | J | Z |
| BENZO(B)FLUORANTHENE | 1.8 | J | 0.75 | MDL | 1.9 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-508-SA5A-SB-33.0-34.0 Collected: 11/14/2013 9:18:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(E)PYRENE | 19 | U | 3.8 | MDL | 19 | PQL | ug/Kg | UJ | L |
| BENZO(G,H,I)PERYLENE | 0.81 | J | 0.75 | MDL | 1.9 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 20 | U | 6.8 | MDL | 20 | PQL | ug/Kg | UJ | L |
| CHRYSENE | 0.73 | J | 0.38 | MDL | 1.9 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 20 | U | 6.8 | MDL | 20 | PQL | ug/Kg | UJ | L |
| PYRENE | 1.4 | J | 0.75 | MDL | 1.9 | PQL | ug/Kg | J | Z |

Sample ID: SL-508-SA5A-SB-4.0-5.0 Collected: 11/14/2013 9:47:00 Analysis Type: RES Dilution: 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 12 | J | 7.2 | MDL | 18 | PQL | ug/Kg | J | Z |

Sample ID: SL-508-SA5A-SB-4.0-5.0 Collected: 11/14/2013 9:47:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 16 | J | 7.2 | MDL | 18 | PQL | ug/Kg | J | Z |
| ANTHRACENE | 3.8 | J | 3.6 | MDL | 18 | PQL | ug/Kg | J | Z |
| BENZO(E)PYRENE | 100 | J | 36 | MDL | 180 | PQL | ug/Kg | J | Z, L |
| BIS(2-ETHYLHEXYL)PHTHALATE | 190 | U | 64 | MDL | 190 | PQL | ug/Kg | UJ | L |
| DIBENZO(A,H)ANTHRACENE | 13 | J | 7.2 | MDL | 18 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 190 | U | 64 | MDL | 190 | PQL | ug/Kg | UJ | L |
| FLUORANTHENE | 17 | J | 7.2 | MDL | 18 | PQL | ug/Kg | J | Z |
| INDENO(1,2,3-CD)PYRENE | 9.8 | J | 7.2 | MDL | 18 | PQL | ug/Kg | J | Z |

Sample ID: SL-508-SA5A-SB-9.0-10.0 Collected: 11/14/2013 9:55:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 0.74 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-508-SA5A-SB-9.0-10.0 Collected: 11/14/2013 9:55:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 1.2 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BENZO(E)PYRENE | 19 | U | 3.6 | MDL | 19 | PQL | ug/Kg | UJ | L |
| BIS(2-ETHYLHEXYL)PHTHALATE | 20 | U | 6.6 | MDL | 20 | PQL | ug/Kg | UJ | L |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-508-SA5A-SB-9.0-10.0 Collected: 11/14/2013 9:55:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 0.47 | J | 0.36 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 20 | U | 6.6 | MDL | 20 | PQL | ug/Kg | UJ | L |
| NAPHTHALENE | 1.6 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 1.0 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-0.0-0.5 Collected: 11/14/2013 1:18:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(E)PYRENE | 18 | U | 3.6 | MDL | 18 | PQL | ug/Kg | UJ | L |
| BIS(2-ETHYLHEXYL)PHTHALATE | 10 | J | 6.4 | MDL | 19 | PQL | ug/Kg | J | Z, L |
| CHRYSENE | 0.46 | J | 0.36 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 19 | U | 6.4 | MDL | 19 | PQL | ug/Kg | UJ | L |

Sample ID: SL-521-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 1.2 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z, FD |

Sample ID: SL-521-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:20:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 1.4 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z, FD |
| BENZO(B)FLUORANTHENE | 1.9 | | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | FD |
| BENZO(E)PYRENE | 19 | U | 3.6 | MDL | 19 | PQL | ug/Kg | UJ | L |
| BIS(2-ETHYLHEXYL)PHTHALATE | 20 | U | 6.6 | MDL | 20 | PQL | ug/Kg | UJ | L |
| CHRYSENE | 0.65 | J | 0.36 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 20 | U | 6.6 | MDL | 20 | PQL | ug/Kg | UJ | L |
| NAPHTHALENE | 1.3 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-14.0-15.0 Collected: 11/14/2013 2:35:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 1.2 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BENZO(E)PYRENE | 19 | U | 3.6 | MDL | 19 | PQL | ug/Kg | UJ | L |
| BIS(2-ETHYLHEXYL)PHTHALATE | 20 | U | 6.6 | MDL | 20 | PQL | ug/Kg | UJ | L |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 8270D SIM

Matrix: SO

Sample ID: SL-521-SA5A-SB-14.0-15.0 Collected: 11/14/2013 2:35:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| Di-n-octylphthalate | 20 | U | 6.6 | MDL | 20 | PQL | ug/Kg | UJ | L |
| PYRENE | 1.7 | J | 0.73 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-521-SA5A-SB-9.0-10.0 Collected: 11/14/2013 1:50:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 0.81 | J | 0.37 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BENZO(E)PYRENE | 19 | U | 3.7 | MDL | 19 | PQL | ug/Kg | UJ | L |
| BIS(2-ETHYLHEXYL)PHTHALATE | 20 | U | 6.6 | MDL | 20 | PQL | ug/Kg | UJ | L |
| CHRYSENE | 1.2 | J | 0.37 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 20 | U | 6.6 | MDL | 20 | PQL | ug/Kg | UJ | L |
| FLUORENE | 0.86 | J | 0.74 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| PYRENE | 1.0 | J | 0.74 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-821-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:25:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 1.9 | U | 0.74 | MDL | 1.9 | PQL | ug/Kg | UJ | FD |

Sample ID: SL-821-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:25:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 1.9 | U | 0.74 | MDL | 1.9 | PQL | ug/Kg | UJ | FD |
| BENZO(B)FLUORANTHENE | 0.75 | J | 0.74 | MDL | 1.9 | PQL | ug/Kg | J | Z, FD |
| BENZO(E)PYRENE | 19 | U | 3.7 | MDL | 19 | PQL | ug/Kg | UJ | L |
| BIS(2-ETHYLHEXYL)PHTHALATE | 20 | U | 6.7 | MDL | 20 | PQL | ug/Kg | UJ | L |
| CHRYSENE | 0.61 | J | 0.37 | MDL | 1.9 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 20 | U | 6.7 | MDL | 20 | PQL | ug/Kg | UJ | L |
| NAPHTHALENE | 0.94 | J | 0.74 | MDL | 1.9 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method Category: SVOA
Method: 8315A **Matrix:** SO

Sample ID: SL-521-SA5A-SB-14.0-15.0 Collected: 11/14/2013 2:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|------|---------|-------|------------------|-------------|
| FORMALDEHYDE | 2200 | U | 1300 | MDL | 2200 | PQL | ug/Kg | UJ | H |

Sample ID: SL-821-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:25:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|------|---------|-------|------------------|-------------|
| FORMALDEHYDE | 14000 | | 1300 | MDL | 2200 | PQL | ug/Kg | J | S |

Method Category: VOA
Method: 8260B **Matrix:** SO

Sample ID: SL-521-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:20:00 Analysis Type: RES Dilution: 0.96

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| 2-BUTANONE (MEK) | 11 | U | 4 | MDL | 11 | PQL | ug/Kg | UJ | FD |
| Chlorotrifluoroethylene | 5 | U | 2 | MDL | 5 | PQL | ug/Kg | UJ | Q |

Sample ID: SL-821-SA5A-SB-11.0-12.0 Collected: 11/14/2013 2:25:00 Analysis Type: RES Dilution: 0.97

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| 2-BUTANONE (MEK) | 5 | J | 4 | MDL | 11 | PQL | ug/Kg | J | Z, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|--|
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Field Blank Contamination |
| FD | Field Duplicate Precision |
| H | Extraction to Analysis Estimation |
| L | Laboratory Control Spike Lower Estimation |
| L | Laboratory Control Spike Upper Estimation |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| S | Surrogate/Tracer Recovery Lower Estimation |
| S | Surrogate/Tracer Recovery Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH129

QC Outlier Report: HoldingTimes

Lab Reporting Batch ID: PH129
EDD Filename: PrepPH129

Laboratory: LL
eQAPP Name: CDM_SSFL_131101_Lan

Method: 8315A Preparation Method: 5035A
Matrix: SO

| Sample ID | Type | Actual | Criteria | Units | Flag |
|--------------------------------|------------------------|--------|----------|-------|---|
| SL-521-SA5A-SB-14.0-15.0 (RES) | Extraction To Analysis | 4.00 | 3.00 | DAYS | J (all detects) UJ (all non-detects) |

Method Blank Outlier Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|------------------------|--|--|--------------------|
| BLK3290B372252 | 11/26/2013 10:52:00 PM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF OCDD OCDF | 0.418 pg/L 0.902 pg/L 0.464 pg/L 0.322 pg/L 0.397 pg/L 0.306 pg/L 0.369 pg/L 0.540 pg/L 0.350 pg/L 0.428 pg/L 0.378 pg/L 0.199 pg/L 2.83 pg/L 1.52 pg/L | EB-111413 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------|---------------------|-----------------|-----------------------|
| EB-111413(RES) | 1,2,3,4,6,7,8-HPCDD | 0.636 pg/L | 0.636U pg/L |
| EB-111413(RES) | 1,2,3,4,6,7,8-HPCDF | 0.485 pg/L | 0.485U pg/L |
| EB-111413(RES) | 1,2,3,4,7,8,9-HPCDF | 0.576 pg/L | 0.576U pg/L |
| EB-111413(RES) | 1,2,3,4,7,8-HxCDD | 0.291 pg/L | 0.291U pg/L |
| EB-111413(RES) | 1,2,3,4,7,8-HXCDF | 0.706 pg/L | 0.706U pg/L |
| EB-111413(RES) | 1,2,3,6,7,8-HXCDF | 0.519 pg/L | 0.519U pg/L |
| EB-111413(RES) | 1,2,3,7,8,9-HXCDD | 0.691 pg/L | 0.691U pg/L |
| EB-111413(RES) | 1,2,3,7,8,9-HXCDF | 0.649 pg/L | 0.649U pg/L |
| EB-111413(RES) | 1,2,3,7,8-PECDD | 0.426 pg/L | 0.426U pg/L |
| EB-111413(RES) | 1,2,3,7,8-PECDF | 0.594 pg/L | 0.594U pg/L |
| EB-111413(RES) | 2,3,4,6,7,8-HXCDF | 0.510 pg/L | 0.510U pg/L |
| EB-111413(RES) | 2,3,4,7,8-PECDF | 0.500 pg/L | 0.500U pg/L |
| EB-111413(RES) | OCDD | 2.00 pg/L | 2.00U pg/L |
| EB-111413(RES) | OCDF | 1.70 pg/L | 1.70U pg/L |

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|---|---|--|
| BLK3280B372005 | 11/26/2013 8:05:00 PM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF OCDD OCDF | 0.0987 ng/Kg 0.0578 ng/Kg 0.154 ng/Kg 0.0654 ng/Kg 0.133 ng/Kg 0.0847 ng/Kg 0.0480 ng/Kg 0.0729 ng/Kg 0.120 ng/Kg 0.0779 ng/Kg 0.0936 ng/Kg 0.0813 ng/Kg 0.0865 ng/Kg 0.307 ng/Kg 0.343 ng/Kg | SL-508-SA5A-SB-0.0-0.5 SL-508-SA5A-SB-17.0-18.0 SL-508-SA5A-SB-21.0-22.0 SL-508-SA5A-SB-33.0-34.0 SL-508-SA5A-SB-4.0-5.0 SL-508-SA5A-SB-9.0-10.0 SL-521-SA5A-SB-0.0-0.5 SL-521-SA5A-SB-11.0-12.0 SL-521-SA5A-SB-14.0-15.0 SL-521-SA5A-SB-9.0-10.0 SL-821-SA5A-SB-11.0-12.0 |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Method Blank Outlier Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B

Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-------------------------------|---------------------|-----------------|-----------------------|
| SL-508-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.124 ng/Kg | 0.124U ng/Kg |
| SL-508-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0867 ng/Kg | 0.0867U ng/Kg |
| SL-508-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0833 ng/Kg | 0.0833U ng/Kg |
| SL-508-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HxCDD | 0.155 ng/Kg | 0.155U ng/Kg |
| SL-508-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.131 ng/Kg | 0.131U ng/Kg |
| SL-508-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HxCDD | 0.170 ng/Kg | 0.170U ng/Kg |
| SL-508-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.0869 ng/Kg | 0.0869U ng/Kg |
| SL-508-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.0790 ng/Kg | 0.0790U ng/Kg |
| SL-508-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.197 ng/Kg | 0.197U ng/Kg |
| SL-508-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.101 ng/Kg | 0.101U ng/Kg |
| SL-508-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.155 ng/Kg | 0.155U ng/Kg |
| SL-508-SA5A-SB-0.0-0.5(RES) | OCDF | 1.00 ng/Kg | 1.00U ng/Kg |
| SL-508-SA5A-SB-17.0-18.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.211 ng/Kg | 0.211U ng/Kg |
| SL-508-SA5A-SB-17.0-18.0(RES) | 1,2,3,4,7,8-HxCDD | 0.131 ng/Kg | 0.131U ng/Kg |
| SL-508-SA5A-SB-17.0-18.0(RES) | 1,2,3,4,7,8-HXCDF | 0.185 ng/Kg | 0.185U ng/Kg |
| SL-508-SA5A-SB-17.0-18.0(RES) | 1,2,3,6,7,8-HxCDD | 0.182 ng/Kg | 0.182U ng/Kg |
| SL-508-SA5A-SB-17.0-18.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0775 ng/Kg | 0.0775U ng/Kg |
| SL-508-SA5A-SB-17.0-18.0(RES) | 1,2,3,7,8,9-HxCDD | 0.142 ng/Kg | 0.142U ng/Kg |
| SL-508-SA5A-SB-17.0-18.0(RES) | 1,2,3,7,8,9-HXCDF | 0.299 ng/Kg | 0.299U ng/Kg |
| SL-508-SA5A-SB-17.0-18.0(RES) | 1,2,3,7,8-PECDF | 0.0978 ng/Kg | 0.0978U ng/Kg |
| SL-508-SA5A-SB-17.0-18.0(RES) | 2,3,4,6,7,8-HXCDF | 0.128 ng/Kg | 0.128U ng/Kg |
| SL-508-SA5A-SB-17.0-18.0(RES) | 2,3,4,7,8-PECDF | 0.0871 ng/Kg | 0.0871U ng/Kg |
| SL-508-SA5A-SB-17.0-18.0(RES) | OCDF | 1.30 ng/Kg | 1.30U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.224 ng/Kg | 0.224U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.128 ng/Kg | 0.128U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | 1,2,3,4,7,8-HxCDD | 0.124 ng/Kg | 0.124U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | 1,2,3,4,7,8-HXCDF | 0.170 ng/Kg | 0.170U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | 1,2,3,6,7,8-HxCDD | 0.241 ng/Kg | 0.241U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | 1,2,3,6,7,8-HXCDF | 0.116 ng/Kg | 0.116U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | 1,2,3,7,8,9-HxCDD | 0.214 ng/Kg | 0.214U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | 1,2,3,7,8,9-HXCDF | 0.249 ng/Kg | 0.249U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | 1,2,3,7,8-PECDD | 0.0973 ng/Kg | 0.0973U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | 1,2,3,7,8-PECDF | 0.150 ng/Kg | 0.150U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0613 ng/Kg | 0.0613U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | 2,3,4,7,8-PECDF | 0.0664 ng/Kg | 0.0664U ng/Kg |
| SL-508-SA5A-SB-21.0-22.0(RES) | OCDF | 0.506 ng/Kg | 0.506U ng/Kg |
| SL-508-SA5A-SB-33.0-34.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.265 ng/Kg | 0.265U ng/Kg |
| SL-508-SA5A-SB-33.0-34.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0871 ng/Kg | 0.0871U ng/Kg |
| SL-508-SA5A-SB-33.0-34.0(RES) | 1,2,3,4,7,8-HxCDD | 0.108 ng/Kg | 0.108U ng/Kg |
| SL-508-SA5A-SB-33.0-34.0(RES) | 1,2,3,4,7,8-HXCDF | 0.100 ng/Kg | 0.100U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

1/9/2014 1:46:39 PM

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Method Blank Outlier Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-------------------------------|---------------------|-----------------|-----------------------|
| SL-508-SA5A-SB-33.0-34.0(RES) | 1,2,3,7,8,9-HXCDD | 0.0559 ng/Kg | 0.0559U ng/Kg |
| SL-508-SA5A-SB-33.0-34.0(RES) | 1,2,3,7,8,9-HXCDF | 0.138 ng/Kg | 0.138U ng/Kg |
| SL-508-SA5A-SB-33.0-34.0(RES) | 1,2,3,7,8-PECDD | 0.148 ng/Kg | 0.148U ng/Kg |
| SL-508-SA5A-SB-33.0-34.0(RES) | 1,2,3,7,8-PECDF | 0.192 ng/Kg | 0.192U ng/Kg |
| SL-508-SA5A-SB-33.0-34.0(RES) | 2,3,4,6,7,8-HXCDF | 0.130 ng/Kg | 0.130U ng/Kg |
| SL-508-SA5A-SB-33.0-34.0(RES) | 2,3,4,7,8-PECDF | 0.158 ng/Kg | 0.158U ng/Kg |
| SL-508-SA5A-SB-33.0-34.0(RES) | OCDF | 0.488 ng/Kg | 0.488U ng/Kg |
| SL-508-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.261 ng/Kg | 0.261U ng/Kg |
| SL-508-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HxCDD | 0.0750 ng/Kg | 0.0750U ng/Kg |
| SL-508-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.250 ng/Kg | 0.250U ng/Kg |
| SL-508-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDD | 0.147 ng/Kg | 0.147U ng/Kg |
| SL-508-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDD | 0.139 ng/Kg | 0.139U ng/Kg |
| SL-508-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDD | 0.167 ng/Kg | 0.167U ng/Kg |
| SL-508-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.160 ng/Kg | 0.160U ng/Kg |
| SL-508-SA5A-SB-4.0-5.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0899 ng/Kg | 0.0899U ng/Kg |
| SL-508-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.275 ng/Kg | 0.275U ng/Kg |
| SL-508-SA5A-SB-4.0-5.0(RES) | OCDF | 1.07 ng/Kg | 1.07U ng/Kg |
| SL-508-SA5A-SB-9.0-10.0(RES) | 1,2,3,4,7,8-HxCDD | 0.277 ng/Kg | 0.277U ng/Kg |
| SL-508-SA5A-SB-9.0-10.0(RES) | 1,2,3,4,7,8-HXCDF | 0.298 ng/Kg | 0.298U ng/Kg |
| SL-508-SA5A-SB-9.0-10.0(RES) | 1,2,3,6,7,8-HXCDD | 0.283 ng/Kg | 0.283U ng/Kg |
| SL-508-SA5A-SB-9.0-10.0(RES) | 1,2,3,6,7,8-HXCDF | 0.172 ng/Kg | 0.172U ng/Kg |
| SL-508-SA5A-SB-9.0-10.0(RES) | 1,2,3,7,8,9-HXCDD | 0.291 ng/Kg | 0.291U ng/Kg |
| SL-508-SA5A-SB-9.0-10.0(RES) | 1,2,3,7,8,9-HXCDF | 0.368 ng/Kg | 0.368U ng/Kg |
| SL-508-SA5A-SB-9.0-10.0(RES) | 1,2,3,7,8-PECDF | 0.319 ng/Kg | 0.319U ng/Kg |
| SL-508-SA5A-SB-9.0-10.0(RES) | 2,3,4,6,7,8-HXCDF | 0.258 ng/Kg | 0.258U ng/Kg |
| SL-508-SA5A-SB-9.0-10.0(RES) | 2,3,4,7,8-PECDF | 0.378 ng/Kg | 0.378U ng/Kg |
| SL-508-SA5A-SB-9.0-10.0(RES) | OCDF | 0.533 ng/Kg | 0.533U ng/Kg |
| SL-521-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.176 ng/Kg | 0.176U ng/Kg |
| SL-521-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.213 ng/Kg | 0.213U ng/Kg |
| SL-521-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.313 ng/Kg | 0.313U ng/Kg |
| SL-521-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.234 ng/Kg | 0.234U ng/Kg |
| SL-521-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.131 ng/Kg | 0.131U ng/Kg |
| SL-521-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.215 ng/Kg | 0.215U ng/Kg |
| SL-521-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.177 ng/Kg | 0.177U ng/Kg |
| SL-521-SA5A-SB-11.0-12.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.384 ng/Kg | 0.384U ng/Kg |
| SL-521-SA5A-SB-11.0-12.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.153 ng/Kg | 0.153U ng/Kg |
| SL-521-SA5A-SB-11.0-12.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0955 ng/Kg | 0.0955U ng/Kg |
| SL-521-SA5A-SB-11.0-12.0(RES) | 1,2,3,4,7,8-HxCDD | 0.0550 ng/Kg | 0.0550U ng/Kg |
| SL-521-SA5A-SB-11.0-12.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0939 ng/Kg | 0.0939U ng/Kg |
| SL-521-SA5A-SB-11.0-12.0(RES) | 1,2,3,6,7,8-HXCDD | 0.335 ng/Kg | 0.335U ng/Kg |

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Method Blank Outlier Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-------------------------------|---------------------|-----------------|-----------------------|
| SL-521-SA5A-SB-11.0-12.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0747 ng/Kg | 0.0747U ng/Kg |
| SL-521-SA5A-SB-11.0-12.0(RES) | 1,2,3,7,8,9-HXCDF | 0.375 ng/Kg | 0.375U ng/Kg |
| SL-521-SA5A-SB-11.0-12.0(RES) | 1,2,3,7,8-PECDD | 0.118 ng/Kg | 0.118U ng/Kg |
| SL-521-SA5A-SB-11.0-12.0(RES) | 1,2,3,7,8-PECDF | 0.145 ng/Kg | 0.145U ng/Kg |
| SL-521-SA5A-SB-11.0-12.0(RES) | 2,3,4,6,7,8-HXCDF | 0.119 ng/Kg | 0.119U ng/Kg |
| SL-521-SA5A-SB-11.0-12.0(RES) | 2,3,4,7,8-PECDF | 0.0714 ng/Kg | 0.0714U ng/Kg |
| SL-521-SA5A-SB-11.0-12.0(RES) | OCDF | 0.368 ng/Kg | 0.368U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.232 ng/Kg | 0.232U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0604 ng/Kg | 0.0604U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | 1,2,3,4,7,8-HxCDD | 0.102 ng/Kg | 0.102U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | 1,2,3,4,7,8-HXCDF | 0.119 ng/Kg | 0.119U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | 1,2,3,6,7,8-HxCDD | 0.185 ng/Kg | 0.185U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | 1,2,3,6,7,8-HXCDF | 0.143 ng/Kg | 0.143U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | 1,2,3,7,8,9-HxCDD | 0.121 ng/Kg | 0.121U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | 1,2,3,7,8,9-HXCDF | 0.103 ng/Kg | 0.103U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | 1,2,3,7,8-PECDD | 0.124 ng/Kg | 0.124U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | 1,2,3,7,8-PECDF | 0.131 ng/Kg | 0.131U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | 2,3,4,6,7,8-HXCDF | 0.126 ng/Kg | 0.126U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | 2,3,4,7,8-PECDF | 0.135 ng/Kg | 0.135U ng/Kg |
| SL-521-SA5A-SB-14.0-15.0(RES) | OCDF | 0.518 ng/Kg | 0.518U ng/Kg |
| SL-521-SA5A-SB-9.0-10.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0840 ng/Kg | 0.0840U ng/Kg |
| SL-521-SA5A-SB-9.0-10.0(RES) | 1,2,3,4,7,8-HXCDF | 0.109 ng/Kg | 0.109U ng/Kg |
| SL-521-SA5A-SB-9.0-10.0(RES) | 1,2,3,6,7,8-HxCDD | 0.187 ng/Kg | 0.187U ng/Kg |
| SL-521-SA5A-SB-9.0-10.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0739 ng/Kg | 0.0739U ng/Kg |
| SL-521-SA5A-SB-9.0-10.0(RES) | 1,2,3,7,8,9-HxCDD | 0.146 ng/Kg | 0.146U ng/Kg |
| SL-521-SA5A-SB-9.0-10.0(RES) | 1,2,3,7,8,9-HXCDF | 0.147 ng/Kg | 0.147U ng/Kg |
| SL-521-SA5A-SB-9.0-10.0(RES) | 1,2,3,7,8-PECDD | 0.0893 ng/Kg | 0.0893U ng/Kg |
| SL-521-SA5A-SB-9.0-10.0(RES) | 1,2,3,7,8-PECDF | 0.134 ng/Kg | 0.134U ng/Kg |
| SL-521-SA5A-SB-9.0-10.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0632 ng/Kg | 0.0632U ng/Kg |
| SL-521-SA5A-SB-9.0-10.0(RES) | 2,3,4,7,8-PECDF | 0.0751 ng/Kg | 0.0751U ng/Kg |
| SL-521-SA5A-SB-9.0-10.0(RES) | OCDF | 0.768 ng/Kg | 0.768U ng/Kg |
| SL-821-SA5A-SB-11.0-12.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.388 ng/Kg | 0.388U ng/Kg |
| SL-821-SA5A-SB-11.0-12.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.217 ng/Kg | 0.217U ng/Kg |
| SL-821-SA5A-SB-11.0-12.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.238 ng/Kg | 0.238U ng/Kg |
| SL-821-SA5A-SB-11.0-12.0(RES) | 1,2,3,4,7,8-HxCDD | 0.212 ng/Kg | 0.212U ng/Kg |
| SL-821-SA5A-SB-11.0-12.0(RES) | 1,2,3,4,7,8-HXCDF | 0.219 ng/Kg | 0.219U ng/Kg |
| SL-821-SA5A-SB-11.0-12.0(RES) | 1,2,3,6,7,8-HxCDD | 0.338 ng/Kg | 0.338U ng/Kg |
| SL-821-SA5A-SB-11.0-12.0(RES) | 1,2,3,7,8,9-HXCDF | 0.458 ng/Kg | 0.458U ng/Kg |
| SL-821-SA5A-SB-11.0-12.0(RES) | 1,2,3,7,8-PECDD | 0.281 ng/Kg | 0.281U ng/Kg |
| SL-821-SA5A-SB-11.0-12.0(RES) | 1,2,3,7,8-PECDF | 0.299 ng/Kg | 0.299U ng/Kg |

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Method Blank Outlier Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-------------------------------|-------------------|-----------------|-----------------------|
| SL-821-SA5A-SB-11.0-12.0(RES) | 2,3,4,6,7,8-HXCDF | 0.243 ng/Kg | 0.243U ng/Kg |
| SL-821-SA5A-SB-11.0-12.0(RES) | 2,3,4,7,8-PECDF | 0.282 ng/Kg | 0.282U ng/Kg |
| SL-821-SA5A-SB-11.0-12.0(RES) | OCDF | 0.553 ng/Kg | 0.553U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

| | | | | |
|----------------|-----------------------|-------------|---------------------------|--|
| P32737AB221348 | 11/26/2013 1:48:00 PM | TIN ZINC | 1.63 mg/Kg 0.483 mg/Kg | SL-508-SA5A-SB-0.0-0.5 SL-508-SA5A-SB-17.0-18.0 SL-508-SA5A-SB-21.0-22.0 SL-508-SA5A-SB-33.0-34.0 SL-508-SA5A-SB-4.0-5.0 SL-508-SA5A-SB-9.0-10.0 SL-521-SA5A-SB-0.0-0.5 SL-521-SA5A-SB-11.0-12.0 SL-521-SA5A-SB-14.0-15.0 SL-521-SA5A-SB-9.0-10.0 SL-821-SA5A-SB-11.0-12.0 |
|----------------|-----------------------|-------------|---------------------------|--|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-------------------------------|---------|-----------------|-----------------------|
| SL-508-SA5A-SB-0.0-0.5(REA) | TIN | 2.90 mg/Kg | 2.90U mg/Kg |
| SL-508-SA5A-SB-17.0-18.0(REA) | TIN | 3.04 mg/Kg | 3.04U mg/Kg |
| SL-508-SA5A-SB-21.0-22.0(REA) | TIN | 3.06 mg/Kg | 3.06U mg/Kg |
| SL-508-SA5A-SB-33.0-34.0(REA) | TIN | 2.86 mg/Kg | 2.86U mg/Kg |
| SL-508-SA5A-SB-4.0-5.0(REA) | TIN | 2.88 mg/Kg | 2.88U mg/Kg |
| SL-508-SA5A-SB-9.0-10.0(REA) | TIN | 3.01 mg/Kg | 3.01U mg/Kg |
| SL-521-SA5A-SB-0.0-0.5(REA) | TIN | 3.23 mg/Kg | 3.23U mg/Kg |
| SL-521-SA5A-SB-11.0-12.0(REA) | TIN | 2.74 mg/Kg | 2.74U mg/Kg |
| SL-521-SA5A-SB-14.0-15.0(REA) | TIN | 3.33 mg/Kg | 3.33U mg/Kg |
| SL-521-SA5A-SB-9.0-10.0(REA) | TIN | 2.78 mg/Kg | 2.78U mg/Kg |
| SL-821-SA5A-SB-11.0-12.0(REA) | TIN | 2.49 mg/Kg | 2.49U mg/Kg |

Method: 8270D SIM
Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

| | | | | |
|----------------|-----------------------|---|--|-----------|
| PLKWA32B261437 | 11/23/2013 2:37:00 PM | BIS(2-ETHYLHEXYL)PHTHALATE Diethylphthalate Di-n-butylphthalate | 0.096 ug/L 0.056 ug/L 0.057 ug/L | EB-111413 |
|----------------|-----------------------|---|--|-----------|

Method Blank Outlier Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM

Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------|----------------------------|-----------------|-----------------------|
| EB-111413(RES) | BIS(2-ETHYLHEXYL)PHTHALATE | 0.52 ug/L | 1.0U ug/L |
| EB-111413(RES) | Diethylphthalate | 0.29 ug/L | 1.0U ug/L |
| EB-111413(RES) | Di-n-butylphthalate | 0.21 ug/L | 1.0U ug/L |

Field Blank Outlier Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PrepPH129

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|-------------------|----------------------------|--|
| FB-041613(REA2/TOT) | 4/16/2013 3:15:00 PM | MOLYBDENUM TIN | 0.0132 mg/L 0.0029 mg/L | SL-508-SA5A-SB-0.0-0.5 SL-508-SA5A-SB-17.0-18.0 SL-508-SA5A-SB-21.0-22.0 SL-508-SA5A-SB-33.0-34.0 SL-508-SA5A-SB-4.0-5.0 SL-508-SA5A-SB-9.0-10.0 SL-521-SA5A-SB-0.0-0.5 SL-521-SA5A-SB-11.0-12.0 SL-521-SA5A-SB-14.0-15.0 SL-521-SA5A-SB-9.0-10.0 SL-821-SA5A-SB-11.0-12.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-------------------------------|------------|-----------------|-----------------------|
| SL-508-SA5A-SB-0.0-0.5(REA) | MOLYBDENUM | 0.339 mg/Kg | 0.339U mg/Kg |
| SL-508-SA5A-SB-17.0-18.0(REA) | MOLYBDENUM | 0.196 mg/Kg | 0.196U mg/Kg |
| SL-508-SA5A-SB-21.0-22.0(REA) | MOLYBDENUM | 0.311 mg/Kg | 0.311U mg/Kg |
| SL-508-SA5A-SB-33.0-34.0(REA) | MOLYBDENUM | 0.366 mg/Kg | 0.366U mg/Kg |
| SL-508-SA5A-SB-4.0-5.0(REA) | MOLYBDENUM | 1.26 mg/Kg | 1.26U mg/Kg |
| SL-508-SA5A-SB-9.0-10.0(REA) | MOLYBDENUM | 0.510 mg/Kg | 0.510U mg/Kg |
| SL-521-SA5A-SB-0.0-0.5(REA) | MOLYBDENUM | 0.264 mg/Kg | 0.264U mg/Kg |
| SL-521-SA5A-SB-11.0-12.0(REA) | MOLYBDENUM | 0.422 mg/Kg | 0.422U mg/Kg |
| SL-521-SA5A-SB-14.0-15.0(REA) | MOLYBDENUM | 0.232 mg/Kg | 0.232U mg/Kg |
| SL-521-SA5A-SB-9.0-10.0(REA) | MOLYBDENUM | 0.227 mg/Kg | 0.227U mg/Kg |
| SL-821-SA5A-SB-11.0-12.0(REA) | MOLYBDENUM | 0.405 mg/Kg | 0.405U mg/Kg |

Surrogate Outlier Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8315A

Matrix: SO

| <i>Sample ID (Analysis Type)</i> | <i>Surrogate</i> | <i>Sample % Recovery</i> | <i>% Recovery Limits</i> | <i>Affected Compounds</i> | <i>Flag</i> |
|--------------------------------------|------------------|------------------------------|------------------------------|-------------------------------|-----------------|
| SL-821-SA5A-SB-11.0-12.0 | Butyraldehyde | 136 | 64.00-126.00 | All Target Analytes | J (all detects) |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8015M
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--------------------------------|----------|-----------|------------------------------|--------------------------|--------------------------------|---------------------------------------|
| SL-521-SA5A-SB-11.0-12.0MSD (SL-521-SA5A-SB-11.0-12.0) | EFH (C15-C20) EFH (C21-C30) | - - | - - | 49.00-123.00 49.00-123.00 | 22 (20.00) 45 (20.00) | EFH (C15-C20) EFH (C21-C30) | J (all detects) |
| SL-521-SA5A-SB-11.0-12.0MSD (SL-521-SA5A-SB-11.0-12.0) | EFH (C30-C40) | - | 24 | 49.00-123.00 | 42 (20.00) | EFH (C30-C40) | J(all detects) UJ(all non-detects) |

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---|----------|-----------|------------------------------|--------------------------|---|----------------|
| SL-521-SA5A-SB-11.0-12.0MSD (SL-521-SA5A-SB-11.0-12.0) | BENZO(G,H,I)PERYLENE Di-n-octylphthalate | - - | - - | 33.00-141.00 52.00-162.00 | 31 (30.00) 42 (30.00) | BENZO(G,H,I)PERYLENE Di-n-octylphthalate | J(all detects) |

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|---------------------------------|-------------------|-----------------|--|-----------------|---------------------------------|--|
| SL-521-SA5A-SB-11.0-12.0MS (TOT) SL-521-SA5A-SB-11.0-12.0MSD (TOT) (SL-508-SA5A-SB-0.0-0.5 SL-508-SA5A-SB-17.0-18.0 SL-508-SA5A-SB-21.0-22.0 SL-508-SA5A-SB-33.0-34.0 SL-508-SA5A-SB-4.0-5.0 SL-508-SA5A-SB-9.0-10.0 SL-521-SA5A-SB-0.0-0.5 SL-521-SA5A-SB-11.0-12.0 SL-521-SA5A-SB-14.0-15.0 SL-521-SA5A-SB-9.0-10.0 SL-821-SA5A-SB-11.0-12.0) | MAGNESIUM TITANIUM | 206 267 | 149 291 | 75.00-125.00 75.00-125.00 | - - | MAGNESIUM TITANIUM | No Qual, >4x |
| SL-521-SA5A-SB-11.0-12.0MS (TOT) SL-521-SA5A-SB-11.0-12.0MSD (TOT) (SL-508-SA5A-SB-0.0-0.5 SL-508-SA5A-SB-17.0-18.0 SL-508-SA5A-SB-21.0-22.0 SL-508-SA5A-SB-33.0-34.0 SL-508-SA5A-SB-4.0-5.0 SL-508-SA5A-SB-9.0-10.0 SL-521-SA5A-SB-0.0-0.5 SL-521-SA5A-SB-11.0-12.0 SL-521-SA5A-SB-14.0-15.0 SL-521-SA5A-SB-9.0-10.0 SL-821-SA5A-SB-11.0-12.0) | IRON MANGANESE PHOSPHORUS | -67 -130 42 | 804 -59 1 | 75.00-125.00 75.00-125.00 75.00-125.00 | - - - | IRON MANGANESE PHOSPHORUS | J(all detects) UJ(all non-detects) Fe, Mn, No Qual, >4x P, Post Spike = 94% |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|-----------|----------|-----------|--------------|-----------------|-----------------------|--|
| SL-521-SA5A-SB-11.0-12.0MS (TOT) | ALUMINUM | 287 | 2155 | 75.00-125.00 | 22 (20.00) | ALUMINUM | J(all detects) UJ(all non-detects) Al, Ca, No Qual %R >4x |
| SL-521-SA5A-SB-11.0-12.0MSD (TOT) | ANTIMONY | 66 | 56 | 75.00-125.00 | - | ANTIMONY | |
| (SL-508-SA5A-SB-0.0-0.5) | CALCIUM | 286 | - | 75.00-125.00 | 22 (20.00) | CALCIUM | |
| SL -508-SA5A-SB-17.0-18.0 | POTASSIUM | - | 73 | 75.00-125.00 | - | POTASSIUM | |
| SL -508-SA5A-SB-21.0-22.0 | | | | | | | |
| SL -508-SA5A-SB-33.0-34.0 | | | | | | | |
| SL -508-SA5A-SB-4.0-5.0 | | | | | | | |
| SL -508-SA5A-SB-9.0-10.0 | | | | | | | |
| SL -521-SA5A-SB-0.0-0.5 | | | | | | | |
| SL -521-SA5A-SB-11.0-12.0 | | | | | | | |
| SL -521-SA5A-SB-14.0-15.0 | | | | | | | |
| SL -521-SA5A-SB-9.0-10.0 | | | | | | | |
| SL -821-SA5A-SB-11.0-12.0) | | | | | | | |

Method: 7199
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|---------------------|----------|-----------|--------------|-----------------|-----------------------|--------------------------------------|
| SL-521-SA5A-SB-11.0-12.0MS (TOT) | HEXAVALENT CHROMIUM | 4 | - | 75.00-125.00 | - | HEXAVALENT CHROMIUM | J(all detects) R(all non-detects) |
| (SL-521-SA5A-SB-0.0-0.5) | | | | | | | |
| SL -521-SA5A-SB-11.0-12.0 | | | | | | | |
| SL -521-SA5A-SB-14.0-15.0 | | | | | | | |
| SL -521-SA5A-SB-9.0-10.0 | | | | | | | |
| SL -821-SA5A-SB-11.0-12.0) | | | | | | | |

Method: 8260B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|-------------------------|----------|-----------|--------------|-----------------|-------------------------|---------------------------------------|
| SL-521-SA5A-SB-11.0-12.0MS | Chlorotrifluoroethylene | 31 | 26 | 70.00-130.00 | - | Chlorotrifluoroethylene | J(all detects) UJ(all non-detects) |
| SL-521-SA5A-SB-11.0-12.0MSD | | | | | | | |
| (SL-521-SA5A-SB-11.0-12.0) | | | | | | | |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 7199

Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|---|---------------------|---------------|--------------|---|
| SL-521-SA5A-SB-11.0-12.0DUP (TOT) (SL-521-SA5A-SB-0.0-0.5 SL-521-SA5A-SB-11.0-12.0 SL-521-SA5A-SB-14.0-15.0 SL-521-SA5A-SB-9.0-10.0 SL-821-SA5A-SB-11.0-12.0) | HEXAVALENT CHROMIUM | 111 | 20.00 | J (all detects) UJ (all non-detects) Out By Difference 0.94 mg/Kg (≤ 0.88 mg/Kg) |

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8015M
Matrix: AQ

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|-------------------------------|-----------|------------|------------------------------|-----------------|-------------------------------|---|
| P33228AQ321533A P33228AY321554A (EB-111413) | EFH (C30-C40) EFH (C8-C11) | 45 55 | 56 65 | 70.00-130.00 70.00-130.00 | - - | EFH (C30-C40) EFH (C8-C11) | J (all detects) UJ (all non-detects) |

Method: 8082A
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--------------|-----------|------------|--------------|-----------------|--|----------------|
| P33253AQ240102A (SL-508-SA5A-SB-0.0-0.5 SL-508-SA5A-SB-17.0-18.0 SL-508-SA5A-SB-21.0-22.0 SL-508-SA5A-SB-33.0-34.0 SL-508-SA5A-SB-4.0-5.0 SL-508-SA5A-SB-9.0-10.0 SL-521-SA5A-SB-0.0-0.5 SL-521-SA5A-SB-11.0-12.0 SL-521-SA5A-SB-14.0-15.0 SL-521-SA5A-SB-9.0-10.0 SL-821-SA5A-SB-11.0-12.0) | AROCLOR 1260 | 132 | - | 84.00-125.00 | - | AROCLOR 1242 AROCLOR 1248 AROCLOR 1254 AROCLOR 1260 AROCLOR 1262 AROCLOR 1268 | J(all detects) |

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|--|----------------|-------------|--|-----------------|---|---------------------------------------|
| P3LILCSQ261641 (SL-508-SA5A-SB-0.0-0.5 SL-508-SA5A-SB-17.0-18.0 SL-508-SA5A-SB-21.0-22.0 SL-508-SA5A-SB-33.0-34.0 SL-508-SA5A-SB-4.0-5.0 SL-508-SA5A-SB-9.0-10.0 SL-521-SA5A-SB-0.0-0.5 SL-521-SA5A-SB-11.0-12.0 SL-521-SA5A-SB-14.0-15.0 SL-521-SA5A-SB-9.0-10.0 SL-821-SA5A-SB-11.0-12.0) | BENZO(E)PYRENE BIS(2-ETHYLHEXYL)PHTHALAT Di-n-octylphthalate | 78 78 75 | - - - | 81.00-110.00 79.00-121.00 76.00-131.00 | - - - | BENZO(E)PYRENE BIS(2-ETHYLHEXYL)PHTHALA Di-n-octylphthalate | J(all detects) UJ(all non-detects) |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 160.3M

Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|--------------------------|--------------------------|------------|-----------|-----------------------|
| | SL-521-SA5A-SB-11.0-12.0 | SL-821-SA5A-SB-11.0-12.0 | | | |
| MOISTURE | 9.2 | 10 | 8 | | No Qualifiers Applied |

Method: 1613B

Matrix: SO

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag | |
|---------------------|--------------------------|--------------------------|------------|-----------|-----------------------|---------------------------------------|
| | SL-521-SA5A-SB-11.0-12.0 | SL-821-SA5A-SB-11.0-12.0 | | | | |
| 1,2,3,4,6,7,8-HPCDD | 0.384 | 0.388 | 1 | 50.00 | No Qualifiers Applied | |
| 1,2,3,4,6,7,8-HPCDF | 0.153 | 0.217 | 35 | 50.00 | | |
| 1,2,3,6,7,8-HXCDD | 0.335 | 0.338 | 1 | 50.00 | | |
| 1,2,3,7,8,9-HXCDD | 0.409 | 0.398 | 3 | 50.00 | | |
| 1,2,3,7,8,9-HXCDF | 0.375 | 0.458 | 20 | 50.00 | | |
| 2,3,7,8-TCDF | 0.0626 | 0.0519 | 19 | 50.00 | | |
| OCDD | 2.27 | 1.55 | 38 | 50.00 | | |
| OCDF | 0.368 | 0.553 | 40 | 50.00 | | |
| 1,2,3,4,7,8,9-HPCDF | 0.0955 | 0.238 | 85 | 50.00 | | J(all detects) UJ(all non-detects) |
| 1,2,3,4,7,8-HxCDD | 0.0550 | 0.212 | 118 | 50.00 | | |
| 1,2,3,4,7,8-HXCDF | 0.0939 | 0.219 | 80 | 50.00 | | |
| 1,2,3,6,7,8-HXCDF | 0.0747 | 0.256 | 110 | 50.00 | | |
| 1,2,3,7,8-PECDD | 0.118 | 0.281 | 82 | 50.00 | | |
| 1,2,3,7,8-PECDF | 0.145 | 0.299 | 69 | 50.00 | | |
| 2,3,4,6,7,8-HXCDF | 0.119 | 0.243 | 69 | 50.00 | | |
| 2,3,4,7,8-PECDF | 0.0714 | 0.282 | 119 | 50.00 | | |
| 2,3,7,8-TCDD | 1.06 U | 0.107 | 200 | 50.00 | | |

Method: 6010C

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|--------------------------------|--------------------------------|------------|-----------|-----------------------|
| | SL-521-SA5A-SB-11.0-12.0 (TOT) | SL-821-SA5A-SB-11.0-12.0 (TOT) | | | |
| ALUMINUM | 15500 | 17100 | 10 | 50.00 | No Qualifiers Applied |
| ARSENIC | 4.30 | 4.68 | 8 | 50.00 | |
| BARIUM | 104 | 123 | 17 | 50.00 | |
| BERYLLIUM | 0.562 | 0.636 | 12 | 50.00 | |
| BORON | 3.94 | 3.65 | 8 | 50.00 | |
| CALCIUM | 2250 | 2330 | 3 | 50.00 | |
| CHROMIUM | 16.6 | 18.4 | 10 | 50.00 | |
| COBALT | 5.48 | 5.66 | 3 | 50.00 | |
| COPPER | 9.57 | 12.2 | 24 | 50.00 | |
| IRON | 18600 | 20000 | 7 | 50.00 | |
| LEAD | 5.84 | 5.83 | 0 | 50.00 | |
| LITHIUM | 21.2 | 22.2 | 5 | 50.00 | |
| MAGNESIUM | 3820 | 4170 | 9 | 50.00 | |
| MANGANESE | 361 | 326 | 10 | 50.00 | |
| MOLYBDENUM | 0.422 | 0.405 | 4 | 50.00 | |
| NICKEL | 11.0 | 12.1 | 10 | 50.00 | |
| PHOSPHORUS | 340 | 396 | 15 | 50.00 | |
| POTASSIUM | 3210 | 3600 | 11 | 50.00 | |
| SODIUM | 117 | 120 | 3 | 50.00 | |
| TIN | 2.74 | 2.49 | 10 | 50.00 | |
| TITANIUM | 1040 | 1080 | 4 | 50.00 | |
| VANADIUM | 30.9 | 34.0 | 10 | 50.00 | |
| ZINC | 53.7 | 57.7 | 7 | 50.00 | |
| Zirconium | 3.91 | 4.14 | 6 | 50.00 | |

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Field Duplicate RPD Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6020A

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|--------------------------------|--------------------------------|------------|-----------|-----------------------|
| | SL-521-SA5A-SB-11.0-12.0 (TOT) | SL-821-SA5A-SB-11.0-12.0 (TOT) | | | |
| SELENIUM | 0.153 | 0.157 | 3 | 50.00 | No Qualifiers Applied |
| SILVER | 0.0438 | 0.0344 | 24 | 50.00 | |
| STRONTIUM | 22.1 | 24.4 | 10 | 50.00 | |
| THALLIUM | 0.254 | 0.277 | 9 | 50.00 | |

Method: 7199

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------------|--------------------------------|--------------------------------|------------|-----------|----------------|
| | SL-521-SA5A-SB-11.0-12.0 (TOT) | SL-821-SA5A-SB-11.0-12.0 (TOT) | | | |
| HEXAVALENT CHROMIUM | 1.3 | 0.33 | 119 | 50.00 | J(all detects) |

Method: 8015M

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------|--------------------------|--------------------------|------------|-----------|----------------|
| | SL-521-SA5A-SB-11.0-12.0 | SL-821-SA5A-SB-11.0-12.0 | | | |
| EFH (C21-C30) | 5.7 | 2.5 | 78 | 50.00 | J(all detects) |
| EFH (C30-C40) | 12 | 5.4 | 76 | 50.00 | |

Method: 8260B

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------------|--------------------------|--------------------------|------------|-----------|---------------------------------------|
| | SL-521-SA5A-SB-11.0-12.0 | SL-821-SA5A-SB-11.0-12.0 | | | |
| ACETONE | 32 | 36 | 12 | 50.00 | No Qualifiers Applied |
| 2-BUTANONE (MEK) | 11 U | 5 | 200 | 50.00 | J(all detects) UJ(all non-detects) |

Method: 8270D SIM

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------------------|--------------------------|--------------------------|------------|-----------|---------------------------------------|
| | SL-521-SA5A-SB-11.0-12.0 | SL-821-SA5A-SB-11.0-12.0 | | | |
| CHRYSENE | 0.65 | 0.61 | 6 | 50.00 | No Qualifiers Applied |
| NAPHTHALENE | 1.3 | 0.94 | 32 | 50.00 | |
| 1-METHYLNAPHTHALENE | 1.2 | 1.9 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| 2-METHYLNAPHTHALENE | 1.4 | 1.9 U | 200 | 50.00 | |
| BENZO(B)FLUORANTHENE | 1.9 | 0.75 | 87 | 50.00 | |

Method: 8315A

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|--------------|--------------------------|--------------------------|------------|-----------|-----------------------|
| | SL-521-SA5A-SB-11.0-12.0 | SL-821-SA5A-SB-11.0-12.0 | | | |
| FORMALDEHYDE | 13000 | 14000 | 7 | 50.00 | No Qualifiers Applied |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Field Duplicate RPD Report

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 9045M

Matrix: SO

| Analyte | Concentration (pH unit) | | Sample RPD | eQAPP RPD | Flag |
|---------|------------------------------|------------------------------|---------------|--------------|-----------------------|
| | SL-521-SA5A-SB-11.0- 12.0 | SL-821-SA5A-SB-11.0- 12.0 | | | |
| PH | 7.86 | 6.89 | 13 | 50.00 | No Qualifiers Applied |

Reporting Limit Outliers

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-----------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| EB-111413 | 1,2,3,4,6,7,8-HPCDD | JB | 0.636 | 9.78 | PQL | pg/L | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.485 | 9.78 | PQL | pg/L | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.576 | 9.78 | PQL | pg/L | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.291 | 9.78 | PQL | pg/L | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.706 | 9.78 | PQL | pg/L | |
| | 1,2,3,6,7,8-HxCDD | J | 0.578 | 9.78 | PQL | pg/L | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.519 | 9.78 | PQL | pg/L | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.691 | 9.78 | PQL | pg/L | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.649 | 9.78 | PQL | pg/L | |
| | 1,2,3,7,8-PECDD | JBQ | 0.426 | 9.78 | PQL | pg/L | |
| | 1,2,3,7,8-PECDF | JBQ | 0.594 | 9.78 | PQL | pg/L | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.510 | 9.78 | PQL | pg/L | |
| | 2,3,4,7,8-PECDF | JBQ | 0.500 | 9.78 | PQL | pg/L | |
| | 2,3,7,8-TCDF | J | 0.366 | 1.96 | PQL | pg/L | |
| | OCDD | JBQ | 2.00 | 19.6 | PQL | pg/L | |
| | OCDF | JBQ | 1.70 | 19.6 | PQL | pg/L | |

Method: 8081B
Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-----------|----------|----------|--------|-----------------|---------|-------|-----------------|
| EB-111413 | BETA-BHC | J | 0.0037 | 0.0080 | PQL | ug/L | J (all detects) |

Method: 8270D SIM
Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-----------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| EB-111413 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 0.52 | 1.0 | PQL | ug/L | J (all detects) |
| | Diethylphthalate | J | 0.29 | 1.0 | PQL | ug/L | |
| | Di-n-butylphthalate | J | 0.21 | 1.0 | PQL | ug/L | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|--------------------------|---------------------|--------|-----------------|---------|-------|-----------------|
| SL-508-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 2.71 | 5.29 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.470 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.124 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0867 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0833 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.155 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.131 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.170 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.0869 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.0790 | 5.29 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.197 | 5.29 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.101 | 5.29 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.155 | 5.29 | PQL | ng/Kg | |
| | OCDF | JBQ | 1.00 | 10.6 | PQL | ng/Kg | |
| | SL-508-SA5A-SB-17.0-18.0 | 1,2,3,4,6,7,8-HPCDD | JB | 2.81 | 5.39 | PQL | |
| 1,2,3,4,6,7,8-HPCDF | | JB | 0.643 | 5.39 | PQL | ng/Kg | |
| 1,2,3,4,7,8,9-HPCDF | | JBQ | 0.211 | 5.39 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HxCDD | | JBQ | 0.131 | 5.39 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HxCDF | | JB | 0.185 | 5.39 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HxCDD | | JB | 0.182 | 5.39 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HxCDF | | JBQ | 0.0775 | 5.39 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HxCDD | | JBQ | 0.142 | 5.39 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HxCDF | | JB | 0.299 | 5.39 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDF | | JBQ | 0.0978 | 5.39 | PQL | ng/Kg | |
| 2,3,4,6,7,8-HxCDF | | JB | 0.128 | 5.39 | PQL | ng/Kg | |
| 2,3,4,7,8-PECDF | | JBQ | 0.0871 | 5.39 | PQL | ng/Kg | |
| OCDF | JB | 1.30 | 10.8 | PQL | ng/Kg | | |
| SL-508-SA5A-SB-21.0-22.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 1.02 | 5.37 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.224 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.128 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.124 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.170 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.241 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.116 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.214 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.249 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0973 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.150 | 5.37 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0613 | 5.37 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.0664 | 5.37 | PQL | ng/Kg | |
| | OCDD | JB | 7.70 | 10.7 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.506 | 10.7 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-508-SA5A-SB-33.0-34.0 | 1,2,3,4,6,7,8-HPCDD | JB | 1.26 | 5.64 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.265 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0871 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.108 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.100 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.0559 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.138 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.148 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.192 | 5.64 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.130 | 5.64 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.158 | 5.64 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.131 | 1.13 | PQL | ng/Kg | |
| | OCDD | JB | 8.57 | 11.3 | PQL | ng/Kg | |
| | OCDF | JB | 0.488 | 11.3 | PQL | ng/Kg | |
| SL-508-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JB | 1.47 | 5.33 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.387 | 5.33 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.261 | 5.33 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.0750 | 5.33 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.250 | 5.33 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.147 | 5.33 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.300 | 5.33 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.139 | 5.33 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.167 | 5.33 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.160 | 5.33 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0899 | 5.33 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.275 | 5.33 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.0870 | 1.07 | PQL | ng/Kg | |
| | OCDF | JB | 1.07 | 10.7 | PQL | ng/Kg | |
| SL-508-SA5A-SB-9.0-10.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.523 | 5.44 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.477 | 5.44 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.277 | 5.44 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.298 | 5.44 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.283 | 5.44 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.172 | 5.44 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.291 | 5.44 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.368 | 5.44 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.447 | 5.44 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.319 | 5.44 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.258 | 5.44 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.378 | 5.44 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.233 | 1.09 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.204 | 1.09 | PQL | ng/Kg | |
| | OCDD | JBQ | 3.82 | 10.9 | PQL | ng/Kg | |
| | OCDF | JB | 0.533 | 10.9 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-521-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.51 | 5.28 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.176 | 5.28 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.213 | 5.28 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.313 | 5.28 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.708 | 5.28 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.255 | 5.28 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.406 | 5.28 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.234 | 5.28 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.131 | 5.28 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 1.26 | 5.28 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.215 | 5.28 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.177 | 5.28 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0583 | 1.06 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0723 | 1.06 | PQL | ng/Kg | |
| | OCDF | JB | 3.38 | 10.6 | PQL | ng/Kg | |
| SL-521-SA5A-SB-11.0-12.0 | 1,2,3,4,6,7,8-HPCDD | JB | 0.384 | 5.31 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.153 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0955 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0550 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.0939 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.335 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0747 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.409 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.375 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.118 | 5.31 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.145 | 5.31 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.119 | 5.31 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0714 | 5.31 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.0626 | 1.06 | PQL | ng/Kg | |
| | OCDD | JB | 2.27 | 10.6 | PQL | ng/Kg | |
| OCDF | JB | 0.368 | 10.6 | PQL | ng/Kg | | |
| SL-521-SA5A-SB-14.0-15.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.971 | 5.43 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.232 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0604 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.102 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.119 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.185 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.143 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.121 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.103 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.124 | 5.43 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.131 | 5.43 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.126 | 5.43 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.135 | 5.43 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.109 | 1.09 | PQL | ng/Kg | |
| | OCDD | JB | 8.66 | 10.9 | PQL | ng/Kg | |
| OCDF | JBQ | 0.518 | 10.9 | PQL | ng/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-521-SA5A-SB-9.0-10.0 | 1,2,3,4,6,7,8-HPCDD | JB | 3.03 | 5.37 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.385 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0840 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.109 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.187 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.0739 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.146 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.147 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0893 | 5.37 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.134 | 5.37 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0632 | 5.37 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0751 | 5.37 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.138 | 1.07 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.768 | 10.7 | PQL | ng/Kg | |
| SL-821-SA5A-SB-11.0-12.0 | 1,2,3,4,6,7,8-HPCDD | JB | 0.388 | 5.34 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.217 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.238 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.212 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.219 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.338 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.256 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.398 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.458 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.281 | 5.34 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.299 | 5.34 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.243 | 5.34 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.282 | 5.34 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.107 | 1.07 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0519 | 1.07 | PQL | ng/Kg | |
| | OCDD | JB | 1.55 | 10.7 | PQL | ng/Kg | |
| OCDF | JB | 0.553 | 10.7 | PQL | ng/Kg | | |

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-508-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.502 | 1.05 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.33 | 10.5 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.339 | 2.09 | PQL | mg/Kg | |
| | SODIUM | J | 89.6 | 105 | PQL | mg/Kg | |
| | TIN | J | 2.90 | 10.5 | PQL | mg/Kg | |
| | Zirconium | J | 2.83 | 5.23 | PQL | mg/Kg | |
| SL-508-SA5A-SB-17.0-18.0 | BERYLLIUM | J | 0.619 | 1.09 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.21 | 10.9 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.196 | 2.18 | PQL | mg/Kg | |
| | TIN | J | 3.04 | 10.9 | PQL | mg/Kg | |
| | Zirconium | J | 3.08 | 5.45 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-508-SA5A-SB-21.0-22.0 | BERYLLIUM | J | 0.632 | 1.09 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.35 | 10.9 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.311 | 2.19 | PQL | mg/Kg | |
| | TIN | J | 3.06 | 10.9 | PQL | mg/Kg | |
| | Zirconium | J | 3.71 | 5.47 | PQL | mg/Kg | |
| SL-508-SA5A-SB-33.0-34.0 | BERYLLIUM | J | 0.401 | 1.13 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.32 | 11.3 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.366 | 2.27 | PQL | mg/Kg | |
| | TIN | J | 2.86 | 11.3 | PQL | mg/Kg | |
| | Zirconium | J | 2.68 | 5.67 | PQL | mg/Kg | |
| SL-508-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.454 | 1.08 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.62 | 10.8 | PQL | mg/Kg | |
| | CADMIUM | J | 0.113 | 1.08 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 1.26 | 2.16 | PQL | mg/Kg | |
| | TIN | J | 2.88 | 10.8 | PQL | mg/Kg | |
| SL-508-SA5A-SB-9.0-10.0 | Zirconium | J | 4.31 | 5.40 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.513 | 1.10 | PQL | mg/Kg | |
| | BORON | J | 2.38 | 11.0 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.510 | 2.20 | PQL | mg/Kg | |
| | TIN | J | 3.01 | 11.0 | PQL | mg/Kg | |
| SL-521-SA5A-SB-0.0-0.5 | Zirconium | J | 2.81 | 5.49 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.847 | 1.06 | PQL | mg/Kg | |
| | BORON | J | 2.92 | 10.6 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.264 | 2.12 | PQL | mg/Kg | |
| | TIN | J | 3.23 | 10.6 | PQL | mg/Kg | |
| SL-521-SA5A-SB-11.0-12.0 | Zirconium | J | 3.39 | 5.29 | PQL | mg/Kg | J (all detects) |
| | ARSENIC | J | 4.30 | 4.36 | PQL | mg/Kg | |
| | BERYLLIUM | J | 0.562 | 1.09 | PQL | mg/Kg | |
| | BORON | J | 3.94 | 10.9 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.422 | 2.18 | PQL | mg/Kg | |
| SL-521-SA5A-SB-14.0-15.0 | TIN | J | 2.74 | 10.9 | PQL | mg/Kg | J (all detects) |
| | Zirconium | J | 3.91 | 5.45 | PQL | mg/Kg | |
| | BERYLLIUM | J | 0.807 | 1.08 | PQL | mg/Kg | |
| | BORON | J | 2.70 | 10.8 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.232 | 2.16 | PQL | mg/Kg | |
| SL-521-SA5A-SB-9.0-10.0 | TIN | J | 3.33 | 10.8 | PQL | mg/Kg | J (all detects) |
| | Zirconium | J | 4.06 | 5.39 | PQL | mg/Kg | |
| | ARSENIC | J | 4.15 | 4.29 | PQL | mg/Kg | |
| | BERYLLIUM | J | 0.549 | 1.07 | PQL | mg/Kg | |
| | BORON | J | 2.39 | 10.7 | PQL | mg/Kg | |
| SL-821-SA5A-SB-11.0-12.0 | MOLYBDENUM | J | 0.227 | 2.14 | PQL | mg/Kg | J (all detects) |
| | TIN | J | 2.78 | 10.7 | PQL | mg/Kg | |
| | Zirconium | J | 2.81 | 5.36 | PQL | mg/Kg | |
| | BERYLLIUM | J | 0.636 | 1.07 | PQL | mg/Kg | |
| | BORON | J | 3.65 | 10.7 | PQL | mg/Kg | |
| SL-821-SA5A-SB-11.0-12.0 | MOLYBDENUM | J | 0.405 | 2.14 | PQL | mg/Kg | J (all detects) |
| | TIN | J | 2.49 | 10.7 | PQL | mg/Kg | |
| | Zirconium | J | 4.14 | 5.34 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-508-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.131 | 0.418 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0318 | 0.209 | PQL | mg/Kg | |
| SL-508-SA5A-SB-17.0-18.0 | SELENIUM | J | 0.161 | 0.436 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0362 | 0.218 | PQL | mg/Kg | |
| SL-508-SA5A-SB-21.0-22.0 | SELENIUM | J | 0.155 | 0.438 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0346 | 0.219 | PQL | mg/Kg | |
| SL-508-SA5A-SB-33.0-34.0 | SELENIUM | J | 0.212 | 0.454 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0313 | 0.227 | PQL | mg/Kg | |
| | THALLIUM | J | 0.218 | 0.227 | PQL | mg/Kg | |
| SL-508-SA5A-SB-4.0-5.0 | SELENIUM | J | 0.151 | 0.432 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0404 | 0.216 | PQL | mg/Kg | |
| SL-508-SA5A-SB-9.0-10.0 | SELENIUM | J | 0.314 | 0.439 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0687 | 0.220 | PQL | mg/Kg | |
| SL-521-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.154 | 0.423 | PQL | mg/Kg | J (all detects) |
| SL-521-SA5A-SB-11.0-12.0 | SELENIUM | J | 0.153 | 0.436 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0438 | 0.218 | PQL | mg/Kg | |
| SL-521-SA5A-SB-14.0-15.0 | SELENIUM | J | 0.208 | 0.431 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0550 | 0.216 | PQL | mg/Kg | |
| SL-521-SA5A-SB-9.0-10.0 | SELENIUM | J | 0.138 | 0.429 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0281 | 0.214 | PQL | mg/Kg | |
| SL-821-SA5A-SB-11.0-12.0 | SELENIUM | J | 0.157 | 0.427 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0344 | 0.214 | PQL | mg/Kg | |

Method: 7199
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-521-SA5A-SB-14.0-15.0 | HEXAVALENT CHROMIUM | J | 0.44 | 0.45 | PQL | mg/Kg | J (all detects) |
| SL-521-SA5A-SB-9.0-10.0 | HEXAVALENT CHROMIUM | J | 0.41 | 0.44 | PQL | mg/Kg | J (all detects) |
| SL-821-SA5A-SB-11.0-12.0 | HEXAVALENT CHROMIUM | J | 0.33 | 0.45 | PQL | mg/Kg | J (all detects) |

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-508-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0148 | 0.0174 | PQL | mg/Kg | J (all detects) |
| SL-521-SA5A-SB-9.0-10.0 | MERCURY | J | 0.0125 | 0.0181 | PQL | mg/Kg | J (all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|----------------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-508-SA5A-SB-17.0-18.0 | EFH (C30-C40) | J | 9.8 | 11 | PQL | mg/Kg | J (all detects) |
| SL-508-SA5A-SB-33.0-34.0 | EFH (C21-C30) | J | 4.3 | 5.7 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 6.7 | 11 | PQL | mg/Kg | |
| SL-508-SA5A-SB-4.0-5.0 | GASOLINE RANGE ORGANICS (C5-C12) | J | 3.4 | 11 | PQL | mg/Kg | J (all detects) |
| SL-521-SA5A-SB-9.0-10.0 | EFH (C15-C20) | J | 4.6 | 5.6 | PQL | mg/Kg | J (all detects) |
| SL-821-SA5A-SB-11.0-12.0 | EFH (C21-C30) | J | 2.5 | 5.6 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 5.4 | 11 | PQL | mg/Kg | |

Method: 8082A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|--------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-508-SA5A-SB-4.0-5.0 | AROCLOR 1254 | J | 8.0 | 18 | PQL | ug/Kg | J (all detects) |
| SL-521-SA5A-SB-0.0-0.5 | Aroclor 5460 | J | 29 | 35 | PQL | ug/Kg | J (all detects) |

Method: 8260B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-821-SA5A-SB-11.0-12.0 | 2-BUTANONE (MEK) | J | 5 | 11 | PQL | ug/Kg | J (all detects) |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-508-SA5A-SB-0.0-0.5 | BENZO(A)ANTHRACENE | J | 13 | 18 | PQL | ug/Kg | J (all detects) |
| | BENZO(G,H,I)PERYLENE | J | 15 | 18 | PQL | ug/Kg | |
| | DIBENZO(A,H)ANTHRACENE | J | 7.9 | 18 | PQL | ug/Kg | |
| | PYRENE | J | 13 | 18 | PQL | ug/Kg | |
| SL-508-SA5A-SB-17.0-18.0 | BENZO(B)FLUORANTHENE | J | 0.92 | 1.8 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 0.39 | 1.8 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.6 | 1.8 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 0.91 | 1.8 | PQL | ug/Kg | |
| | PYRENE | J | 1.4 | 1.8 | PQL | ug/Kg | |
| SL-508-SA5A-SB-21.0-22.0 | BENZO(B)FLUORANTHENE | J | 0.88 | 1.9 | PQL | ug/Kg | J (all detects) |
| | FLUORANTHENE | J | 1.0 | 1.9 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.77 | 1.9 | PQL | ug/Kg | |
| SL-508-SA5A-SB-33.0-34.0 | BENZO(A)PYRENE | J | 0.77 | 1.9 | PQL | ug/Kg | J (all detects) |
| | BENZO(B)FLUORANTHENE | J | 1.8 | 1.9 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 0.81 | 1.9 | PQL | ug/Kg | |
| | CHRYSENE | J | 0.73 | 1.9 | PQL | ug/Kg | |
| | PYRENE | J | 1.4 | 1.9 | PQL | ug/Kg | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Reporting Limit Outliers

Lab Reporting Batch ID: PH129

Laboratory: LL

EDD Filename: PH129_v1.

eQAPP Name: CDM_SSFL_131101_Lan

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-508-SA5A-SB-4.0-5.0 | 1-METHYLNAPHTHALENE | J | 12 | 18 | PQL | ug/Kg | J (all detects) |
| | 2-METHYLNAPHTHALENE | J | 16 | 18 | PQL | ug/Kg | |
| | ANTHRACENE | J | 3.8 | 18 | PQL | ug/Kg | |
| | BENZO(E)PYRENE | J | 100 | 180 | PQL | ug/Kg | |
| | DIBENZO(A,H)ANTHRACENE | J | 13 | 18 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 17 | 18 | PQL | ug/Kg | |
| | INDENO(1,2,3-CD)PYRENE | J | 9.8 | 18 | PQL | ug/Kg | |
| SL-508-SA5A-SB-9.0-10.0 | 1-METHYLNAPHTHALENE | J | 0.74 | 1.8 | PQL | ug/Kg | J (all detects) |
| | 2-METHYLNAPHTHALENE | J | 1.2 | 1.8 | PQL | ug/Kg | |
| | CHRYSENE | J | 0.47 | 1.8 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 1.6 | 1.8 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.0 | 1.8 | PQL | ug/Kg | |
| SL-521-SA5A-SB-0.0-0.5 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 10 | 19 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 0.46 | 1.8 | PQL | ug/Kg | |
| SL-521-SA5A-SB-11.0-12.0 | 1-METHYLNAPHTHALENE | J | 1.2 | 1.8 | PQL | ug/Kg | J (all detects) |
| | 2-METHYLNAPHTHALENE | J | 1.4 | 1.8 | PQL | ug/Kg | |
| | CHRYSENE | J | 0.65 | 1.8 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 1.3 | 1.8 | PQL | ug/Kg | |
| SL-521-SA5A-SB-14.0-15.0 | BENZO(B)FLUORANTHENE | J | 1.2 | 1.8 | PQL | ug/Kg | J (all detects) |
| | PYRENE | J | 1.7 | 1.8 | PQL | ug/Kg | |
| SL-521-SA5A-SB-9.0-10.0 | ANTHRACENE | J | 0.81 | 1.8 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 1.2 | 1.8 | PQL | ug/Kg | |
| | FLUORENE | J | 0.86 | 1.8 | PQL | ug/Kg | |
| | PYRENE | J | 1.0 | 1.8 | PQL | ug/Kg | |
| SL-821-SA5A-SB-11.0-12.0 | BENZO(B)FLUORANTHENE | J | 0.75 | 1.9 | PQL | ug/Kg | J (all detects) |
| | CHRYSENE | J | 0.61 | 1.9 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 0.94 | 1.9 | PQL | ug/Kg | |

LDC #: 31093A4

VALIDATION COMPLETENESS WORKSHEET

Date: 1/13/14

SDG #: PH129

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: *el*

2nd Reviewer: *[Signature]*

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----------|--------------------------|
| I. | Technical holding times | — | Sampling dates: 11/14/13 |
| II. | ICP/MS Tune | — | |
| III. | Calibration | — | |
| IV. | Blanks | A | |
| V. | ICP Interference Check Sample (ICS) Analysis | — | |
| VI. | Matrix Spike Analysis | SW MS/D | |
| VII. | Duplicate Sample Analysis | A D/R | |
| VIII. | Laboratory Control Samples (LCS) | A LCS | |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | Furnace Atomic Absorption QC | N | |
| XI. | ICP Serial Dilution | A | |
| XII. | Sample Result Verification | N | |
| XIII. | Overall Assessment of Data | N | |
| XIV. | Field Duplicates | — | (10, 11) |
| XV. | Field Blanks | SW EB=1* | FB=FB-041613 (PHO3a) |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

*ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: *soil/water*

| | | | | | | | |
|----|--------------------------|----|-----------------------------|----|--|----|--|
| 1 | EB-111413 | 11 | SL-821-SA5A-SB-11.0-12.0 | 21 | | 31 | |
| 2 | SL-508-SA5A-SB-0.0-0.5 | 12 | SL-521-SA5A-SB-14.0-15.0 | 22 | | 32 | |
| 3 | SL-508-SA5A-SB-4.0-5.0 | 13 | SL-521-SA5A-SB-11.0-12.0MS | 23 | | 33 | |
| 4 | SL-508-SA5A-SB-9.0-10.0 | 14 | SL-521-SA5A-SB-11.0-12.0MSD | 24 | | 34 | |
| 5 | SL-508-SA5A-SB-17.0-18.0 | 15 | SL-521-SA5A-SB-11.0-12.0DUP | 25 | | 35 | |
| 6 | SL-508-SA5A-SB-21.0-22.0 | 16 | | 26 | | 36 | |
| 7 | SL-508-SA5A-SB-33.0-34.0 | 17 | | 27 | | 37 | |
| 8 | SL-521-SA5A-SB-0.0-0.5 | 18 | | 28 | | 38 | |
| 9 | SL-521-SA5A-SB-9.0-10.0 | 19 | | 29 | | 39 | |
| 10 | SL-521-SA5A-SB-11.0-12.0 | 20 | | 30 | | 40 | |

Notes: _____

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F

Sampling date: 4/16/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All Soil

| Analyte | Blank ID | Sample Identification | | | | | | | | | | | | |
|---------|------------------------------|-----------------------|--------------------------|------------------------|-------|--------------------------|-------|--------------------------|-------|--------------------------|-------|-------|-------|--|
| | | Action Limit | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| | FB-041613 (SDG: PH032) | | | | | | | | | | | | | |
| Mo | 0.0132 | 6.60 | 0.339 0.34 | 1.26 1.3 | 0.510 | 0.196 0.20 | 0.311 | 0.366 0.37 | 0.264 | 0.227 0.23 | 0.422 | 0.405 | 0.232 | |
| Sn | 0.0029 | 1.45 | | | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

74x

~~ALCOHOL~~
~~GLASS~~ (E)

P, J/UJ(A) ~~SP~~ Post Spike = 94% sm

Background Lab Sample ID: 7279108BKG

Matrix Spike Lab Sample ID: 7279109MS

Matrix Spike Duplicate Lab Sample ID: 7279110MSD

Batch Id(s): P32737A, P32738A

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | Control Limit | | M | | |
|------------|------|------------|---|------------|---|------------|---|----------------|-----------------|-------|------|---|------|---|---------------|---|----------|----|-----|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | RPD | Q | | %R | RPD |
| Aluminum | | 14081.0832 | | 14643.0853 | | 18307.1961 | | 196.0784 | 196.0784 | MG/KG | 287 | | 2155 | | | | 20 | P | |
| Antimony | | 0.7327 | U | 32.1235 | | 27.2324 | | 49.0196 | 49.0196 | MG/KG | 66 | N | 56 | N | 16 | | 75 - 125 | 20 | P |
| Arsenic | | 3.9089 | B | 18.5127 | | 18.7520 | | 14.7059 | 14.7059 | MG/KG | 99 | | 101 | | 1 | | 75 - 125 | 20 | P |
| Barium | | 94.2317 | | 272.6657 | | 296.1167 | | 196.0784 | 196.0784 | MG/KG | 91 | | 103 | | 8 | | 75 - 125 | 20 | P |
| Beryllium | | 0.5099 | B | 5.4902 | | 5.6931 | | 4.9020 | 4.9020 | MG/KG | 102 | | 106 | | 4 | | 75 - 125 | 20 | P |
| Boron | | 3.5733 | B | 199.1990 | | 200.1775 | | 196.0784 | 196.0784 | MG/KG | 100 | | 100 | | 0 | | 75 - 125 | 20 | P |
| Cadmium | | 0.0752 | U | 4.8500 | | 4.7873 | | 4.9020 | 4.9020 | MG/KG | 99 | | 98 | | 1 | | 75 - 125 | 20 | P |
| Calcium | | 2046.8040 | | 3167.8559 | | 2536.0922 | | 392.1569 | 392.1569 | MG/KG | 286 | | 125 | | | | | 20 | P |
| Chromium | | 15.0366 | | 33.3931 | | 34.8088 | | 19.6078 | 19.6078 | MG/KG | 94 | | 101 | | 4 | | 75 - 125 | 20 | P |
| Cobalt | | 4.9743 | | 53.0569 | | 53.9676 | | 49.0196 | 49.0196 | MG/KG | 98 | | 100 | | 2 | | 75 - 125 | 20 | P |
| Copper | | 8.6851 | | 32.0255 | | 33.2431 | | 24.5098 | 24.5098 | MG/KG | 95 | | 100 | | 4 | | 75 - 125 | 20 | P |
| Iron | | 16869.8366 | | 16804.5127 | | 17658.4882 | | 98.0392 | 98.0392 | MG/KG | -67 | | 804 | | 5 | | | 20 | P |
| Lead | | 5.2990 | | 23.6324 | | 20.0618 | | 14.7059 | 14.7059 | MG/KG | 125 | | 100 | | 16 | | 75 - 125 | 20 | P |
| Lithium | | 19.2287 | | 122.1627 | | 123.5137 | | 98.0392 | 98.0392 | MG/KG | 105 | | 106 | | 1 | | 75 - 125 | 20 | P |
| Magnesium | | 3472.2782 | | 3877.0490 | | 3764.6549 | | 196.0784 | 196.0784 | MG/KG | 206 | | 149 | | 3 | | | 20 | P |
| Manganese | | 328.2069 | | 264.6245 | | 299.3755 | | 49.0196 | 49.0196 | MG/KG | -130 | | -59 | | 12 | | | 20 | P |
| Mercury | | 0.0093 | U | 0.1526 | | 0.1408 | | 0.1608 | 0.1572 | MG/KG | 95 | | 90 | | 8 | | 65 - 135 | 20 | CV |
| Molybdenum | | 0.3832 | B | 194.5882 | | 192.2235 | | 196.0784 | 196.0784 | MG/KG | 99 | | 98 | | 1 | | 75 - 125 | 20 | P |
| Nickel | | 10.0139 | | 57.1010 | | 58.9353 | | 49.0196 | 49.0196 | MG/KG | 96 | | 100 | | 3 | | 75 - 125 | 20 | P |
| Phosphorus | | 308.8139 | | 349.9569 | | 309.5255 | | 98.0392 | 98.0392 | MG/KG | 42 | N | 1 | N | 12 | | 75 - 125 | 20 | P |
| Potassium | | 2913.4050 | | 3701.0382 | | 3630.7147 | | 980.3922 | 980.3922 | MG/KG | 80 | | 73 | N | 2 | | 75 - 125 | 20 | P |
| Selenium | 78 | 0.1390 | B | 2.2573 | | 2.1416 | | 1.9608 | 1.9608 | MG/KG | 108 | | 102 | | 5 | | 75 - 125 | 20 | MS |
| Silver | 107 | 0.0398 | B | 11.1980 | | 10.8624 | | 9.8039 | 9.8039 | MG/KG | 114 | | 110 | | 3 | | 75 - 125 | 20 | MS |
| Sodium | | 106.6020 | | 1133.6225 | | 1130.9637 | | 980.3922 | 980.3922 | MG/KG | 105 | | 104 | | 0 | | 75 - 125 | 20 | P |
| Strontium | 88 | 20.0499 | | 27.8243 | | 29.8555 | | 7.8431 | 7.8431 | MG/KG | 99 | | 125 | | 7 | | 75 - 125 | 20 | MS |
| Thallium | 203 | 0.2305 | | 0.6902 | | 0.6657 | | 0.3922 | 0.3922 | MG/KG | 117 | | 111 | | 4 | | 75 - 125 | 20 | MS |

Note: Results shown are reported on an as-received basis.

| | |
|--|---|
| <p>METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry</p> | <p>CONCENTRATION QUALIFIERS: U= Below MDL, B= Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS</p> |
|--|---|



Lancaster
Laboratories

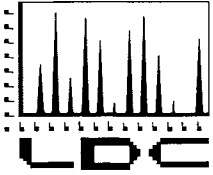
QUALITY ASSURANCE SUMMARY
FORM 5A (MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: PH129
Matrix: SOIL Level: LOW
(low/med):

Background Lab Sample ID: 7279108BKG Matrix Spike Lab Sample ID: 7279109MS Matrix Spike Duplicate Lab Sample ID: 7279110MSD
Batch Id(s): P32737A, P32738A

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | Control Limit | | | | | |
|-----------|------|------------|---|-----------|---|------------|---|----------------|-----------------|-------|-----|---|-----|---|---------------|---|----------|-----|----|---|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | RPD | Q | %R | RPD | M | |
| Tin | | 2.4921 | B | 371.2765 | | 368.4500 | | 392.1569 | 392.1569 | MG/KG | 94 | | 93 | | 1 | | 75 - 125 | 20 | P | |
| Titanium | | 944.1010 | | 1205.4265 | | 1229.4294 | | 98.0392 | 98.0392 | MG/KG | 267 | | 291 | | 2 | | | | 20 | P |
| Vanadium | | 28.0881 | | 78.0814 | | 82.3814 | | 49.0196 | 49.0196 | MG/KG | 102 | | 111 | | 5 | | 75 - 125 | 20 | P | |
| Zinc | | 48.7931 | | 96.8373 | | 94.8480 | | 49.0196 | 49.0196 | MG/KG | 98 | | 94 | | 2 | | 75 - 125 | 20 | P | |
| Zirconium | | 3.5475 | B | 99.4775 | | 99.7853 | | 98.0392 | 98.0392 | MG/KG | 98 | | 98 | | 0 | | 75 - 125 | 20 | P | |

Note: Results shown are reported on an as-received basis.

| | |
|--|---|
| <p>METHODS:</p> <p>P = ICP Atomic Emission Spectrometer CV = Cold Vapor MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence</p> | <p>CONCENTRATION QUALIFIERS:</p> <p>U= Below MDL, B= Below LOQ</p> <p>FLAGS:</p> <p>N = Matrix Spike OOS, * = Duplicate OOS</p> |
|--|---|



LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

CDM
555 17th Street, Suite 1100
Denver, CO 80202
ATTN: Mrs. Cherie Zakowski

February 24, 2014

SUBJECT: Revised Santa Susana Field Laboratory, SA 5A Data Validation

Dear Mrs. Zakowski,

Enclosed is the revised LDC deliverable for the fractions listed below. The DVR for SDG PH136 was revised to include EB-120312 from SDG PH138.

LDC Project # 31212:

| <u>SDG #</u> | <u>Fraction</u> |
|--|--|
| PH131, PH132 PH133, PH134 PH135, PH136 | Volatiles, 1,4-Dioxane, Semivolatiles, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Total Petroleum Hydrocarbons as Gasoline, Total Petroleum Hydrocarbons as Extractables, Dioxins/Dibenzofurans, Formaldehyde, Terphenyls, Wet Chemistry |

Please feel free to contact us if you have any questions.

Sincerely,

Shauna McKellar
Project Manager/Chemist

**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5A

SDG: PH131

Prepared for

CDM Smith
555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

Laboratory Data Consultants, Inc.
2701 Loker Ave West, Suite 220
Carlsbad, California 92010

February 19, 2014

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on November 18, 2013. Data validation was performed in accordance with the Quality Assurance Project Plan (QAPP) for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFGs) for Superfund Organic Methods Data Review (June 2008), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A and 7471B
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M
TPH as Extractables by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B
Terphenyls by EPA SW 846 Method 8015B

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment 2. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks, field blanks and field duplicate samples. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the ICB/CCBs and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met QC criteria.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of several blanks for metals, TPH as gasoline and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one MS/MSD pair for SVOCs, TPH as extractables, metals and terphenyls. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

IX. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met with the following exceptions:

| Diluted Sample | Analyte | %D (Limits) | Associated Samples | Flag | A or P |
|------------------------|-----------|-------------|-------------------------------|---|--------|
| SL-709-SA5A-SB-4.0-5.0 | Strontium | 14 (≤10) | All soil samples in SDG PH131 | J (all detects) UJ (all non-detects) | A |

The associated sample results were qualified as detected estimated (J).

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--|-----------------|--------|
| All samples in SDG PH131 | All compounds reported as detected below the RL. | J (all detects) | A |

XIII. Field Duplicate Samples

One field duplicate pair was collected and analyzed for SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables, dioxins and terphenyls. All RPDs were within QC limits with the exception of several SVOCs, metals, TPH as extractables, dioxins and terphenyls. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The field duplicate result comparisons are provided in Enclosure I.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No contaminants were found in the trip blank.

One equipment blank (from SDG PH132) was collected and analyzed for SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables, dioxins and terphenyls. The equipment blank had detections for SVOCs and dioxins. The sample results were not detected or were significantly greater than the concentrations found in the equipment blank, therefore no data

were qualified.

One field blank (from SDG PH032) was collected and analyzed for SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables, dioxins and terphenyls. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. The remainder of the data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 18-Nov-2013 | TB-111813 | 7282325 | TB | 5030B | 8015M | III |
| 18-Nov-2013 | SL-696-SA5A-SB-0.0-0.5 | 7282326 | N | 3050B | 6010C | III |
| 18-Nov-2013 | SL-696-SA5A-SB-0.0-0.5 | 7282326 | N | 3050B | 6020A | III |
| 18-Nov-2013 | SL-696-SA5A-SB-0.0-0.5 | 7282326 | N | 3546 | 8015M | III |
| 18-Nov-2013 | SL-696-SA5A-SB-0.0-0.5 | 7282326 | N | 3546 | 8082A | III |
| 18-Nov-2013 | SL-696-SA5A-SB-0.0-0.5 | 7282326 | N | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-696-SA5A-SB-0.0-0.5 | 7282326 | N | METHOD | 1613B | III |
| 18-Nov-2013 | SL-696-SA5A-SB-0.0-0.5 | 7282326 | N | METHOD | 7471B | III |
| 18-Nov-2013 | SL-696-SA5A-SB-4.0-5.0 | 7282327 | N | 3050B | 6010C | III |
| 18-Nov-2013 | SL-696-SA5A-SB-4.0-5.0 | 7282327 | N | 3050B | 6020A | III |
| 18-Nov-2013 | SL-696-SA5A-SB-4.0-5.0 | 7282327 | N | 3546 | 8015M | III |
| 18-Nov-2013 | SL-696-SA5A-SB-4.0-5.0 | 7282327 | N | 3546 | 8082A | III |
| 18-Nov-2013 | SL-696-SA5A-SB-4.0-5.0 | 7282327 | N | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-696-SA5A-SB-4.0-5.0 | 7282327 | N | 5035A | 8015M | III |
| 18-Nov-2013 | SL-696-SA5A-SB-4.0-5.0 | 7282327 | N | METHOD | 1613B | III |
| 18-Nov-2013 | SL-696-SA5A-SB-4.0-5.0 | 7282327 | N | METHOD | 7471B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-0.0-0.5 | 7282328 | N | 3050B | 6010C | III |
| 18-Nov-2013 | SL-709-SA5A-SB-0.0-0.5 | 7282328 | N | 3050B | 6020A | III |
| 18-Nov-2013 | SL-709-SA5A-SB-0.0-0.5 | 7282328 | N | 3546 | 8015M | III |
| 18-Nov-2013 | SL-709-SA5A-SB-0.0-0.5 | 7282328 | N | 3546 | 8082A | III |
| 18-Nov-2013 | SL-709-SA5A-SB-0.0-0.5 | 7282328 | N | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-709-SA5A-SB-0.0-0.5 | 7282328 | N | 3550B | 8015B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-0.0-0.5 | 7282328 | N | METHOD | 1613B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-0.0-0.5 | 7282328 | N | METHOD | 7471B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0 | 7282330 | N | 3050B | 6010C | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0 | 7282330 | N | 3050B | 6020A | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0 | 7282330 | N | 3546 | 8015M | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0 | 7282330 | N | 3546 | 8082A | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0 | 7282330 | N | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0 | 7282330 | N | 3550B | 8015B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0 | 7282330 | N | 5035A | 8015M | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0 | 7282330 | N | METHOD | 1613B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0 | 7282330 | N | METHOD | 7471B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MS | 7282331 | MS | 3050B | 6010C | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MS | 7282331 | MS | 3050B | 6020A | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MS | 7282331 | MS | 3546 | 8015M | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MS | 7282331 | MS | 3546 | 8082A | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MS | 7282331 | MS | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MS | 7282331 | MS | 3550B | 8015B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MS | 7282331 | MS | 5035A | 8015M | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MS | 7282331 | MS | METHOD | 1613B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MS | 7282331 | MS | METHOD | 7471B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MSD | 7282332 | MSD | 3050B | 6010C | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MSD | 7282332 | MSD | 3050B | 6020A | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MSD | 7282332 | MSD | 3546 | 8015M | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MSD | 7282332 | MSD | 3546 | 8082A | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MSD | 7282332 | MSD | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MSD | 7282332 | MSD | 3550B | 8015B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MSD | 7282332 | MSD | 5035A | 8015M | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MSD | 7282332 | MSD | METHOD | 1613B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0MSD | 7282332 | MSD | METHOD | 7471B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0DUP | 7282333 | DUP | 3050B | 6010C | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0DUP | 7282333 | DUP | 3050B | 6020A | III |
| 18-Nov-2013 | SL-709-SA5A-SB-4.0-5.0DUP | 7282333 | DUP | METHOD | 7471B | III |
| 18-Nov-2013 | SL-1009-SA5A-SB-4.0-5.0 | 7282329 | FD | 3050B | 6010C | III |
| 18-Nov-2013 | SL-1009-SA5A-SB-4.0-5.0 | 7282329 | FD | 3050B | 6020A | III |
| 18-Nov-2013 | SL-1009-SA5A-SB-4.0-5.0 | 7282329 | FD | 3546 | 8015M | III |
| 18-Nov-2013 | SL-1009-SA5A-SB-4.0-5.0 | 7282329 | FD | 3546 | 8082A | III |
| 18-Nov-2013 | SL-1009-SA5A-SB-4.0-5.0 | 7282329 | FD | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-1009-SA5A-SB-4.0-5.0 | 7282329 | FD | 3550B | 8015B | III |
| 18-Nov-2013 | SL-1009-SA5A-SB-4.0-5.0 | 7282329 | FD | 5035A | 8015M | III |
| 18-Nov-2013 | SL-1009-SA5A-SB-4.0-5.0 | 7282329 | FD | METHOD | 1613B | III |
| 18-Nov-2013 | SL-1009-SA5A-SB-4.0-5.0 | 7282329 | FD | METHOD | 7471B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-8.0-9.0 | 7282334 | N | 3050B | 6010C | III |
| 18-Nov-2013 | SL-709-SA5A-SB-8.0-9.0 | 7282334 | N | 3050B | 6020A | III |
| 18-Nov-2013 | SL-709-SA5A-SB-8.0-9.0 | 7282334 | N | 3546 | 8015M | III |
| 18-Nov-2013 | SL-709-SA5A-SB-8.0-9.0 | 7282334 | N | 3546 | 8082A | III |
| 18-Nov-2013 | SL-709-SA5A-SB-8.0-9.0 | 7282334 | N | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-709-SA5A-SB-8.0-9.0 | 7282334 | N | 3550B | 8015B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-8.0-9.0 | 7282334 | N | 5035A | 8015M | III |
| 18-Nov-2013 | SL-709-SA5A-SB-8.0-9.0 | 7282334 | N | METHOD | 1613B | III |
| 18-Nov-2013 | SL-709-SA5A-SB-8.0-9.0 | 7282334 | N | METHOD | 7471B | III |
| 18-Nov-2013 | SL-710-SA5A-SB-0.0-0.5 | 7282335 | N | 3050B | 6010C | III |
| 18-Nov-2013 | SL-710-SA5A-SB-0.0-0.5 | 7282335 | N | 3050B | 6020A | III |
| 18-Nov-2013 | SL-710-SA5A-SB-0.0-0.5 | 7282335 | N | 3546 | 8015M | III |
| 18-Nov-2013 | SL-710-SA5A-SB-0.0-0.5 | 7282335 | N | 3546 | 8082A | III |
| 18-Nov-2013 | SL-710-SA5A-SB-0.0-0.5 | 7282335 | N | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-710-SA5A-SB-0.0-0.5 | 7282335 | N | METHOD | 1613B | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 18-Nov-2013 | SL-710-SA5A-SB-0.0-0.5 | 7282335 | N | METHOD | 7471B | III |
| 18-Nov-2013 | SL-722-SA5A-SB-0.0-0.5 | 7282336 | N | 3050B | 6010C | III |
| 18-Nov-2013 | SL-722-SA5A-SB-0.0-0.5 | 7282336 | N | 3050B | 6020A | III |
| 18-Nov-2013 | SL-722-SA5A-SB-0.0-0.5 | 7282336 | N | 3546 | 8015M | III |
| 18-Nov-2013 | SL-722-SA5A-SB-0.0-0.5 | 7282336 | N | 3546 | 8082A | III |
| 18-Nov-2013 | SL-722-SA5A-SB-0.0-0.5 | 7282336 | N | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-722-SA5A-SB-0.0-0.5 | 7282336 | N | METHOD | 1613B | III |
| 18-Nov-2013 | SL-722-SA5A-SB-0.0-0.5 | 7282336 | N | METHOD | 7471B | III |
| 18-Nov-2013 | SL-735-SA5A-SB-0.0-0.5 | 7282337 | N | 3050B | 6010C | III |
| 18-Nov-2013 | SL-735-SA5A-SB-0.0-0.5 | 7282337 | N | 3050B | 6020A | III |
| 18-Nov-2013 | SL-735-SA5A-SB-0.0-0.5 | 7282337 | N | 3546 | 8015M | III |
| 18-Nov-2013 | SL-735-SA5A-SB-0.0-0.5 | 7282337 | N | 3546 | 8082A | III |
| 18-Nov-2013 | SL-735-SA5A-SB-0.0-0.5 | 7282337 | N | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-735-SA5A-SB-0.0-0.5 | 7282337 | N | METHOD | 1613B | III |
| 18-Nov-2013 | SL-735-SA5A-SB-0.0-0.5 | 7282337 | N | METHOD | 7471B | III |
| 18-Nov-2013 | SL-735-SA5A-SB-2.5-3.5 | 7282338 | N | 3050B | 6010C | III |
| 18-Nov-2013 | SL-735-SA5A-SB-2.5-3.5 | 7282338 | N | 3050B | 6020A | III |
| 18-Nov-2013 | SL-735-SA5A-SB-2.5-3.5 | 7282338 | N | 3546 | 8015M | III |
| 18-Nov-2013 | SL-735-SA5A-SB-2.5-3.5 | 7282338 | N | 3546 | 8082A | III |
| 18-Nov-2013 | SL-735-SA5A-SB-2.5-3.5 | 7282338 | N | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-735-SA5A-SB-2.5-3.5 | 7282338 | N | 5035A | 8015M | III |
| 18-Nov-2013 | SL-735-SA5A-SB-2.5-3.5 | 7282338 | N | METHOD | 1613B | III |
| 18-Nov-2013 | SL-735-SA5A-SB-2.5-3.5 | 7282338 | N | METHOD | 7471B | III |
| 18-Nov-2013 | SL-736-SA5A-SB-0.0-0.5 | 7282339 | N | 3050B | 6010C | III |
| 18-Nov-2013 | SL-736-SA5A-SB-0.0-0.5 | 7282339 | N | 3050B | 6020A | III |
| 18-Nov-2013 | SL-736-SA5A-SB-0.0-0.5 | 7282339 | N | 3546 | 8015M | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 18-Nov-2013 | SL-736-SA5A-SB-0.0-0.5 | 7282339 | N | 3546 | 8082A | III |
| 18-Nov-2013 | SL-736-SA5A-SB-0.0-0.5 | 7282339 | N | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-736-SA5A-SB-0.0-0.5 | 7282339 | N | METHOD | 1613B | III |
| 18-Nov-2013 | SL-736-SA5A-SB-0.0-0.5 | 7282339 | N | METHOD | 7471B | III |
| 18-Nov-2013 | SL-736-SA5A-SB-3.0-4.0 | 7282340 | N | 3050B | 6010C | III |
| 18-Nov-2013 | SL-736-SA5A-SB-3.0-4.0 | 7282340 | N | 3050B | 6020A | III |
| 18-Nov-2013 | SL-736-SA5A-SB-3.0-4.0 | 7282340 | N | 3546 | 8015M | III |
| 18-Nov-2013 | SL-736-SA5A-SB-3.0-4.0 | 7282340 | N | 3546 | 8082A | III |
| 18-Nov-2013 | SL-736-SA5A-SB-3.0-4.0 | 7282340 | N | 3546 | 8270D SIM | III |
| 18-Nov-2013 | SL-736-SA5A-SB-3.0-4.0 | 7282340 | N | 5035A | 8015M | III |
| 18-Nov-2013 | SL-736-SA5A-SB-3.0-4.0 | 7282340 | N | METHOD | 1613B | III |
| 18-Nov-2013 | SL-736-SA5A-SB-3.0-4.0 | 7282340 | N | METHOD | 7471B | III |

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-1009-SA5A-SB-4.0-5.0

Collected: 11/18/2013 10:20:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.00 | U | 0.740 | MDL | 4.00 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.566 | J | 0.0670 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 2.05 | J | 0.840 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 1.21 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | F |
| POTASSIUM | 3240 | | 8.34 | MDL | 100 | PQL | mg/Kg | J | Q |
| SODIUM | 78.9 | J | 16.7 | MDL | 100 | PQL | mg/Kg | J | Z |
| TIN | 2.70 | J | 0.220 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 2.58 | J | 0.840 | MDL | 5.00 | PQL | mg/Kg | J | Z |
| PHOSPHORUS | 409 | | 2.89 | MDL | 10.0 | PQL | mg/Kg | J | Q |

Sample ID: SL-696-SA5A-SB-0.0-0.5

Collected: 11/18/2013 8:56:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.06 | U | 0.751 | MDL | 4.06 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.06 | J | 0.710 | MDL | 4.06 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.509 | J | 0.0680 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 2.11 | J | 0.852 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.166 | J | 0.0771 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.508 | J | 0.172 | MDL | 2.03 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 367 | | 2.93 | MDL | 10.1 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3440 | | 8.46 | MDL | 101 | PQL | mg/Kg | J | Q |
| TIN | 2.86 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 3.62 | J | 0.852 | MDL | 5.07 | PQL | mg/Kg | J | Z |

Sample ID: SL-696-SA5A-SB-4.0-5.0

Collected: 11/18/2013 9:05:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.08 | U | 0.756 | MDL | 4.08 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.588 | J | 0.0684 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 0.975 | J | 0.858 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.228 | J | 0.174 | MDL | 2.04 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 296 | | 2.95 | MDL | 10.2 | PQL | mg/Kg | J | Q |
| POTASSIUM | 1480 | | 8.52 | MDL | 102 | PQL | mg/Kg | J | Q |
| TIN | 2.86 | J | 0.225 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 3.02 | J | 0.858 | MDL | 5.11 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-709-SA5A-SB-0.0-0.5

Collected: 11/18/2013 10:10:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.01 | U | 0.741 | MDL | 4.01 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.92 | J | 0.701 | MDL | 4.01 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.608 | J | 0.0671 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 1.23 | J | 0.841 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.316 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 337 | | 2.89 | MDL | 10.0 | PQL | mg/Kg | J | Q |
| POTASSIUM | 2630 | | 8.35 | MDL | 100 | PQL | mg/Kg | J | Q |
| SODIUM | 68.3 | J | 16.7 | MDL | 100 | PQL | mg/Kg | J | Z |
| TIN | 2.73 | J | 0.220 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 2.49 | J | 0.841 | MDL | 5.01 | PQL | mg/Kg | J | Z |

Sample ID: SL-709-SA5A-SB-4.0-5.0

Collected: 11/18/2013 10:15:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.05 | U | 0.750 | MDL | 4.05 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.81 | J | 0.709 | MDL | 4.05 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.605 | J | 0.0679 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 2.15 | J | 0.851 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.816 | J | 0.172 | MDL | 2.03 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 366 | | 2.93 | MDL | 10.1 | PQL | mg/Kg | J | Q |
| POTASSIUM | 2790 | | 8.45 | MDL | 101 | PQL | mg/Kg | J | Q |
| SODIUM | 91.0 | J | 16.9 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 2.78 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 2.74 | J | 0.851 | MDL | 5.07 | PQL | mg/Kg | J | Z |

Sample ID: SL-709-SA5A-SB-8.0-9.0

Collected: 11/18/2013 10:25:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.14 | U | 0.766 | MDL | 4.14 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 2.85 | J | 0.725 | MDL | 4.14 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.557 | J | 0.0694 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| BORON | 1.22 | J | 0.870 | MDL | 10.4 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 1.65 | J | 0.176 | MDL | 2.07 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 165 | | 2.99 | MDL | 10.4 | PQL | mg/Kg | J | Q |
| POTASSIUM | 1880 | | 8.63 | MDL | 104 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

2/20/2014 10:26:31 AM

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-709-SA5A-SB-8.0-9.0

Collected: 11/18/2013 10:25:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| TIN | 2.86 | J | 0.228 | MDL | 10.4 | PQL | mg/Kg | U | B |
| Zirconium | 2.90 | J | 0.870 | MDL | 5.18 | PQL | mg/Kg | J | Z |

Sample ID: SL-710-SA5A-SB-0.0-0.5

Collected: 11/18/2013 12:50:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.09 | U | 0.756 | MDL | 4.09 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.17 | J | 0.715 | MDL | 4.09 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.579 | J | 0.0684 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 1.52 | J | 0.858 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.481 | J | 0.174 | MDL | 2.04 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 371 | | 2.95 | MDL | 10.2 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3360 | | 8.52 | MDL | 102 | PQL | mg/Kg | J | Q |
| SODIUM | 67.0 | J | 17.1 | MDL | 102 | PQL | mg/Kg | J | Z |
| TIN | 2.63 | J | 0.225 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 2.27 | J | 0.858 | MDL | 5.11 | PQL | mg/Kg | J | Z |

Sample ID: SL-722-SA5A-SB-0.0-0.5

Collected: 11/18/2013 1:22:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.13 | U | 0.764 | MDL | 4.13 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.36 | J | 0.722 | MDL | 4.13 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.573 | J | 0.0691 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.423 | J | 0.175 | MDL | 2.06 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 407 | | 2.98 | MDL | 10.3 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3670 | | 8.61 | MDL | 103 | PQL | mg/Kg | J | Q |
| SODIUM | 72.2 | J | 17.2 | MDL | 103 | PQL | mg/Kg | J | Z |
| TIN | 2.73 | J | 0.227 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 2.37 | J | 0.867 | MDL | 5.16 | PQL | mg/Kg | J | Z |

Sample ID: SL-735-SA5A-SB-0.0-0.5

Collected: 11/18/2013 1:57:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.05 | U | 0.750 | MDL | 4.05 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.97 | J | 0.709 | MDL | 4.05 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-735-SA5A-SB-0.0-0.5

Collected: 11/18/2013 1:57:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| BERYLLIUM | 0.737 | J | 0.0679 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 2.43 | J | 0.851 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.575 | J | 0.172 | MDL | 2.03 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 403 | | 2.93 | MDL | 10.1 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3220 | | 8.45 | MDL | 101 | PQL | mg/Kg | J | Q |
| SODIUM | 83.1 | J | 16.9 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 2.83 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 4.02 | J | 0.851 | MDL | 5.07 | PQL | mg/Kg | J | Z |

Sample ID: SL-735-SA5A-SB-2.5-3.5

Collected: 11/18/2013 2:00:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.11 | U | 0.760 | MDL | 4.11 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.509 | J | 0.0688 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| PHOSPHORUS | 293 | | 2.97 | MDL | 10.3 | PQL | mg/Kg | J | Q |
| POTASSIUM | 1530 | | 8.57 | MDL | 103 | PQL | mg/Kg | J | Q |
| TIN | 3.21 | J | 0.226 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 3.35 | J | 0.863 | MDL | 5.14 | PQL | mg/Kg | J | Z |

Sample ID: SL-736-SA5A-SB-0.0-0.5

Collected: 11/18/2013 2:30:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.19 | U | 0.775 | MDL | 4.19 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.721 | J | 0.0702 | MDL | 1.05 | PQL | mg/Kg | J | Z |
| BORON | 1.87 | J | 0.880 | MDL | 10.5 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.442 | J | 0.178 | MDL | 2.10 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 434 | | 3.03 | MDL | 10.5 | PQL | mg/Kg | J | Q |
| POTASSIUM | 4230 | | 8.74 | MDL | 105 | PQL | mg/Kg | J | Q |
| SODIUM | 73.1 | J | 17.5 | MDL | 105 | PQL | mg/Kg | J | Z |
| TIN | 2.81 | J | 0.230 | MDL | 10.5 | PQL | mg/Kg | U | B |
| Zirconium | 3.29 | J | 0.880 | MDL | 5.24 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-736-SA5A-SB-3.0-4.0

Collected: 11/18/2013 2:34:00

Analysis Type: RES/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.30 | U | 0.796 | MDL | 4.30 | PQL | mg/Kg | UJ | Q |
| BORON | 1.11 | J | 0.904 | MDL | 10.8 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.546 | J | 0.183 | MDL | 2.16 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 868 | | 3.11 | MDL | 10.8 | PQL | mg/Kg | J | Q |
| POTASSIUM | 4690 | | 8.98 | MDL | 108 | PQL | mg/Kg | J | Q |
| TIN | 4.72 | J | 0.237 | MDL | 10.8 | PQL | mg/Kg | U | B |

Method Category: METALS

Method: 6020A

Matrix: SO

Sample ID: SL-1009-SA5A-SB-4.0-5.0

Collected: 11/18/2013 10:20:00

Analysis Type: REA/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.161 | J | 0.100 | MDL | 0.400 | PQL | mg/Kg | J | Z |

Sample ID: SL-1009-SA5A-SB-4.0-5.0

Collected: 11/18/2013 10:20:00

Analysis Type: RES/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0930 | J | 0.0260 | MDL | 0.200 | PQL | mg/Kg | J | Z, FD |
| STRONTIUM | 22.9 | | 0.0680 | MDL | 0.400 | PQL | mg/Kg | J | Q, A |

Sample ID: SL-696-SA5A-SB-0.0-0.5

Collected: 11/18/2013 8:56:00

Analysis Type: REA/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.148 | J | 0.101 | MDL | 0.406 | PQL | mg/Kg | J | Z |

Sample ID: SL-696-SA5A-SB-0.0-0.5

Collected: 11/18/2013 8:56:00

Analysis Type: RES/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0457 | J | 0.0264 | MDL | 0.203 | PQL | mg/Kg | J | Z |
| STRONTIUM | 53.8 | | 0.0690 | MDL | 0.406 | PQL | mg/Kg | J | Q, A |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6020A

Matrix: SO

Sample ID: SL-696-SA5A-SB-4.0-5.0 Collected: 11/18/2013 9:05:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.136 | J | 0.102 | MDL | 0.408 | PQL | mg/Kg | J | Z |

Sample ID: SL-696-SA5A-SB-4.0-5.0 Collected: 11/18/2013 9:05:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0272 | J | 0.0266 | MDL | 0.204 | PQL | mg/Kg | J | Z |
| STRONTIUM | 20.9 | | 0.0694 | MDL | 0.408 | PQL | mg/Kg | J | Q, A |

Sample ID: SL-709-SA5A-SB-0.0-0.5 Collected: 11/18/2013 10:10:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.170 | J | 0.100 | MDL | 0.401 | PQL | mg/Kg | J | Z |

Sample ID: SL-709-SA5A-SB-0.0-0.5 Collected: 11/18/2013 10:10:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0395 | J | 0.0260 | MDL | 0.200 | PQL | mg/Kg | J | Z |
| STRONTIUM | 22.1 | | 0.0681 | MDL | 0.401 | PQL | mg/Kg | J | Q, A |

Sample ID: SL-709-SA5A-SB-4.0-5.0 Collected: 11/18/2013 10:15:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.145 | J | 0.101 | MDL | 0.405 | PQL | mg/Kg | J | Z |

Sample ID: SL-709-SA5A-SB-4.0-5.0 Collected: 11/18/2013 10:15:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.158 | J | 0.0263 | MDL | 0.203 | PQL | mg/Kg | J | Z, FD |
| STRONTIUM | 24.2 | | 0.0689 | MDL | 0.405 | PQL | mg/Kg | J | Q, A |

Sample ID: SL-709-SA5A-SB-8.0-9.0 Collected: 11/18/2013 10:25:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0445 | J | 0.0269 | MDL | 0.207 | PQL | mg/Kg | J | Z |
| STRONTIUM | 19.7 | | 0.0704 | MDL | 0.414 | PQL | mg/Kg | J | Q, A |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6020A

Matrix: SO

Sample ID: SL-710-SA5A-SB-0.0-0.5 Collected: 11/18/2013 12:50:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.206 | J | 0.102 | MDL | 0.409 | PQL | mg/Kg | J | Z |

Sample ID: SL-710-SA5A-SB-0.0-0.5 Collected: 11/18/2013 12:50:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0505 | J | 0.0266 | MDL | 0.204 | PQL | mg/Kg | J | Z |
| STRONTIUM | 20.6 | | 0.0695 | MDL | 0.409 | PQL | mg/Kg | J | Q, A |

Sample ID: SL-722-SA5A-SB-0.0-0.5 Collected: 11/18/2013 1:22:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.189 | J | 0.103 | MDL | 0.413 | PQL | mg/Kg | J | Z |

Sample ID: SL-722-SA5A-SB-0.0-0.5 Collected: 11/18/2013 1:22:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 16.1 | | 0.0702 | MDL | 0.413 | PQL | mg/Kg | J | Q, A |

Sample ID: SL-735-SA5A-SB-0.0-0.5 Collected: 11/18/2013 1:57:00 Analysis Type: REA/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.191 | J | 0.101 | MDL | 0.405 | PQL | mg/Kg | J | Z |

Sample ID: SL-735-SA5A-SB-0.0-0.5 Collected: 11/18/2013 1:57:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0312 | J | 0.0263 | MDL | 0.203 | PQL | mg/Kg | J | Z |
| STRONTIUM | 21.4 | | 0.0689 | MDL | 0.405 | PQL | mg/Kg | J | Q, A |

Sample ID: SL-735-SA5A-SB-2.5-3.5 Collected: 11/18/2013 2:00:00 Analysis Type: RES/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 21.4 | | 0.0699 | MDL | 0.411 | PQL | mg/Kg | J | Q, A |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

2/20/2014 10:26:31 AM

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6020A

Matrix: SO

Sample ID: SL-736-SA5A-SB-0.0-0.5

Collected: 11/18/2013 2:30:00

Analysis Type: REA/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.204 | J | 0.105 | MDL | 0.419 | PQL | mg/Kg | J | Z |

Sample ID: SL-736-SA5A-SB-0.0-0.5

Collected: 11/18/2013 2:30:00

Analysis Type: RES/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0423 | J | 0.0272 | MDL | 0.210 | PQL | mg/Kg | J | Z |
| STRONTIUM | 19.9 | | 0.0712 | MDL | 0.419 | PQL | mg/Kg | J | Q, A |

Sample ID: SL-736-SA5A-SB-3.0-4.0

Collected: 11/18/2013 2:34:00

Analysis Type: REA/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.390 | J | 0.108 | MDL | 0.430 | PQL | mg/Kg | J | Z |

Sample ID: SL-736-SA5A-SB-3.0-4.0

Collected: 11/18/2013 2:34:00

Analysis Type: RES/TOT

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 33.7 | | 0.0732 | MDL | 0.430 | PQL | mg/Kg | J | Q, A |

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-1009-SA5A-SB-4.0-5.0

Collected: 11/18/2013 10:20:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 1.39 | JB | 0.0371 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.132 | JBQ | 0.0513 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 4.99 | U | 0.0569 | MDL | 4.99 | PQL | ng/Kg | UJ | FD |
| 1,2,3,4,7,8-HXCDF | 0.0855 | JQ | 0.0560 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 0.266 | JQ | 0.0681 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0779 | JBQ | 0.0495 | MDL | 4.99 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8,9-HxCDD | 0.189 | JB | 0.0635 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.133 | JQ | 0.0587 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.271 | JBQ | 0.0496 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.100 | JBQ | 0.0523 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.106 | JBQ | 0.0446 | MDL | 4.99 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-1009-SA5A-SB-4.0-5.0

Collected: 11/18/2013 10:20:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| OCDF | 3.32 | JB | 0.0854 | MDL | 9.98 | PQL | ng/Kg | J | Z |

Sample ID: SL-696-SA5A-SB-0.0-5.0

Collected: 11/18/2013 8:56:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 4.12 | JB | 0.0706 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.894 | JB | 0.0299 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0499 | JBQ | 0.0436 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.115 | JQ | 0.0614 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 0.184 | JQ | 0.0485 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 0.324 | JBQ | 0.0425 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.210 | JBQ | 0.0463 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0858 | JBQ | 0.0458 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0615 | JB | 0.0512 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0561 | JBQ | 0.0447 | MDL | 5.00 | PQL | ng/Kg | U | B |
| OCDF | 2.21 | JBQ | 0.0765 | MDL | 10.0 | PQL | ng/Kg | J | Z |

Sample ID: SL-696-SA5A-SB-4.0-5.0

Collected: 11/18/2013 9:05:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.122 | JBQ | 0.0530 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0626 | JBQ | 0.0172 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.0586 | JQ | 0.0325 | MDL | 5.17 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0523 | JBQ | 0.0449 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.0463 | JBQ | 0.0321 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0621 | JBQ | 0.0479 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0515 | JBQ | 0.0439 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0900 | JBQ | 0.0424 | MDL | 5.17 | PQL | ng/Kg | U | B |
| OCDD | 0.944 | JB | 0.0525 | MDL | 10.3 | PQL | ng/Kg | U | B |
| OCDF | 0.105 | JBQ | 0.0707 | MDL | 10.3 | PQL | ng/Kg | U | B |

Sample ID: SL-709-SA5A-SB-0.0-5.0

Collected: 11/18/2013 10:10:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.457 | JBQ | 0.0695 | MDL | 4.98 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-709-SA5A-SB-0.0-0.5

Collected: 11/18/2013 10:10:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 0.150 | JBQ | 0.0188 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0510 | JBQ | 0.0292 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.0747 | JQ | 0.0535 | MDL | 4.98 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 0.157 | JBQ | 0.0505 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0782 | JBQ | 0.0561 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0856 | JBQ | 0.0464 | MDL | 4.98 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0703 | JBQ | 0.0455 | MDL | 4.98 | PQL | ng/Kg | U | B |
| OCDD | 7.61 | JB | 0.0539 | MDL | 9.97 | PQL | ng/Kg | J | Z |
| OCDF | 0.302 | JBQ | 0.0802 | MDL | 9.97 | PQL | ng/Kg | U | B |

Sample ID: SL-709-SA5A-SB-4.0-5.0

Collected: 11/18/2013 10:15:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 1.70 | JB | 0.0387 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.194 | JBQ | 0.0501 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.138 | JBQ | 0.0658 | MDL | 4.99 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HXCDF | 0.111 | J | 0.0655 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 0.391 | J | 0.0656 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.177 | JBQ | 0.0564 | MDL | 4.99 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HXCDD | 0.200 | JBQ | 0.0719 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0932 | JQ | 0.0769 | MDL | 4.99 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.222 | JBQ | 0.0532 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0796 | JB | 0.0596 | MDL | 4.99 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.122 | JBQ | 0.0497 | MDL | 4.99 | PQL | ng/Kg | U | B |
| OCDF | 4.00 | JBQ | 0.0719 | MDL | 9.99 | PQL | ng/Kg | J | Z |

Sample ID: SL-709-SA5A-SB-8.0-9.0

Collected: 11/18/2013 10:25:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 1.18 | JB | 0.0324 | MDL | 5.01 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.329 | JB | 0.0152 | MDL | 5.01 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.161 | JB | 0.0208 | MDL | 5.01 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.146 | JBQ | 0.0311 | MDL | 5.01 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.171 | J | 0.0265 | MDL | 5.01 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 0.191 | J | 0.0316 | MDL | 5.01 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-709-SA5A-SB-8.0-9.0

Collected: 11/18/2013 10:25:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,6,7,8-HXCDF | 0.220 | JB | 0.0267 | MDL | 5.01 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 0.200 | JBQ | 0.0316 | MDL | 5.01 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.258 | JB | 0.0327 | MDL | 5.01 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.217 | J | 0.0337 | MDL | 5.01 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.225 | JBQ | 0.0218 | MDL | 5.01 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.188 | JBQ | 0.0287 | MDL | 5.01 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.238 | JBQ | 0.0219 | MDL | 5.01 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0756 | JQ | 0.0451 | MDL | 1.00 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.0551 | JQ | 0.0488 | MDL | 1.00 | PQL | ng/Kg | J | Z |
| OCDF | 0.642 | JB | 0.0385 | MDL | 10.0 | PQL | ng/Kg | U | B |

Sample ID: SL-710-SA5A-SB-0.0-0.5

Collected: 11/18/2013 12:50:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.339 | JBQ | 0.0315 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.112 | JBQ | 0.0113 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0560 | JBQ | 0.0182 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0801 | JBQ | 0.0256 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.119 | JQ | 0.0255 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 0.301 | JQ | 0.0253 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.143 | JB | 0.0232 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 0.572 | JB | 0.0257 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.416 | JBQ | 0.0259 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.235 | J | 0.0378 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.315 | JBQ | 0.0254 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0981 | JB | 0.0238 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.181 | JB | 0.0251 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0925 | JQ | 0.0515 | MDL | 0.993 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.0689 | JQ | 0.0488 | MDL | 0.993 | PQL | ng/Kg | J | Z |
| OCDD | 4.27 | JB | 0.0275 | MDL | 9.93 | PQL | ng/Kg | J | Z |
| OCDF | 0.238 | JB | 0.0422 | MDL | 9.93 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-722-SA5A-SB-0.0-0.5

Collected: 11/18/2013 1:22:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.342 | JB | 0.0266 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0953 | JBQ | 0.0137 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0865 | JBQ | 0.0186 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0393 | JBQ | 0.0290 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0594 | JQ | 0.0284 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 0.428 | JQ | 0.0302 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0903 | JBQ | 0.0255 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.665 | JB | 0.0290 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.278 | JBQ | 0.0276 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.109 | JQ | 0.0399 | MDL | 5.00 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.209 | JBQ | 0.0235 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0816 | JBQ | 0.0263 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.152 | JB | 0.0261 | MDL | 5.00 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0667 | JQ | 0.0461 | MDL | 0.999 | PQL | ng/Kg | J | Z |
| OCDD | 2.76 | JB | 0.0257 | MDL | 9.99 | PQL | ng/Kg | J | Z |
| OCDF | 0.241 | JBQ | 0.0402 | MDL | 9.99 | PQL | ng/Kg | U | B |

Sample ID: SL-735-SA5A-SB-0.0-0.5

Collected: 11/18/2013 1:57:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 2.80 | JB | 0.0304 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.585 | JB | 0.0155 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.0678 | JBQ | 0.0233 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.111 | JBQ | 0.0355 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0959 | J | 0.0284 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 0.183 | JQ | 0.0374 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0877 | JBQ | 0.0258 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.243 | JB | 0.0321 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.103 | JBQ | 0.0277 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.134 | J | 0.0300 | MDL | 4.92 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.134 | JBQ | 0.0246 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.123 | JBQ | 0.0281 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.118 | JB | 0.0216 | MDL | 4.92 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0488 | JQ | 0.0479 | MDL | 0.983 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-735-SA5A-SB-0.0-0.5

Collected: 11/18/2013 1:57:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| QCDF | 1.34 | JB | 0.0377 | MDL | 9.83 | PQL | ng/Kg | J | Z |

Sample ID: SL-735-SA5A-SB-2.5-3.5

Collected: 11/18/2013 2:00:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.102 | JBQ | 0.0194 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0474 | JBQ | 0.00910 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0400 | JBQ | 0.0134 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0453 | JB | 0.0194 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDF | 0.0325 | J | 0.0172 | MDL | 5.22 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 0.165 | JQ | 0.0207 | MDL | 5.22 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDF | 0.0302 | JBQ | 0.0151 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.245 | JB | 0.0188 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDF | 0.0861 | JB | 0.0165 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0561 | JBQ | 0.0174 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HxCDF | 0.0336 | JBQ | 0.0148 | MDL | 5.22 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0229 | JBQ | 0.0177 | MDL | 5.22 | PQL | ng/Kg | U | B |
| OCDD | 0.388 | JB | 0.0238 | MDL | 10.4 | PQL | ng/Kg | U | B |
| OCDF | 0.129 | JB | 0.0312 | MDL | 10.4 | PQL | ng/Kg | U | B |

Sample ID: SL-736-SA5A-SB-0.0-0.5

Collected: 11/18/2013 2:30:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 2.94 | JB | 0.0470 | MDL | 5.24 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.315 | JB | 0.0156 | MDL | 5.24 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0594 | JBQ | 0.0216 | MDL | 5.24 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0530 | JBQ | 0.0365 | MDL | 5.24 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDF | 0.0982 | JQ | 0.0257 | MDL | 5.24 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 0.202 | J | 0.0380 | MDL | 5.24 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDF | 0.0560 | JBQ | 0.0229 | MDL | 5.24 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.243 | JBQ | 0.0364 | MDL | 5.24 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDF | 0.136 | JBQ | 0.0252 | MDL | 5.24 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0697 | JB | 0.0274 | MDL | 5.24 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0549 | JB | 0.0279 | MDL | 5.24 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0558 | JQ | 0.0493 | MDL | 1.05 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-736-SA5A-SB-0.0-0.5

Collected: 11/18/2013 2:30:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| OCDF | 1.05 | JBQ | 0.0437 | MDL | 10.5 | PQL | ng/Kg | U | B |

Sample ID: SL-736-SA5A-SB-3.0-4.0

Collected: 11/18/2013 2:34:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|---------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.132 | JBQ | 0.0245 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0325 | JBQ | 0.00911 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0290 | JBQ | 0.0135 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0463 | JQ | 0.0178 | MDL | 5.39 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 0.0699 | JQ | 0.0304 | MDL | 5.39 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.0539 | JBQ | 0.0158 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.0954 | JBQ | 0.0316 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0693 | JBQ | 0.0165 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0749 | JQ | 0.0333 | MDL | 5.39 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.0301 | JBQ | 0.0186 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0260 | JB | 0.0177 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0291 | JBQ | 0.0176 | MDL | 5.39 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0791 | JQ | 0.0457 | MDL | 1.08 | PQL | ng/Kg | J | Z |
| OCDD | 0.299 | JBQ | 0.0232 | MDL | 10.8 | PQL | ng/Kg | U | B |
| OCDF | 0.129 | JBQ | 0.0371 | MDL | 10.8 | PQL | ng/Kg | U | B |

Method Category: SVOA

Method: 8015M

Matrix: SO

Sample ID: SL-1009-SA5A-SB-4.0-5.0

Collected: 11/18/2013 10:20:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 5.1 | U | 2.0 | MDL | 5.1 | PQL | mg/Kg | UJ | FD |

Sample ID: SL-696-SA5A-SB-0.0-0.5

Collected: 11/18/2013 8:56:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 2.7 | J | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 8015M

Matrix: SO

Sample ID: SL-709-SA5A-SB-4.0-5.0

Collected: 11/18/2013 10:15:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 2.5 | J | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Z, FD |
| EFH (C21-C30) | 16 | | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Q, Q |
| EFH (C30-C40) | 38 | | 4.1 | MDL | 10 | PQL | mg/Kg | J | Q, Q |

Method Category: SVOA

Method: 8270D SIM

Matrix: SO

Sample ID: SL-1009-SA5A-SB-4.0-5.0

Collected: 11/18/2013 10:20:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ACENAPHTHYLENE | 1.7 | U | 0.34 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(A)ANTHRACENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(A)PYRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(G,H,I)PERYLENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| CHRYSENE | 0.74 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| FLUORANTHENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| INDENO(1,2,3-CD)PYRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| PHENANTHRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| PYRENE | 0.76 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |

Sample ID: SL-696-SA5A-SB-0.0-0.5

Collected: 11/18/2013 8:56:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 0.76 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 0.87 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 0.73 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 1.4 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-709-SA5A-SB-0.0-0.5

Collected: 11/18/2013 10:10:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 0.69 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 8270D SIM

Matrix: SO

Sample ID: SL-709-SA5A-SB-4.0-5.0

Collected: 11/18/2013 10:15:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ACENAPHTHYLENE | 0.60 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(A)ANTHRACENE | 1.0 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(A)PYRENE | 1.3 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(G,H,I)PERYLENE | 1.2 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| CHRYSENE | 1.9 | | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| FLUORANTHENE | 3.1 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| INDENO(1,2,3-CD)PYRENE | 0.80 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| PHENANTHRENE | 2.8 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| PYRENE | 4.7 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |

Sample ID: SL-709-SA5A-SB-8.0-9.0

Collected: 11/18/2013 10:25:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 0.71 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 0.74 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-710-SA5A-SB-0.0-0.5

Collected: 11/18/2013 12:50:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 0.78 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-722-SA5A-SB-0.0-0.5

Collected: 11/18/2013 1:22:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 0.73 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-735-SA5A-SB-0.0-0.5

Collected: 11/18/2013 1:57:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(G,H,I)PERYLENE | 0.71 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 13 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 1.0 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 0.76 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 1.5 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-736-SA5A-SB-0.0-0.5 Collected: 11/18/2013 2:30:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 0.36 | J | 0.35 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Method Category: VOA
Method: 8015B **Matrix:** SO

Sample ID: SL-1009-SA5A-SB-4.0-5.0 Collected: 11/18/2013 10:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| m-Terphenyl | 0.12 | J | 0.068 | MDL | 0.17 | PQL | mg/Kg | J | Z, FD |

Sample ID: SL-709-SA5A-SB-4.0-5.0 Collected: 11/18/2013 10:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| m-Terphenyl | 0.17 | U | 0.069 | MDL | 0.17 | PQL | mg/Kg | UJ | FD |

Sample ID: SL-709-SA5A-SB-8.0-9.0 Collected: 11/18/2013 10:25:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| m-Terphenyl | 0.093 | J | 0.069 | MDL | 0.18 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PrepPH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|--------------------------------|
| *# | Professional Judgment |
| A | ICP Serial Dilution |
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Field Blank Contamination |
| FD | Field Duplicate Precision |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH131

Method Blank Outlier Report

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|--|---|---|
| BLK3360B370539 | 12/4/2013 5:39:00 AM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF OCDD OCDF | 0.106 ng/Kg 0.0859 ng/Kg 0.0848 ng/Kg 0.0454 ng/Kg 0.0269 ng/Kg 0.0585 ng/Kg 0.0652 ng/Kg 0.0794 ng/Kg 0.0320 ng/Kg 0.0526 ng/Kg 0.239 ng/Kg 0.227 ng/Kg | SL-1009-SA5A-SB-4.0-5.0 SL-696-SA5A-SB-0.0-0.5 SL-696-SA5A-SB-4.0-5.0 SL-709-SA5A-SB-0.0-0.5 SL-709-SA5A-SB-4.0-5.0 SL-709-SA5A-SB-8.0-9.0 SL-710-SA5A-SB-0.0-0.5 SL-722-SA5A-SB-0.0-0.5 SL-735-SA5A-SB-0.0-0.5 SL-735-SA5A-SB-2.5-3.5 SL-736-SA5A-SB-0.0-0.5 SL-736-SA5A-SB-3.0-4.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|---------------------|-----------------|-----------------------|
| SL-1009-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.132 ng/Kg | 0.132U ng/Kg |
| SL-1009-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0779 ng/Kg | 0.0779U ng/Kg |
| SL-1009-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDD | 0.189 ng/Kg | 0.189U ng/Kg |
| SL-1009-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.271 ng/Kg | 0.271U ng/Kg |
| SL-1009-SA5A-SB-4.0-5.0(RES) | 2,3,4,6,7,8-HXCDF | 0.100 ng/Kg | 0.100U ng/Kg |
| SL-1009-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.106 ng/Kg | 0.106U ng/Kg |
| SL-696-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0499 ng/Kg | 0.0499U ng/Kg |
| SL-696-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.210 ng/Kg | 0.210U ng/Kg |
| SL-696-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.0858 ng/Kg | 0.0858U ng/Kg |
| SL-696-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0615 ng/Kg | 0.0615U ng/Kg |
| SL-696-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0561 ng/Kg | 0.0561U ng/Kg |
| SL-696-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.122 ng/Kg | 0.122U ng/Kg |
| SL-696-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0626 ng/Kg | 0.0626U ng/Kg |
| SL-696-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0523 ng/Kg | 0.0523U ng/Kg |
| SL-696-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDD | 0.0463 ng/Kg | 0.0463U ng/Kg |
| SL-696-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0621 ng/Kg | 0.0621U ng/Kg |
| SL-696-SA5A-SB-4.0-5.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0515 ng/Kg | 0.0515U ng/Kg |
| SL-696-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.0900 ng/Kg | 0.0900U ng/Kg |
| SL-696-SA5A-SB-4.0-5.0(RES) | OCDD | 0.944 ng/Kg | 0.944U ng/Kg |
| SL-696-SA5A-SB-4.0-5.0(RES) | OCDF | 0.105 ng/Kg | 0.105U ng/Kg |
| SL-709-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.457 ng/Kg | 0.457U ng/Kg |
| SL-709-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.150 ng/Kg | 0.150U ng/Kg |
| SL-709-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0510 ng/Kg | 0.0510U ng/Kg |
| SL-709-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDD | 0.157 ng/Kg | 0.157U ng/Kg |
| SL-709-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.0782 ng/Kg | 0.0782U ng/Kg |
| SL-709-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.0856 ng/Kg | 0.0856U ng/Kg |
| SL-709-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0703 ng/Kg | 0.0703U ng/Kg |
| SL-709-SA5A-SB-0.0-0.5(RES) | OCDF | 0.302 ng/Kg | 0.302U ng/Kg |
| SL-709-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.194 ng/Kg | 0.194U ng/Kg |
| SL-709-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HxCDD | 0.138 ng/Kg | 0.138U ng/Kg |
| SL-709-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDD | 0.200 ng/Kg | 0.200U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Method Blank Outlier Report

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-709-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.222 ng/Kg | 0.222U ng/Kg |
| SL-709-SA5A-SB-4.0-5.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0796 ng/Kg | 0.0796U ng/Kg |
| SL-709-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.122 ng/Kg | 0.122U ng/Kg |
| SL-709-SA5A-SB-8.0-9.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.329 ng/Kg | 0.329U ng/Kg |
| SL-709-SA5A-SB-8.0-9.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.161 ng/Kg | 0.161U ng/Kg |
| SL-709-SA5A-SB-8.0-9.0(RES) | 1,2,3,4,7,8-HxCDD | 0.146 ng/Kg | 0.146U ng/Kg |
| SL-709-SA5A-SB-8.0-9.0(RES) | 1,2,3,7,8,9-HXCDD | 0.200 ng/Kg | 0.200U ng/Kg |
| SL-709-SA5A-SB-8.0-9.0(RES) | 1,2,3,7,8,9-HXCDF | 0.258 ng/Kg | 0.258U ng/Kg |
| SL-709-SA5A-SB-8.0-9.0(RES) | 1,2,3,7,8-PECDF | 0.225 ng/Kg | 0.225U ng/Kg |
| SL-709-SA5A-SB-8.0-9.0(RES) | 2,3,4,7,8-PECDF | 0.238 ng/Kg | 0.238U ng/Kg |
| SL-709-SA5A-SB-8.0-9.0(RES) | OCDF | 0.642 ng/Kg | 0.642U ng/Kg |
| SL-710-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.339 ng/Kg | 0.339U ng/Kg |
| SL-710-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.112 ng/Kg | 0.112U ng/Kg |
| SL-710-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0560 ng/Kg | 0.0560U ng/Kg |
| SL-710-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0801 ng/Kg | 0.0801U ng/Kg |
| SL-710-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.315 ng/Kg | 0.315U ng/Kg |
| SL-710-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0981 ng/Kg | 0.0981U ng/Kg |
| SL-710-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.181 ng/Kg | 0.181U ng/Kg |
| SL-710-SA5A-SB-0.0-0.5(RES) | OCDF | 0.238 ng/Kg | 0.238U ng/Kg |
| SL-722-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.342 ng/Kg | 0.342U ng/Kg |
| SL-722-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0953 ng/Kg | 0.0953U ng/Kg |
| SL-722-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0865 ng/Kg | 0.0865U ng/Kg |
| SL-722-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0393 ng/Kg | 0.0393U ng/Kg |
| SL-722-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0903 ng/Kg | 0.0903U ng/Kg |
| SL-722-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.278 ng/Kg | 0.278U ng/Kg |
| SL-722-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.209 ng/Kg | 0.209U ng/Kg |
| SL-722-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0816 ng/Kg | 0.0816U ng/Kg |
| SL-722-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.152 ng/Kg | 0.152U ng/Kg |
| SL-722-SA5A-SB-0.0-0.5(RES) | OCDF | 0.241 ng/Kg | 0.241U ng/Kg |
| SL-735-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0678 ng/Kg | 0.0678U ng/Kg |
| SL-735-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.111 ng/Kg | 0.111U ng/Kg |
| SL-735-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0877 ng/Kg | 0.0877U ng/Kg |
| SL-735-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDD | 0.243 ng/Kg | 0.243U ng/Kg |
| SL-735-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.103 ng/Kg | 0.103U ng/Kg |
| SL-735-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.134 ng/Kg | 0.134U ng/Kg |
| SL-735-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.123 ng/Kg | 0.123U ng/Kg |
| SL-735-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.118 ng/Kg | 0.118U ng/Kg |
| SL-735-SA5A-SB-2.5-3.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.102 ng/Kg | 0.102U ng/Kg |
| SL-735-SA5A-SB-2.5-3.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0474 ng/Kg | 0.0474U ng/Kg |
| SL-735-SA5A-SB-2.5-3.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0400 ng/Kg | 0.0400U ng/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Method Blank Outlier Report

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-735-SA5A-SB-2.5-3.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0453 ng/Kg | 0.0453U ng/Kg |
| SL-735-SA5A-SB-2.5-3.5(RES) | 1,2,3,6,7,8-HxCDF | 0.0302 ng/Kg | 0.0302U ng/Kg |
| SL-735-SA5A-SB-2.5-3.5(RES) | 1,2,3,7,8,9-HxCDD | 0.245 ng/Kg | 0.245U ng/Kg |
| SL-735-SA5A-SB-2.5-3.5(RES) | 1,2,3,7,8,9-HxCDF | 0.0861 ng/Kg | 0.0861U ng/Kg |
| SL-735-SA5A-SB-2.5-3.5(RES) | 1,2,3,7,8-PCDF | 0.0561 ng/Kg | 0.0561U ng/Kg |
| SL-735-SA5A-SB-2.5-3.5(RES) | 2,3,4,6,7,8-HxCDF | 0.0336 ng/Kg | 0.0336U ng/Kg |
| SL-735-SA5A-SB-2.5-3.5(RES) | 2,3,4,7,8-PCDF | 0.0229 ng/Kg | 0.0229U ng/Kg |
| SL-735-SA5A-SB-2.5-3.5(RES) | OCDD | 0.388 ng/Kg | 0.388U ng/Kg |
| SL-735-SA5A-SB-2.5-3.5(RES) | OCDF | 0.129 ng/Kg | 0.129U ng/Kg |
| SL-736-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.315 ng/Kg | 0.315U ng/Kg |
| SL-736-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0594 ng/Kg | 0.0594U ng/Kg |
| SL-736-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0530 ng/Kg | 0.0530U ng/Kg |
| SL-736-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HxCDF | 0.0560 ng/Kg | 0.0560U ng/Kg |
| SL-736-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HxCDD | 0.243 ng/Kg | 0.243U ng/Kg |
| SL-736-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HxCDF | 0.136 ng/Kg | 0.136U ng/Kg |
| SL-736-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PCDF | 0.0697 ng/Kg | 0.0697U ng/Kg |
| SL-736-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PCDF | 0.0549 ng/Kg | 0.0549U ng/Kg |
| SL-736-SA5A-SB-0.0-0.5(RES) | OCDF | 1.05 ng/Kg | 1.05U ng/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.132 ng/Kg | 0.132U ng/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0325 ng/Kg | 0.0325U ng/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0290 ng/Kg | 0.0290U ng/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES) | 1,2,3,6,7,8-HxCDF | 0.0539 ng/Kg | 0.0539U ng/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8,9-HxCDD | 0.0954 ng/Kg | 0.0954U ng/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8,9-HxCDF | 0.0693 ng/Kg | 0.0693U ng/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES) | 1,2,3,7,8-PCDF | 0.0301 ng/Kg | 0.0301U ng/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES) | 2,3,4,6,7,8-HxCDF | 0.0260 ng/Kg | 0.0260U ng/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES) | 2,3,4,7,8-PCDF | 0.0291 ng/Kg | 0.0291U ng/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES) | OCDD | 0.299 ng/Kg | 0.299U ng/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES) | OCDF | 0.129 ng/Kg | 0.129U ng/Kg |

Method Blank Outlier Report

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|---------|------------|---|
| P33137BB222343 | 12/1/2013 11:43:00 PM | TIN | 1.53 mg/Kg | SL-1009-SA5A-SB-4.0-5.0 SL-696-SA5A-SB-0.0-0.5 SL-696-SA5A-SB-4.0-5.0 SL-709-SA5A-SB-0.0-0.5 SL-709-SA5A-SB-4.0-5.0 SL-709-SA5A-SB-8.0-9.0 SL-710-SA5A-SB-0.0-0.5 SL-722-SA5A-SB-0.0-0.5 SL-735-SA5A-SB-0.0-0.5 SL-735-SA5A-SB-2.5-3.5 SL-736-SA5A-SB-0.0-0.5 SL-736-SA5A-SB-3.0-4.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|---------|-----------------|-----------------------|
| SL-1009-SA5A-SB-4.0-5.0(RES/TOT) | TIN | 2.70 mg/Kg | 2.70U mg/Kg |
| SL-696-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.86 mg/Kg | 2.86U mg/Kg |
| SL-696-SA5A-SB-4.0-5.0(RES/TOT) | TIN | 2.86 mg/Kg | 2.86U mg/Kg |
| SL-709-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.73 mg/Kg | 2.73U mg/Kg |
| SL-709-SA5A-SB-4.0-5.0(RES/TOT) | TIN | 2.78 mg/Kg | 2.78U mg/Kg |
| SL-709-SA5A-SB-8.0-9.0(RES/TOT) | TIN | 2.86 mg/Kg | 2.86U mg/Kg |
| SL-710-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.63 mg/Kg | 2.63U mg/Kg |
| SL-722-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.73 mg/Kg | 2.73U mg/Kg |
| SL-735-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.83 mg/Kg | 2.83U mg/Kg |
| SL-735-SA5A-SB-2.5-3.5(RES/TOT) | TIN | 3.21 mg/Kg | 3.21U mg/Kg |
| SL-736-SA5A-SB-0.0-0.5(RES/TOT) | TIN | 2.81 mg/Kg | 2.81U mg/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES/TOT) | TIN | 4.72 mg/Kg | 4.72U mg/Kg |

Method: 8015M
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|----------------------------------|-----------|---|
| P7X296AB250456A | 11/27/2013 4:56:00 AM | GASOLINE RANGE ORGANICS (C5-C12) | 0.3 mg/Kg | SL-1009-SA5A-SB-4.0-5.0 SL-696-SA5A-SB-4.0-5.0 SL-709-SA5A-SB-4.0-5.0 SL-709-SA5A-SB-8.0-9.0 SL-735-SA5A-SB-2.5-3.5 |

Field Blank Outlier Report

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|-------------------|----------------------------|---|
| FB-041613(REA2/TOT) | 4/16/2013 3:15:00 PM | MOLYBDENUM TIN | 0.0132 mg/L 0.0029 mg/L | SL-1009-SA5A-SB-4.0-5.0 SL-696-SA5A-SB-0.0-0.5 SL-696-SA5A-SB-4.0-5.0 SL-709-SA5A-SB-0.0-0.5 SL-709-SA5A-SB-4.0-5.0 SL-709-SA5A-SB-8.0-9.0 SL-710-SA5A-SB-0.0-0.5 SL-722-SA5A-SB-0.0-0.5 SL-735-SA5A-SB-0.0-0.5 SL-735-SA5A-SB-2.5-3.5 SL-736-SA5A-SB-0.0-0.5 SL-736-SA5A-SB-3.0-4.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|------------|-----------------|-----------------------|
| SL-1009-SA5A-SB-4.0-5.0(RES/TOT) | MOLYBDENUM | 1.21 mg/Kg | 1.21U mg/Kg |
| SL-696-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.508 mg/Kg | 0.508U mg/Kg |
| SL-696-SA5A-SB-4.0-5.0(RES/TOT) | MOLYBDENUM | 0.228 mg/Kg | 0.228U mg/Kg |
| SL-709-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.316 mg/Kg | 0.316U mg/Kg |
| SL-709-SA5A-SB-4.0-5.0(RES/TOT) | MOLYBDENUM | 0.816 mg/Kg | 0.816U mg/Kg |
| SL-709-SA5A-SB-8.0-9.0(RES/TOT) | MOLYBDENUM | 1.65 mg/Kg | 1.65U mg/Kg |
| SL-710-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.481 mg/Kg | 0.481U mg/Kg |
| SL-722-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.423 mg/Kg | 0.423U mg/Kg |
| SL-735-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.575 mg/Kg | 0.575U mg/Kg |
| SL-736-SA5A-SB-0.0-0.5(RES/TOT) | MOLYBDENUM | 0.442 mg/Kg | 0.442U mg/Kg |
| SL-736-SA5A-SB-3.0-4.0(RES/TOT) | MOLYBDENUM | 0.546 mg/Kg | 0.546U mg/Kg |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8015B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|-------------|----------|-----------|--------------|-----------------|-----------------------|-----------------|
| SL-709-SA5A-SB-4.0-5.0MSD (SL-709-SA5A-SB-4.0-5.0) | m-Terphenyl | - | - | 75.00-125.00 | 21 (20.00) | m-Terphenyl | J (all detects) |

Method: 8015M
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--------------------------------|-------------|-----------|------------------------------|-----------------|--------------------------------|--------------------------------------|
| SL-709-SA5A-SB-4.0-5.0MS SL-709-SA5A-SB-4.0-5.0MSD (SL-709-SA5A-SB-4.0-5.0) | EFH (C21-C30) EFH (C30-C40) | -19 -148 | 5 -100 | 49.00-123.00 49.00-123.00 | - 39 (20.00) | EFH (C21-C30) EFH (C30-C40) | J(all detects) R(all non-detects) |

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|----------------------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-709-SA5A-SB-4.0-5.0MSD (SL-709-SA5A-SB-4.0-5.0) | BENZO(K)FLUORANTHENE | - | - | 54.00-142.00 | 37 (30.00) | BENZO(K)FLUORANTHENE | J(all detects) |

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|-----------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-709-SA5A-SB-4.0-5.0MS (TOT) | ALUMINUM | 1647 | 2161 | 75.00-125.00 | - | ALUMINUM | J(all detects) |
| SL-709-SA5A-SB-4.0-5.0MSD (TOT) | CALCIUM | - | 154 | 75.00-125.00 | - | CALCIUM | |
| (SL-1009-SA5A-SB-4.0-5.0 | IRON | 1216 | 1372 | 75.00-125.00 | - | IRON | |
| SL -696-SA5A-SB-0.0-0.5 | MAGNESIUM | 242 | 325 | 75.00-125.00 | - | MAGNESIUM | |
| SL -696-SA5A-SB-4.0-5.0 | MANGANESE | 173 | - | 75.00-125.00 | - | MANGANESE | |
| SL -709-SA5A-SB-0.0-0.5 | POTASSIUM | 129 | 126 | 75.00-125.00 | - | POTASSIUM | |
| SL -709-SA5A-SB-4.0-5.0 | TITANIUM | 252 | 302 | 75.00-125.00 | - | TITANIUM | |
| SL -709-SA5A-SB-8.0-9.0 | | | | | | | |
| SL -710-SA5A-SB-0.0-0.5 | | | | | | | |
| SL -722-SA5A-SB-0.0-0.5 | | | | | | | |
| SL -735-SA5A-SB-0.0-0.5 | | | | | | | |
| SL -735-SA5A-SB-2.5-3.5 | | | | | | | |
| SL -736-SA5A-SB-0.0-0.5 | | | | | | | |
| SL -736-SA5A-SB-3.0-4.0) | | | | | | | |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|------------------------|----------|-----------|------------------------------|-----------------|------------------------|---------------------------------------|
| SL-709-SA5A-SB-4.0-5.0MS (TOT) SL-709-SA5A-SB-4.0-5.0MSD (TOT) (SL-1009-SA5A-SB-4.0-5.0 SL-696-SA5A-SB-0.0-0.5 SL-696-SA5A-SB-4.0-5.0 SL-709-SA5A-SB-0.0-0.5 SL-709-SA5A-SB-4.0-5.0 SL-709-SA5A-SB-8.0-9.0 SL-710-SA5A-SB-0.0-0.5 SL-722-SA5A-SB-0.0-0.5 SL-735-SA5A-SB-0.0-0.5 SL-735-SA5A-SB-2.5-3.5 SL-736-SA5A-SB-0.0-0.5 SL-736-SA5A-SB-3.0-4.0) | ANTIMONY PHOSPHORUS | 62 - | 65 68 | 75.00-125.00 75.00-125.00 | - - | ANTIMONY PHOSPHORUS | J(all detects) UJ(all non-detects) |

Method: 6020A
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|-----------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-709-SA5A-SB-4.0-5.0MSD (TOT) (SL-1009-SA5A-SB-4.0-5.0 SL-696-SA5A-SB-0.0-0.5 SL-696-SA5A-SB-4.0-5.0 SL-709-SA5A-SB-0.0-0.5 SL-709-SA5A-SB-4.0-5.0 SL-709-SA5A-SB-8.0-9.0 SL-710-SA5A-SB-0.0-0.5 SL-722-SA5A-SB-0.0-0.5 SL-735-SA5A-SB-0.0-0.5 SL-735-SA5A-SB-2.5-3.5 SL-736-SA5A-SB-0.0-0.5 SL-736-SA5A-SB-3.0-4.0) | STRONTIUM | - | 128 | 75.00-125.00 | - | STRONTIUM | J(all detects) |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6020A

Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|--|---------|---------------|--------------|------------------------------|
| SL-709-SA5A-SB-4.0-5.0DUP (TOT) (SL-1009-SA5A-SB-4.0-5.0 SL -696-SA5A-SB-0.0-0.5 SL -696-SA5A-SB-4.0-5.0 SL -709-SA5A-SB-0.0-0.5 SL -709-SA5A-SB-4.0-5.0 SL -709-SA5A-SB-8.0-9.0 SL -710-SA5A-SB-0.0-0.5 SL -722-SA5A-SB-0.0-0.5 SL -735-SA5A-SB-0.0-0.5 SL -735-SA5A-SB-2.5-3.5 SL -736-SA5A-SB-0.0-0.5 SL -736-SA5A-SB-3.0-4.0) | SILVER | 22 | 20.00 | No Qual, OK by Difference |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 160.3M

Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-709-SA5A-SB-4.0-5.0 | SL-1009-SA5A-SB-4.0-5.0 | | | |
| MOISTURE | 2.3 | 2.0 | 14 | | No Qualifiers Applied |

Method: 1613B

Matrix: SO

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag | |
|---------------------|------------------------|-------------------------|------------|-----------|-----------------------|---------------------|
| | SL-709-SA5A-SB-4.0-5.0 | SL-1009-SA5A-SB-4.0-5.0 | | | | |
| 1,2,3,4,6,7,8-HPCDD | 6.49 | 6.36 | 2 | 50.00 | No Qualifiers Applied | |
| 1,2,3,4,6,7,8-HPCDF | 1.70 | 1.39 | 20 | 50.00 | | |
| 1,2,3,4,7,8,9-HPCDF | 0.194 | 0.132 | 38 | 50.00 | | |
| 1,2,3,4,7,8-HXCDF | 0.111 | 0.0855 | 26 | 50.00 | | |
| 1,2,3,6,7,8-HXCDD | 0.391 | 0.266 | 38 | 50.00 | | |
| 1,2,3,7,8,9-HXCDD | 0.200 | 0.189 | 6 | 50.00 | | |
| 1,2,3,7,8-PECDD | 0.0932 | 0.133 | 35 | 50.00 | | |
| 1,2,3,7,8-PECDF | 0.222 | 0.271 | 20 | 50.00 | | |
| 2,3,4,6,7,8-HXCDF | 0.0796 | 0.100 | 23 | 50.00 | | |
| 2,3,4,7,8-PECDF | 0.122 | 0.106 | 14 | 50.00 | | |
| OCDD | 82.8 | 95.2 | 14 | 50.00 | | |
| OCDF | 4.00 | 3.32 | 19 | 50.00 | | |
| 1,2,3,4,7,8-HxCDD | 0.138 | 4.99 U | 200 | 50.00 | | J(all detects) |
| 1,2,3,6,7,8-HxCDF | 0.177 | 0.0779 | 78 | 50.00 | | UJ(all non-detects) |

Method: 6010C

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-709-SA5A-SB-4.0-5.0 (TOT) | SL-1009-SA5A-SB-4.0-5.0 (TOT) | | | |
| ALUMINUM | 15000 | 13300 | 12 | 50.00 | No Qualifiers Applied |
| ARSENIC | 3.81 | 4.08 | 7 | 50.00 | |
| BARIUM | 84.6 | 86.2 | 2 | 50.00 | |
| BERYLLIUM | 0.605 | 0.566 | 7 | 50.00 | |
| BORON | 2.15 | 2.05 | 5 | 50.00 | |
| CALCIUM | 2600 | 2640 | 2 | 50.00 | |
| CHROMIUM | 18.3 | 19.8 | 8 | 50.00 | |
| COBALT | 5.00 | 4.79 | 4 | 50.00 | |
| COPPER | 5.76 | 6.34 | 10 | 50.00 | |
| IRON | 20000 | 20000 | 0 | 50.00 | |
| LEAD | 7.91 | 8.02 | 1 | 50.00 | |
| LITHIUM | 22.1 | 22.3 | 1 | 50.00 | |
| MAGNESIUM | 4320 | 4470 | 3 | 50.00 | |
| MANGANESE | 318 | 379 | 18 | 50.00 | |
| MOLYBDENUM | 0.816 | 1.21 | 39 | 50.00 | |
| NICKEL | 10.7 | 11.8 | 10 | 50.00 | |
| PHOSPHORUS | 366 | 409 | 11 | 50.00 | |
| POTASSIUM | 2790 | 3240 | 15 | 50.00 | |
| SODIUM | 91.0 | 78.9 | 14 | 50.00 | |
| TIN | 2.78 | 2.70 | 3 | 50.00 | |
| TITANIUM | 1030 | 1060 | 3 | 50.00 | |
| VANADIUM | 34.2 | 33.5 | 2 | 50.00 | |
| ZINC | 51.4 | 55.9 | 8 | 50.00 | |
| Zirconium | 2.74 | 2.58 | 6 | 50.00 | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Field Duplicate RPD Report

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6020A

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-709-SA5A-SB-4.0-5.0 (TOT) | SL-1009-SA5A-SB-4.0-5.0 (TOT) | | | |
| SELENIUM | 0.145 | 0.161 | 10 | 50.00 | No Qualifiers Applied |
| STRONTIUM | 24.2 | 22.9 | 6 | 50.00 | |
| THALLIUM | 0.274 | 0.286 | 4 | 50.00 | |
| SILVER | 0.158 | 0.0930 | 52 | 50.00 | J(all detects) |

Method: 8015B

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-709-SA5A-SB-4.0-5.0 | SL-1009-SA5A-SB-4.0-5.0 | | | |
| m-Terphenyl | 0.17 U | 0.12 | 200 | 50.00 | J(all detects) UJ(all non-detects) |

Method: 8015M

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-709-SA5A-SB-4.0-5.0 | SL-1009-SA5A-SB-4.0-5.0 | | | |
| EFH (C21-C30) | 16 | 13 | 21 | 50.00 | No Qualifiers Applied |
| EFH (C30-C40) | 38 | 33 | 14 | 50.00 | |
| EFH (C15-C20) | 2.5 | 5.1 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |

Method: 8270D SIM

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-709-SA5A-SB-4.0-5.0 | SL-1009-SA5A-SB-4.0-5.0 | | | |
| BENZO(B)FLUORANTHENE | 17 | 11 | 43 | 50.00 | No Qualifiers Applied |
| ACENAPHTHYLENE | 0.60 | 1.7 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| BENZO(A)ANTHRACENE | 1.0 | 1.7 U | 200 | 50.00 | |
| BENZO(A)PYRENE | 1.3 | 1.7 U | 200 | 50.00 | |
| BENZO(G,H,I)PERYLENE | 1.2 | 1.7 U | 200 | 50.00 | |
| CHRYSENE | 1.9 | 0.74 | 88 | 50.00 | |
| FLUORANTHENE | 3.1 | 1.7 U | 200 | 50.00 | |
| INDENO(1,2,3-CD)PYRENE | 0.80 | 1.7 U | 200 | 50.00 | |
| PHENANTHRENE | 2.8 | 1.7 U | 200 | 50.00 | |
| PYRENE | 4.7 | 0.76 | 144 | 50.00 | |

Method: 9045M

Matrix: SO

| Analyte | Concentration (pH unit) | | Sample RPD | eQAPP RPD | Flag |
|---------|-------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-709-SA5A-SB-4.0-5.0 | SL-1009-SA5A-SB-4.0-5.0 | | | |
| PH | 6.63 | 6.68 | 1 | 50.00 | No Qualifiers Applied |

Reporting Limit Outliers

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|------------------------|---------------------|--------|-----------------|---------|-------|-----------------|
| SL-1009-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDF | JB | 1.39 | 4.99 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.132 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JQ | 0.0855 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JQ | 0.266 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0779 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 0.189 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.133 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.271 | 4.99 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.100 | 4.99 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.106 | 4.99 | PQL | ng/Kg | |
| | OCDF | JB | 3.32 | 9.98 | PQL | ng/Kg | |
| SL-696-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 4.12 | 5.00 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.894 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0499 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JQ | 0.115 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JQ | 0.184 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.324 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.210 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0858 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0615 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0561 | 5.00 | PQL | ng/Kg | |
| | OCDF | JBQ | 2.21 | 10.0 | PQL | ng/Kg | |
| SL-696-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.122 | 5.17 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0626 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JQ | 0.0586 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0523 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.0463 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0621 | 5.17 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0515 | 5.17 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0900 | 5.17 | PQL | ng/Kg | |
| | OCDD | JB | 0.944 | 10.3 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.105 | 10.3 | PQL | ng/Kg | |
| | SL-709-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.457 | 4.98 | PQL | |
| 1,2,3,4,6,7,8-HPCDF | | JBQ | 0.150 | 4.98 | PQL | ng/Kg | |
| 1,2,3,4,7,8,9-HPCDF | | JBQ | 0.0510 | 4.98 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HXCDD | | JQ | 0.0747 | 4.98 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HXCDD | | JBQ | 0.157 | 4.98 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HXCDF | | JBQ | 0.0782 | 4.98 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDF | | JBQ | 0.0856 | 4.98 | PQL | ng/Kg | |
| 2,3,4,7,8-PECDF | | JBQ | 0.0703 | 4.98 | PQL | ng/Kg | |
| OCDD | | JB | 7.61 | 9.97 | PQL | ng/Kg | |
| OCDF | | JBQ | 0.302 | 9.97 | PQL | ng/Kg | |
| SL-709-SA5A-SB-4.0-5.0 | | 1,2,3,4,6,7,8-HPCDF | JB | 1.70 | 4.99 | PQL | ng/Kg |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.194 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.138 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | J | 0.111 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | J | 0.391 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.177 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.200 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.0932 | 4.99 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.222 | 4.99 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0796 | 4.99 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.122 | 4.99 | PQL | ng/Kg | |
| OCDF | JBQ | 4.00 | 9.99 | PQL | ng/Kg | | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Reporting Limit Outliers

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------------------|---------------------|--------|-----------------|---------|-------|-----------------|
| SL-709-SA5A-SB-8.0-9.0 | 1,2,3,4,6,7,8-HPCDD | JB | 1.18 | 5.01 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.329 | 5.01 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.161 | 5.01 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.146 | 5.01 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | J | 0.171 | 5.01 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | J | 0.191 | 5.01 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.220 | 5.01 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.200 | 5.01 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.258 | 5.01 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | J | 0.217 | 5.01 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.225 | 5.01 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.188 | 5.01 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.238 | 5.01 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0756 | 1.00 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0551 | 1.00 | PQL | ng/Kg | |
| | OCDF | JB | 0.642 | 10.0 | PQL | ng/Kg | |
| | SL-710-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.339 | 4.96 | PQL | |
| 1,2,3,4,6,7,8-HPCDF | | JBQ | 0.112 | 4.96 | PQL | ng/Kg | |
| 1,2,3,4,7,8,9-HPCDF | | JBQ | 0.0560 | 4.96 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HxCDD | | JBQ | 0.0801 | 4.96 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HxCDF | | JQ | 0.119 | 4.96 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HxCDD | | JQ | 0.301 | 4.96 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HxCDF | | JB | 0.143 | 4.96 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HxCDD | | JB | 0.572 | 4.96 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HxCDF | | JBQ | 0.416 | 4.96 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDD | | J | 0.235 | 4.96 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDF | | JBQ | 0.315 | 4.96 | PQL | ng/Kg | |
| 2,3,4,6,7,8-HxCDF | | JB | 0.0981 | 4.96 | PQL | ng/Kg | |
| 2,3,4,7,8-PECDF | | JB | 0.181 | 4.96 | PQL | ng/Kg | |
| 2,3,7,8-TCDD | | JQ | 0.0925 | 0.993 | PQL | ng/Kg | |
| 2,3,7,8-TCDF | | JQ | 0.0689 | 0.993 | PQL | ng/Kg | |
| OCDD | JB | 4.27 | 9.93 | PQL | ng/Kg | | |
| OCDF | JB | 0.238 | 9.93 | PQL | ng/Kg | | |
| SL-722-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 0.342 | 5.00 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0953 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0865 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0393 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JQ | 0.0594 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JQ | 0.428 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.0903 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.665 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.278 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.109 | 5.00 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.209 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0816 | 5.00 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.152 | 5.00 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0667 | 0.999 | PQL | ng/Kg | |
| | OCDD | JB | 2.76 | 9.99 | PQL | ng/Kg | |
| OCDF | JBQ | 0.241 | 9.99 | PQL | ng/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-735-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 2.80 | 4.92 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.585 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0678 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.111 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | J | 0.0959 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JQ | 0.183 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.0877 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.243 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.103 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | J | 0.134 | 4.92 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.134 | 4.92 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.123 | 4.92 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.118 | 4.92 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0488 | 0.983 | PQL | ng/Kg | |
| | OCDF | JB | 1.34 | 9.83 | PQL | ng/Kg | |
| SL-735-SA5A-SB-2.5-3.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.102 | 5.22 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0474 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0400 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.0453 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | J | 0.0325 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JQ | 0.165 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.0302 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.245 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.0861 | 5.22 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0561 | 5.22 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0336 | 5.22 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0229 | 5.22 | PQL | ng/Kg | |
| | OCDD | JB | 0.388 | 10.4 | PQL | ng/Kg | |
| OCDF | JB | 0.129 | 10.4 | PQL | ng/Kg | | |
| SL-736-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 2.94 | 5.24 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.315 | 5.24 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0594 | 5.24 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0530 | 5.24 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JQ | 0.0982 | 5.24 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | J | 0.202 | 5.24 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.0560 | 5.24 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.243 | 5.24 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.136 | 5.24 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.0697 | 5.24 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.0549 | 5.24 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0558 | 1.05 | PQL | ng/Kg | |
| | OCDF | JBQ | 1.05 | 10.5 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-736-SA5A-SB-3.0-4.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.132 | 5.39 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0325 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0290 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JQ | 0.0463 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JQ | 0.0699 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0539 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.0954 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0693 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JQ | 0.0749 | 5.39 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0301 | 5.39 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.0260 | 5.39 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0291 | 5.39 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0791 | 1.08 | PQL | ng/Kg | |
| | OCDD | JBQ | 0.299 | 10.8 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.129 | 10.8 | PQL | ng/Kg | |

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1009-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.566 | 1.00 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.05 | 10.0 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 1.21 | 2.00 | PQL | mg/Kg | |
| | SODIUM | J | 78.9 | 100 | PQL | mg/Kg | |
| | TIN | J | 2.70 | 10.0 | PQL | mg/Kg | |
| Zirconium | J | 2.58 | 5.00 | PQL | mg/Kg | | |
| SL-696-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.06 | 4.06 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.509 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 2.11 | 10.1 | PQL | mg/Kg | |
| | CADMIUM | J | 0.166 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.508 | 2.03 | PQL | mg/Kg | |
| | TIN | J | 2.86 | 10.1 | PQL | mg/Kg | |
| Zirconium | J | 3.62 | 5.07 | PQL | mg/Kg | | |
| SL-696-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.588 | 1.02 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 0.975 | 10.2 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.228 | 2.04 | PQL | mg/Kg | |
| | TIN | J | 2.86 | 10.2 | PQL | mg/Kg | |
| | Zirconium | J | 3.02 | 5.11 | PQL | mg/Kg | |
| SL-709-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.92 | 4.01 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.608 | 1.00 | PQL | mg/Kg | |
| | BORON | J | 1.23 | 10.0 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.316 | 2.00 | PQL | mg/Kg | |
| | SODIUM | J | 68.3 | 100 | PQL | mg/Kg | |
| | TIN | J | 2.73 | 10.0 | PQL | mg/Kg | |
| | Zirconium | J | 2.49 | 5.01 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-709-SA5A-SB-4.0-5.0 | ARSENIC | J | 3.81 | 4.05 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.605 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 2.15 | 10.1 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.816 | 2.03 | PQL | mg/Kg | |
| | SODIUM | J | 91.0 | 101 | PQL | mg/Kg | |
| | TIN | J | 2.78 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 2.74 | 5.07 | PQL | mg/Kg | |
| SL-709-SA5A-SB-8.0-9.0 | ARSENIC | J | 2.85 | 4.14 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.557 | 1.04 | PQL | mg/Kg | |
| | BORON | J | 1.22 | 10.4 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 1.65 | 2.07 | PQL | mg/Kg | |
| | TIN | J | 2.86 | 10.4 | PQL | mg/Kg | |
| | Zirconium | J | 2.90 | 5.18 | PQL | mg/Kg | |
| SL-710-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.17 | 4.09 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.579 | 1.02 | PQL | mg/Kg | |
| | BORON | J | 1.52 | 10.2 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.481 | 2.04 | PQL | mg/Kg | |
| | SODIUM | J | 67.0 | 102 | PQL | mg/Kg | |
| | TIN | J | 2.63 | 10.2 | PQL | mg/Kg | |
| | Zirconium | J | 2.27 | 5.11 | PQL | mg/Kg | |
| SL-722-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.36 | 4.13 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.573 | 1.03 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.423 | 2.06 | PQL | mg/Kg | |
| | SODIUM | J | 72.2 | 103 | PQL | mg/Kg | |
| | TIN | J | 2.73 | 10.3 | PQL | mg/Kg | |
| | Zirconium | J | 2.37 | 5.16 | PQL | mg/Kg | |
| SL-735-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.97 | 4.05 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.737 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 2.43 | 10.1 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.575 | 2.03 | PQL | mg/Kg | |
| | SODIUM | J | 83.1 | 101 | PQL | mg/Kg | |
| | TIN | J | 2.83 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 4.02 | 5.07 | PQL | mg/Kg | |
| SL-735-SA5A-SB-2.5-3.5 | BERYLLIUM | J | 0.509 | 1.03 | PQL | mg/Kg | J (all detects) |
| | TIN | J | 3.21 | 10.3 | PQL | mg/Kg | |
| | Zirconium | J | 3.35 | 5.14 | PQL | mg/Kg | |
| SL-736-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.721 | 1.05 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 1.87 | 10.5 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.442 | 2.10 | PQL | mg/Kg | |
| | SODIUM | J | 73.1 | 105 | PQL | mg/Kg | |
| | TIN | J | 2.81 | 10.5 | PQL | mg/Kg | |
| | Zirconium | J | 3.29 | 5.24 | PQL | mg/Kg | |
| SL-736-SA5A-SB-3.0-4.0 | BORON | J | 1.11 | 10.8 | PQL | mg/Kg | J (all detects) |
| | MOLYBDENUM | J | 0.546 | 2.15 | PQL | mg/Kg | |
| | TIN | J | 4.72 | 10.8 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6020A

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|--------------------|----------|-----------------|-----------------|------------|----------------|-----------------|
| SL-1009-SA5A-SB-4.0-5.0 | SELENIUM SILVER | J J | 0.161 0.0930 | 0.400 0.200 | PQL PQL | mg/Kg mg/Kg | J (all detects) |
| SL-696-SA5A-SB-0.0-0.5 | SELENIUM SILVER | J J | 0.148 0.0457 | 0.406 0.203 | PQL PQL | mg/Kg mg/Kg | J (all detects) |
| SL-696-SA5A-SB-4.0-5.0 | SELENIUM SILVER | J J | 0.136 0.0272 | 0.408 0.204 | PQL PQL | mg/Kg mg/Kg | J (all detects) |
| SL-709-SA5A-SB-0.0-0.5 | SELENIUM SILVER | J J | 0.170 0.0395 | 0.401 0.200 | PQL PQL | mg/Kg mg/Kg | J (all detects) |
| SL-709-SA5A-SB-4.0-5.0 | SELENIUM SILVER | J J | 0.145 0.158 | 0.405 0.203 | PQL PQL | mg/Kg mg/Kg | J (all detects) |
| SL-709-SA5A-SB-8.0-9.0 | SILVER | J | 0.0445 | 0.207 | PQL | mg/Kg | J (all detects) |
| SL-710-SA5A-SB-0.0-0.5 | SELENIUM SILVER | J J | 0.206 0.0505 | 0.409 0.204 | PQL PQL | mg/Kg mg/Kg | J (all detects) |
| SL-722-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.189 | 0.413 | PQL | mg/Kg | J (all detects) |
| SL-735-SA5A-SB-0.0-0.5 | SELENIUM SILVER | J J | 0.191 0.0312 | 0.405 0.203 | PQL PQL | mg/Kg mg/Kg | J (all detects) |
| SL-736-SA5A-SB-0.0-0.5 | SELENIUM SILVER | J J | 0.204 0.0423 | 0.419 0.210 | PQL PQL | mg/Kg mg/Kg | J (all detects) |
| SL-736-SA5A-SB-3.0-4.0 | SELENIUM | J | 0.390 | 0.430 | PQL | mg/Kg | J (all detects) |

Method: 8015B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|-------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1009-SA5A-SB-4.0-5.0 | m-Terphenyl | J | 0.12 | 0.17 | PQL | mg/Kg | J (all detects) |
| SL-709-SA5A-SB-8.0-9.0 | m-Terphenyl | J | 0.093 | 0.18 | PQL | mg/Kg | J (all detects) |

Method: 8015M

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-696-SA5A-SB-0.0-0.5 | EFH (C15-C20) | J | 2.7 | 5.1 | PQL | mg/Kg | J (all detects) |
| SL-709-SA5A-SB-4.0-5.0 | EFH (C15-C20) | J | 2.5 | 5.1 | PQL | mg/Kg | J (all detects) |

Method: 8270D SIM

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|--------------------|----------|--------------|-----------------|------------|----------------|-----------------|
| SL-1009-SA5A-SB-4.0-5.0 | CHRYSENE PYRENE | J J | 0.74 0.76 | 1.7 1.7 | PQL PQL | ug/Kg ug/Kg | J (all detects) |

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Reporting Limit Outliers

Lab Reporting Batch ID: PH131

Laboratory: LL

EDD Filename: PH131_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8270D SIM

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-696-SA5A-SB-0.0-0.5 | CHRYSENE | J | 0.76 | 1.7 | PQL | ug/Kg | J (all detects) |
| | FLUORANTHENE | J | 0.87 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.73 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| SL-709-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 0.69 | 1.7 | PQL | ug/Kg | J (all detects) |
| SL-709-SA5A-SB-4.0-5.0 | ACENAPHTHYLENE | J | 0.60 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)ANTHRACENE | J | 1.0 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | INDENO(1,2,3-CD)PYRENE | J | 0.80 | 1.7 | PQL | ug/Kg | |
| SL-709-SA5A-SB-8.0-9.0 | BENZO(B)FLUORANTHENE | J | 0.71 | 1.7 | PQL | ug/Kg | J (all detects) |
| | NAPHTHALENE | J | 0.74 | 1.7 | PQL | ug/Kg | |
| SL-710-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 0.78 | 1.7 | PQL | ug/Kg | J (all detects) |
| SL-722-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 0.73 | 1.7 | PQL | ug/Kg | J (all detects) |
| SL-735-SA5A-SB-0.0-0.5 | BENZO(G,H,I)PERYLENE | J | 0.71 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 13 | 18 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.0 | 1.7 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.76 | 1.7 | PQL | ug/Kg | |
| | PYRENE | J | 1.5 | 1.7 | PQL | ug/Kg | |
| SL-736-SA5A-SB-0.0-0.5 | CHRYSENE | J | 0.36 | 1.8 | PQL | ug/Kg | J (all detects) |

LDC #: 31212A4

VALIDATION COMPLETENESS WORKSHEET

Date: 1/31/14

SDG #: PH131

ADR

Page: 1 of 1

Laboratory: Eurofins Lancaster Laboratories

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|-----------------------------|-------------------------|
| I. | Technical holding times | — | Sampling dates: 1/18/13 |
| II. | ICP/MS Tune | — | |
| III. | Calibration | — | |
| IV. | Blanks | A | |
| V. | ICP Interference Check Sample (ICS) Analysis | — | |
| VI. | Matrix Spike Analysis | SW MS/D | |
| VII. | Duplicate Sample Analysis | SW DP | |
| VIII. | Laboratory Control Samples (LCS) | A LCS | |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | ICP Serial Dilution | SW SG=14% (J/J/A (A)=All) | |
| XI. | Sample Result Verification | N | |
| XII. | Overall Assessment of Data | N | |
| XIII. | Field Duplicates | — (4,5) | |
| XIV. | Field Blanks | SW EB EB-111913 FB=FB-0416B | |

Note: A = Acceptable ND = No compounds detected (PH132)
 N = Not provided/applicable R = Rinsate D = Duplicate
 SW = See worksheet FB = Field blank TB = Trip blank (PH03Z)
 EB = Equipment blank

Validated Samples:

| | | | | | | | |
|----|-------------------------|----|---------------------------|----|--|----|--|
| 1 | SL-696-SA5A-SB-0.0-0.5 | 11 | SL-736-SA5A-SB-0.0-0.5 | 21 | | 31 | |
| 2 | SL-696-SA5A-SB-4.0-5.0 | 12 | SL-736-SA5A-SB-3.0-4.0 | 22 | | 32 | |
| 3 | SL-709-SA5A-SB-0.0-0.5 | 13 | SL-709-SA5A-SB-4.0-5.0MS | 23 | | 33 | |
| 4 | SL-1009-SA5A-SB-4.0-5.0 | 14 | SL-709-SA5A-SB-4.0-5.0MSD | 24 | | 34 | |
| 5 | SL-709-SA5A-SB-4.0-5.0 | 15 | SL-709-SA5A-SB-4.0-5.0DUP | 25 | | 35 | |
| 6 | SL-709-SA5A-SB-8.0-9.0 | 16 | | 26 | | 36 | |
| 7 | SL-710-SA5A-SB-0.0-0.5 | 17 | | 27 | | 37 | |
| 8 | SL-722-SA5A-SB-0.0-0.5 | 18 | | 28 | | 38 | |
| 9 | SL-735-SA5A-SB-0.0-0.5 | 19 | | 29 | | 39 | |
| 10 | SL-735-SA5A-SB-2.5-3.5 | 20 | | 30 | | 40 | |

Notes: _____

VALIDATION FINDINGS WORKSHEET

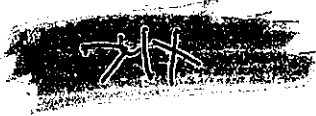
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L **Associated sample units:** mg/Kg Reason: F
Sampling date: 4/16/13 Soil factor applied 100x
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | | | |
|---------|------------------------------|-----------------------|-------------------|-------------------|-------------------|------|-------------------|------|-------|-------|-------|-------|-------------------|--|
| | FB-041613 (SDG: PH032) | Action Limit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 11 | 12 | |
| Mo | 0.0132 | 6.60 | 0.50 8 | 0.22 8 | 0.31 6 | 1.21 | 0.81 6 | 1.75 | 0.481 | 0.423 | 0.575 | 0.442 | 0.54 6 | |
| Sn | 0.0029 | 1.45 | | | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".



QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: PH131

Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 7282330BKG Matrix Spike Lab Sample ID: 7282331MS Matrix Spike Duplicate Lab Sample ID: 7282332MSD
Batch Id(s): P33137B, P33138A

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | RPD | Control Limit | | |
|------------|------|------------|---|------------|---|------------|---|----------------|-----------------|-------|------|---|------|---|-----|---------------|----------|-------|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | | %R | RPD | M |
| Aluminum | | 14656.7228 | | 7917.2614 | | 18935.4347 | | 198.0198 | 198.0198 | MG/KG | 1647 | | 2161 | | 6 | | | 20 P |
| Antimony | | 0.7327 | U | 30.7663 | | 31.9366 | | 49.5050 | 49.5050 | MG/KG | 62 | N | 65 | N | 4 | | 75 - 125 | 20 P |
| Arsenic | | 3.7238 | B | 18.3129 | | 18.6119 | | 14.8515 | 14.8515 | MG/KG | 98 | | 100 | | 2 | | 75 - 125 | 20 P |
| Barium | | 82.6277 | | 279.5158 | | 280.6624 | | 198.0198 | 198.0198 | MG/KG | 99 | | 100 | | 0 | | 75 - 125 | 20 P |
| Beryllium | | 0.5911 | B | 5.6762 | | 5.7861 | | 4.9505 | 4.9505 | MG/KG | 103 | | 105 | | 2 | | 75 - 125 | 20 P |
| Boron | | 2.1040 | B | 187.8950 | | 193.5723 | | 198.0198 | 198.0198 | MG/KG | 94 | | 97 | | 3 | | 75 - 125 | 20 P |
| Cadmium | | 0.0752 | U | 4.6248 | | 4.6356 | | 4.9505 | 4.9505 | MG/KG | 93 | | 94 | | 0 | | 75 - 125 | 20 P |
| Calcium | | 2540.8495 | | 2979.7297 | | 3150.4099 | | 396.0396 | 396.0396 | MG/KG | 111 | | 154 | | 6 | | | 20 P |
| Chromium | | 17.8366 | | 38.6772 | | 39.7980 | | 19.8020 | 19.8020 | MG/KG | 105 | | 111 | | 3 | | 75 - 125 | 20 P |
| Cobalt | | 4.8881 | | 51.5535 | | 52.0228 | | 49.5050 | 49.5050 | MG/KG | 94 | | 95 | | 1 | | 75 - 125 | 20 P |
| Copper | | 5.6267 | | 28.8267 | | 29.4851 | | 24.7525 | 24.7525 | MG/KG | 94 | | 96 | | 2 | | 75 - 125 | 20 P |
| Iron | | 19584.5446 | | 20788.4673 | | 20943.3881 | | 99.0099 | 99.0099 | MG/KG | 1216 | | 1372 | | 1 | | | 20 P |
| Lead | | 7.7297 | | 22.5545 | | 21.8059 | | 14.8515 | 14.8515 | MG/KG | 100 | | 95 | | 3 | | 75 - 125 | 20 P |
| Lithium | | 21.6089 | | 120.7287 | | 123.8396 | | 99.0099 | 99.0099 | MG/KG | 100 | | 103 | | 3 | | 75 - 125 | 20 P |
| Magnesium | | 4224.4436 | | 4702.8238 | | 4867.1208 | | 198.0198 | 198.0198 | MG/KG | 242 | | 325 | | 3 | | | 20 P |
| Manganese | | 310.8040 | | 396.3990 | | 369.8149 | | 49.5050 | 49.5050 | MG/KG | 173 | | 119 | | 7 | | | 20 P |
| Mercury | | 0.0099 | U | 0.1771 | | 0.1873 | | 0.1616 | 0.1652 | MG/KG | 110 | | 113 | | 6 | | 65 - 135 | 20 CV |
| Molybdenum | | 0.7970 | B | 189.7683 | | 192.4406 | | 198.0198 | 198.0198 | MG/KG | 95 | | 97 | | 1 | | 75 - 125 | 20 P |
| Nickel | | 10.4733 | | 58.3941 | | 59.1663 | | 49.5050 | 49.5050 | MG/KG | 97 | | 98 | | 1 | | 75 - 125 | 20 P |
| Phosphorus | | 357.7020 | | 450.8614 | | 425.4931 | | 99.0099 | 99.0099 | MG/KG | 94 | | 68 | N | 6 | | 75 - 125 | 20 P |
| Potassium | | 2730.0277 | | 4009.6960 | | 3974.2980 | | 990.0990 | 990.0990 | MG/KG | 129 | N | 126 | N | 1 | | 75 - 125 | 20 P |
| Selenium | 78 | 0.1414 | B | 2.2554 | | 2.2869 | | 1.9802 | 1.9802 | MG/KG | 107 | | 108 | | 1 | | 75 - 125 | 20 MS |
| Silver | 107 | 0.1549 | B | 10.9711 | | 11.3998 | | 9.9010 | 9.9010 | MG/KG | 109 | | 114 | | 4 | | 75 - 125 | 20 MS |
| Sodium | | 88.8663 | B | 1052.9020 | | 1081.3248 | | 990.0990 | 990.0990 | MG/KG | 97 | | 100 | | 3 | | 75 - 125 | 20 P |
| Strontium | 88 | 23.6598 | | 32.2200 | | 33.7752 | | 7.9208 | 7.9208 | MG/KG | 108 | | 128 | N | 5 | | 75 - 125 | 20 MS |
| Thallium | 203 | 0.2673 | | 0.6947 | | 0.7420 | | 0.3960 | 0.3960 | MG/KG | 108 | | 120 | | 7 | | 75 - 125 | 20 MS |
| Tin | | 2.7208 | B | 340.4842 | | 343.3040 | | 396.0396 | 396.0396 | MG/KG | 85 | | 86 | | 1 | | 75 - 125 | 20 P |
| Titanium | | 1010.1832 | | 1259.3911 | | 1308.7327 | | 99.0099 | 99.0099 | MG/KG | 252 | | 302 | | 4 | | | 20 P |
| Vanadium | | 33.4406 | | 85.7426 | | 87.3287 | | 49.5050 | 49.5050 | MG/KG | 106 | | 109 | | 2 | | 75 - 125 | 20 P |
| Zinc | | 50.2376 | | 99.5069 | | 99.8871 | | 49.5050 | 49.5050 | MG/KG | 100 | | 100 | | 0 | | 75 - 125 | 20 P |
| Zirconium | | 2.6812 | B | 94.8277 | | 98.0030 | | 99.0099 | 99.0099 | MG/KG | 93 | | 96 | | 3 | | 75 - 125 | 20 P |

Note: Results shown are reported on an as-received basis.

METHODS:

P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:

U = Below MDL, B = Below LOQ

FLAGS:

N = Matrix Spike OOS, * = Duplicate OOS

Background Lab Sample ID: 7282330BKG
 Batch ID(s): P33137B, P33138A
 Concentration Units: MG/KG

Duplicate Lab Sample ID: 7282333DUP

| Analyte | Mass | Control Limit | Samples (S) | C | Duplicate (D) | C | RPD | Q | M |
|------------|------|---------------|-------------|---|---------------|---|-----|---|----|
| Aluminum | | | 14656.7228 | | 14960.9970 | | 2 | | P |
| Antimony | | | 0.7327 | U | 0.7327 | U | | | P |
| Arsenic | | | 3.7238 | B | 3.6822 | B | 1 | | P |
| Barium | | | 82.6277 | | 83.4515 | | 1 | | P |
| Beryllium | | | 0.5911 | B | 0.5941 | B | 1 | | P |
| Boron | | | 2.1040 | B | 1.9168 | B | 9 | | P |
| Cadmium | | | 0.0752 | U | 0.0752 | U | | | P |
| Calcium | | | 2540.8495 | | 2574.7248 | | 1 | | P |
| Chromium | | | 17.8366 | | 18.4396 | | 3 | | P |
| Cobalt | | 1.0 | 4.8881 | | 4.7089 | | 4 | | P |
| Copper | | 2.0 | 5.6267 | | 5.3594 | | 5 | | P |
| Iron | | | 19584.5446 | | 19840.9723 | | 1 | | P |
| Lead | | 3.0 | 7.7297 | | 7.6653 | | 1 | | P |
| Lithium | | | 21.6089 | | 21.9634 | | 2 | | P |
| Magnesium | | | 4224.4436 | | 4300.9584 | | 2 | | P |
| Manganese | | | 310.8040 | | 298.8604 | | 4 | | P |
| Mercury | | | 0.0099 | U | 0.0095 | U | | | CV |
| Molybdenum | | | 0.7970 | B | 0.7950 | B | 0 | | P |
| Nickel | | | 10.4733 | | 10.6970 | | 2 | | P |
| Phosphorus | | | 357.7020 | | 328.4059 | | 9 | | P |
| Potassium | | | 2730.0277 | | 2754.9119 | | 1 | | P |
| Selenium | 78 | | 0.1414 | B | 0.1307 | B | 8 | | MS |
| Silver | 107 | | 0.1549 | B | 0.1240 | B | 22 | | MS |
| Sodium | | | 88.8663 | B | 93.7535 | B | 5 | | P |
| Strontium | 88 | | 23.6598 | | 21.5240 | | 9 | | MS |
| Thallium | 203 | 0.2 | 0.2673 | | 0.2430 | | 10 | | MS |
| Tin | | | 2.7208 | B | 2.7406 | B | 1 | | P |
| Titanium | | | 1010.1832 | | 1069.3178 | | 6 | | P |
| Vanadium | | | 33.4406 | | 33.9792 | | 2 | | P |
| Zinc | | | 50.2376 | | 50.1188 | | 0 | | P |
| Zirconium | | | 2.6812 | B | 2.9267 | B | 9 | | P |

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
 The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

ok by difference

Note: Results shown are reported on an as-received basis.

| | |
|---|--|
| METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence | CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: * = Duplicate Out of Spec |
|---|--|

**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5A

SDG: PH132

Prepared for

CDM Smith
555 17th Street, Suite 1100
Denver, CO 80202

Prepared by

Laboratory Data Consultants, Inc.
2701 Loker Ave West, Suite 220
Carlsbad, California 92010

February 19, 2014

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on November 19, 2013. Data validation was performed in accordance with the Quality Assurance Project Plan (QAPP) for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFGs) for Superfund Organic Methods Data Review (June 2008), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Volatiles (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260B
1,4-Dioxane by EPA SW 846 Method 8260B utilizing Selective Ion Monitoring (SIM)
Semivolatiles (SVOCs) by EPA SW 846 Method 8270D SIM
Pesticides by EPA SW 846 Method 8081B
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A, 7470A and 7471B
Herbicides by EPA SW 846 Method 8151A
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M
TPH as Extractables by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B
Formaldehyde by EPA Method 8315A
Terphenyls by EPA SW 846 Method 8015B

Wet Chemistry:

Hexavalent Chromium by EPA Method 7199

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment 2. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks, field blanks and field duplicate samples. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the ICB/CCBs and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met QC criteria.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of several blanks for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the exception of two samples for 1,4-dioxane. The associated sample results were qualified as non-detected estimated (UJ). The details regarding the qualification of data are provided in Enclosure I.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one MS/MSD pair for SVOCs, TPH as extractables, metals, dioxins and pesticides. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

IX. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of several LCS/LCSD pairs for VOCs, pesticides, herbicides and TPH as extractables. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--|-----------------|--------|
| All samples in SDG PH132 | All compounds reported as detected below the RL. | J (all detects) | A |

XIII. Field Duplicate Samples

One field duplicate pair was collected and analyzed for SVOCs, pesticides, PCBs, metals, TPH as extractables and dioxins. All RPDs were within QC limits with the exception of several SVOCs, pesticides, PCBs, metals and dioxins. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The field duplicate result comparisons are provided in Enclosure I.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No contaminants were found in the trip blank.

One equipment blank was collected and analyzed for VOCs, 1,4-dioxane, SVOCs, pesticides, PCBs, metals, herbicides, TPH as gasoline, TPH as extractables, dioxins, formaldehyde, terphenyls and hexavalent chromium. The equipment blank had detections for SVOCs and dioxins. The sample results were not detected or were significantly greater than the concentrations found in the equipment blank, therefore no data were qualified.

One field blank (from SDG PH032) was collected and analyzed for VOCs, 1,4-dioxane, SVOCs, pesticides, PCBs, metals, herbicides, TPH as gasoline, TPH as extractables, dioxins, formaldehyde, terphenyls and hexavalent chromium. The field blank had detections for VOCs, SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U)

due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. The remainder of the data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|--------------------------|---------------|-------------|-------------|-------------------|--------------|
| 19-Nov-2013 | TB-111913 | 7284464 | TB | 5030B | 8015M | III |
| 19-Nov-2013 | SL-518-SA5A-SB-0.0-0.5 | 7284465 | N | 3050B | 6010C | III |
| 19-Nov-2013 | SL-518-SA5A-SB-0.0-0.5 | 7284465 | N | 3050B | 6020A | III |
| 19-Nov-2013 | SL-518-SA5A-SB-0.0-0.5 | 7284465 | N | 3546 | 8015M | III |
| 19-Nov-2013 | SL-518-SA5A-SB-0.0-0.5 | 7284465 | N | 3546 | 8082A | III |
| 19-Nov-2013 | SL-518-SA5A-SB-0.0-0.5 | 7284465 | N | 3546 | 8270D SIM | III |
| 19-Nov-2013 | SL-518-SA5A-SB-0.0-0.5 | 7284465 | N | METHOD | 1613B | III |
| 19-Nov-2013 | SL-518-SA5A-SB-0.0-0.5 | 7284465 | N | METHOD | 7471B | III |
| 19-Nov-2013 | SL-518-SA5A-SB-7.0-8.0 | 7284466 | N | 3050B | 6010C | III |
| 19-Nov-2013 | SL-518-SA5A-SB-7.0-8.0 | 7284466 | N | 3050B | 6020A | III |
| 19-Nov-2013 | SL-518-SA5A-SB-7.0-8.0 | 7284466 | N | 3546 | 8015M | III |
| 19-Nov-2013 | SL-518-SA5A-SB-7.0-8.0 | 7284466 | N | 3546 | 8082A | III |
| 19-Nov-2013 | SL-518-SA5A-SB-7.0-8.0 | 7284466 | N | 3546 | 8270D SIM | III |
| 19-Nov-2013 | SL-518-SA5A-SB-7.0-8.0 | 7284466 | N | 5035 | 8260B | III |
| 19-Nov-2013 | SL-518-SA5A-SB-7.0-8.0 | 7284466 | N | 5035 | 8260B SIM | III |
| 19-Nov-2013 | SL-518-SA5A-SB-7.0-8.0 | 7284466 | N | 5035A | 8015M | III |
| 19-Nov-2013 | SL-518-SA5A-SB-7.0-8.0 | 7284466 | N | METHOD | 1613B | III |
| 19-Nov-2013 | SL-518-SA5A-SB-7.0-8.0 | 7284466 | N | METHOD | 7471B | III |
| 19-Nov-2013 | SL-518-SA5A-SB-10.0-11.0 | 7284467 | N | 3050B | 6010C | III |
| 19-Nov-2013 | SL-518-SA5A-SB-10.0-11.0 | 7284467 | N | 3050B | 6020A | III |
| 19-Nov-2013 | SL-518-SA5A-SB-10.0-11.0 | 7284467 | N | 3546 | 8015M | III |
| 19-Nov-2013 | SL-518-SA5A-SB-10.0-11.0 | 7284467 | N | 3546 | 8082A | III |
| 19-Nov-2013 | SL-518-SA5A-SB-10.0-11.0 | 7284467 | N | 3546 | 8270D SIM | III |
| 19-Nov-2013 | SL-518-SA5A-SB-10.0-11.0 | 7284467 | N | 5035 | 8260B | III |
| 19-Nov-2013 | SL-518-SA5A-SB-10.0-11.0 | 7284467 | N | 5035 | 8260B SIM | III |
| 19-Nov-2013 | SL-518-SA5A-SB-10.0-11.0 | 7284467 | N | 5035A | 8015M | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|--------------------------|---------------|-------------|-------------|-------------------|--------------|
| 19-Nov-2013 | SL-518-SA5A-SB-10.0-11.0 | 7284467 | N | METHOD | 1613B | III |
| 19-Nov-2013 | SL-518-SA5A-SB-10.0-11.0 | 7284467 | N | METHOD | 7471B | III |
| 19-Nov-2013 | SL-518-SA5A-SB-15.0-16.0 | 7284468 | N | 3050B | 6010C | III |
| 19-Nov-2013 | SL-518-SA5A-SB-15.0-16.0 | 7284468 | N | 3050B | 6020A | III |
| 19-Nov-2013 | SL-518-SA5A-SB-15.0-16.0 | 7284468 | N | 3546 | 8015M | III |
| 19-Nov-2013 | SL-518-SA5A-SB-15.0-16.0 | 7284468 | N | 3546 | 8082A | III |
| 19-Nov-2013 | SL-518-SA5A-SB-15.0-16.0 | 7284468 | N | 3546 | 8270D SIM | III |
| 19-Nov-2013 | SL-518-SA5A-SB-15.0-16.0 | 7284468 | N | 5035A | 8015M | III |
| 19-Nov-2013 | SL-518-SA5A-SB-15.0-16.0 | 7284468 | N | METHOD | 1613B | III |
| 19-Nov-2013 | SL-518-SA5A-SB-15.0-16.0 | 7284468 | N | METHOD | 7471B | III |
| 19-Nov-2013 | SL-596-SA5A-SB-0.0-0.5 | 7284469 | N | 3050B | 6010C | III |
| 19-Nov-2013 | SL-596-SA5A-SB-0.0-0.5 | 7284469 | N | 3050B | 6020A | III |
| 19-Nov-2013 | SL-596-SA5A-SB-0.0-0.5 | 7284469 | N | 3060A | 7199 | III |
| 19-Nov-2013 | SL-596-SA5A-SB-0.0-0.5 | 7284469 | N | 3546 | 8015M | III |
| 19-Nov-2013 | SL-596-SA5A-SB-0.0-0.5 | 7284469 | N | 3546 | 8082A | III |
| 19-Nov-2013 | SL-596-SA5A-SB-0.0-0.5 | 7284469 | N | 3546 | 8270D SIM | III |
| 19-Nov-2013 | SL-596-SA5A-SB-0.0-0.5 | 7284469 | N | METHOD | 1613B | III |
| 19-Nov-2013 | SL-596-SA5A-SB-0.0-0.5 | 7284469 | N | METHOD | 7471B | III |
| 19-Nov-2013 | SL-596-SA5A-SB-4.0-5.0 | 7284470 | N | 3050B | 6010C | III |
| 19-Nov-2013 | SL-596-SA5A-SB-4.0-5.0 | 7284470 | N | 3050B | 6020A | III |
| 19-Nov-2013 | SL-596-SA5A-SB-4.0-5.0 | 7284470 | N | 3060A | 7199 | III |
| 19-Nov-2013 | SL-596-SA5A-SB-4.0-5.0 | 7284470 | N | 3546 | 8015M | III |
| 19-Nov-2013 | SL-596-SA5A-SB-4.0-5.0 | 7284470 | N | 3546 | 8082A | III |
| 19-Nov-2013 | SL-596-SA5A-SB-4.0-5.0 | 7284470 | N | 3546 | 8270D SIM | III |
| 19-Nov-2013 | SL-596-SA5A-SB-4.0-5.0 | 7284470 | N | 5035A | 8015M | III |
| 19-Nov-2013 | SL-596-SA5A-SB-4.0-5.0 | 7284470 | N | METHOD | 1613B | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|--------------------------|---------------|-------------|-------------|-------------------|--------------|
| 19-Nov-2013 | SL-596-SA5A-SB-4.0-5.0 | 7284470 | N | METHOD | 7471B | III |
| 19-Nov-2013 | SL-732-SA5A-SB-0.0-0.5 | 7284477 | N | 3050B | 6010C | III |
| 19-Nov-2013 | SL-732-SA5A-SB-0.0-0.5 | 7284477 | N | 3050B | 6020A | III |
| 19-Nov-2013 | SL-732-SA5A-SB-0.0-0.5 | 7284477 | N | 3546 | 8015M | III |
| 19-Nov-2013 | SL-732-SA5A-SB-0.0-0.5 | 7284477 | N | 3546 | 8082A | III |
| 19-Nov-2013 | SL-732-SA5A-SB-0.0-0.5 | 7284477 | N | 3546 | 8270D SIM | III |
| 19-Nov-2013 | SL-732-SA5A-SB-0.0-0.5 | 7284477 | N | METHOD | 1613B | III |
| 19-Nov-2013 | SL-732-SA5A-SB-0.0-0.5 | 7284477 | N | METHOD | 7471B | III |
| 19-Nov-2013 | SL-1008-SA5A-SB-0.0-0.5 | 7284475 | FD | 3050B | 6010C | III |
| 19-Nov-2013 | SL-1008-SA5A-SB-0.0-0.5 | 7284475 | FD | 3050B | 6020A | III |
| 19-Nov-2013 | SL-1008-SA5A-SB-0.0-0.5 | 7284475 | FD | 3546 | 8015M | III |
| 19-Nov-2013 | SL-1008-SA5A-SB-0.0-0.5 | 7284475 | FD | 3546 | 8081B | III |
| 19-Nov-2013 | SL-1008-SA5A-SB-0.0-0.5 | 7284475 | FD | 3546 | 8082A | III |
| 19-Nov-2013 | SL-1008-SA5A-SB-0.0-0.5 | 7284475 | FD | 3546 | 8270D SIM | III |
| 19-Nov-2013 | SL-1008-SA5A-SB-0.0-0.5 | 7284475 | FD | METHOD | 1613B | III |
| 19-Nov-2013 | SL-1008-SA5A-SB-0.0-0.5 | 7284475 | FD | METHOD | 7471B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5 | 7284471 | N | 3050B | 6010C | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5 | 7284471 | N | 3050B | 6020A | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5 | 7284471 | N | 3546 | 8015M | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5 | 7284471 | N | 3546 | 8081B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5 | 7284471 | N | 3546 | 8082A | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5 | 7284471 | N | 3546 | 8270D SIM | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5 | 7284471 | N | METHOD | 1613B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5 | 7284471 | N | METHOD | 7471B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MS | 7284472 | MS | 3050B | 6010C | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MS | 7284472 | MS | 3050B | 6020A | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MS | 7284472 | MS | 3546 | 8015M | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MS | 7284472 | MS | 3546 | 8081B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MS | 7284472 | MS | 3546 | 8082A | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MS | 7284472 | MS | 3546 | 8270D SIM | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MS | 7284472 | MS | METHOD | 1613B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MS | 7284472 | MS | METHOD | 7471B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MSD | 7284473 | MSD | 3050B | 6010C | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MSD | 7284473 | MSD | 3050B | 6020A | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MSD | 7284473 | MSD | 3546 | 8015M | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MSD | 7284473 | MSD | 3546 | 8081B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MSD | 7284473 | MSD | 3546 | 8082A | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MSD | 7284473 | MSD | 3546 | 8270D SIM | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MSD | 7284473 | MSD | METHOD | 1613B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5MSD | 7284473 | MSD | METHOD | 7471B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5DUP | 7284474 | DUP | 3050B | 6010C | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5DUP | 7284474 | DUP | 3050B | 6020A | III |
| 19-Nov-2013 | SL-708-SA5A-SB-0.0-0.5DUP | 7284474 | DUP | METHOD | 7471B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-4.0-5.0 | 7284476 | N | 3050B | 6010C | III |
| 19-Nov-2013 | SL-708-SA5A-SB-4.0-5.0 | 7284476 | N | 3050B | 6020A | III |
| 19-Nov-2013 | SL-708-SA5A-SB-4.0-5.0 | 7284476 | N | 3546 | 8015M | III |
| 19-Nov-2013 | SL-708-SA5A-SB-4.0-5.0 | 7284476 | N | 3546 | 8081B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-4.0-5.0 | 7284476 | N | 3546 | 8082A | III |
| 19-Nov-2013 | SL-708-SA5A-SB-4.0-5.0 | 7284476 | N | 3546 | 8270D SIM | III |
| 19-Nov-2013 | SL-708-SA5A-SB-4.0-5.0 | 7284476 | N | 5035A | 8015M | III |
| 19-Nov-2013 | SL-708-SA5A-SB-4.0-5.0 | 7284476 | N | METHOD | 1613B | III |
| 19-Nov-2013 | SL-708-SA5A-SB-4.0-5.0 | 7284476 | N | METHOD | 7471B | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|-----------------|---------------|-------------|-------------|-------------------|--------------|
| 19-Nov-2013 | EB-111913 | 7284478 | EB | 3005A | 6010C | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | 3510C | 8015B | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | 3510C | 8015M | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | 3510C | 8081B | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | 3510C | 8082A | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | 3510C | 8270D SIM | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | 5030B | 8015M | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | 5030B | 8260B | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | 5030B | 8260B SIM | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | Gen Prep | 7199 | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | M3010A | 6020A | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | METHOD | 1613B | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | METHOD | 7470A | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | METHOD | 8151A | III |
| 19-Nov-2013 | EB-111913 | 7284478 | EB | METHOD | 8315A | III |

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-1008-SA5A-SB-0.0-0.5

Collected: 11/19/2013 2:10:00

Analysis Type: REA/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.02 | U | 0.743 | MDL | 4.02 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 2.99 | J | 0.703 | MDL | 4.02 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.409 | J | 0.0673 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 4.22 | J | 0.843 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.495 | J | 0.0763 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.348 | J | 0.171 | MDL | 2.01 | PQL | mg/Kg | UJ | FD, F |
| SODIUM | 61.6 | J | 16.8 | MDL | 100 | PQL | mg/Kg | J | Z |
| TIN | 2.51 | J | 0.221 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 1.35 | J | 0.843 | MDL | 5.02 | PQL | mg/Kg | J | Z |
| LEAD | 17.6 | | 0.502 | MDL | 3.01 | PQL | mg/Kg | J | FD |

Sample ID: SL-518-SA5A-SB-0.0-0.5

Collected: 11/19/2013 8:45:00

Analysis Type: REA/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.08 | U | 0.754 | MDL | 4.08 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.480 | J | 0.0683 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 2.91 | J | 0.856 | MDL | 10.2 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.201 | J | 0.0774 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.363 | J | 0.173 | MDL | 2.04 | PQL | mg/Kg | U | F |
| SODIUM | 81.2 | J | 17.0 | MDL | 102 | PQL | mg/Kg | J | Z |
| TIN | 2.75 | J | 0.224 | MDL | 10.2 | PQL | mg/Kg | U | B |
| Zirconium | 1.91 | J | 0.856 | MDL | 5.09 | PQL | mg/Kg | J | Z |

Sample ID: SL-518-SA5A-SB-10.0-11.0

Collected: 11/19/2013 9:17:00

Analysis Type: REA/TOT

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.40 | U | 0.814 | MDL | 4.40 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.69 | J | 0.770 | MDL | 4.40 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.542 | J | 0.0737 | MDL | 1.10 | PQL | mg/Kg | J | Z |
| BORON | 4.02 | J | 0.924 | MDL | 11.0 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.246 | J | 0.0836 | MDL | 1.10 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.343 | J | 0.187 | MDL | 2.20 | PQL | mg/Kg | U | F |
| SODIUM | 102 | J | 18.4 | MDL | 110 | PQL | mg/Kg | J | Z |
| TIN | 2.73 | J | 0.242 | MDL | 11.0 | PQL | mg/Kg | U | B |
| Zirconium | 1.99 | J | 0.924 | MDL | 5.50 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-518-SA5A-SB-15.0-16.0 Collected: 11/19/2013 10:03:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.47 | U | 0.827 | MDL | 4.47 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.570 | J | 0.0749 | MDL | 1.12 | PQL | mg/Kg | J | Z |
| BORON | 2.53 | J | 0.939 | MDL | 11.2 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.110 | J | 0.0850 | MDL | 1.12 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.278 | J | 0.190 | MDL | 2.24 | PQL | mg/Kg | U | F |
| TIN | 2.90 | J | 0.246 | MDL | 11.2 | PQL | mg/Kg | U | B |

Sample ID: SL-518-SA5A-SB-7.0-8.0 Collected: 11/19/2013 8:55:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.38 | U | 0.810 | MDL | 4.38 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.22 | J | 0.767 | MDL | 4.38 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.422 | J | 0.0734 | MDL | 1.10 | PQL | mg/Kg | J | Z |
| BORON | 3.17 | J | 0.920 | MDL | 11.0 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.180 | J | 0.0832 | MDL | 1.10 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.189 | J | 0.186 | MDL | 2.19 | PQL | mg/Kg | U | F |
| SODIUM | 76.7 | J | 18.3 | MDL | 110 | PQL | mg/Kg | J | Z |
| TIN | 2.75 | J | 0.241 | MDL | 11.0 | PQL | mg/Kg | U | B |
| Zirconium | 1.10 | J | 0.920 | MDL | 5.48 | PQL | mg/Kg | J | Z |

Sample ID: SL-596-SA5A-SB-0.0-0.5 Collected: 11/19/2013 11:35:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.13 | U | 0.764 | MDL | 4.13 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.95 | J | 0.723 | MDL | 4.13 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.491 | J | 0.0692 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| BORON | 3.77 | J | 0.868 | MDL | 10.3 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.239 | J | 0.0785 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.284 | J | 0.176 | MDL | 2.07 | PQL | mg/Kg | U | F |
| SODIUM | 79.0 | J | 17.3 | MDL | 103 | PQL | mg/Kg | J | Z |
| TIN | 2.79 | J | 0.227 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 1.88 | J | 0.868 | MDL | 5.17 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS
Method: 6010C **Matrix:** SO

Sample ID: SL-596-SA5A-SB-4.0-5.0 Collected: 11/19/2013 11:43:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.26 | U | 0.789 | MDL | 4.26 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.987 | J | 0.0714 | MDL | 1.07 | PQL | mg/Kg | J | Z |
| BORON | 3.80 | J | 0.895 | MDL | 10.7 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.226 | J | 0.0810 | MDL | 1.07 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.218 | J | 0.181 | MDL | 2.13 | PQL | mg/Kg | U | F |
| TIN | 3.42 | J | 0.234 | MDL | 10.7 | PQL | mg/Kg | U | B |

Sample ID: SL-708-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:15:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.12 | U | 0.762 | MDL | 4.12 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.634 | J | 0.0690 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| BORON | 4.43 | J | 0.865 | MDL | 10.3 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.308 | J | 0.0782 | MDL | 1.03 | PQL | mg/Kg | J | Z |
| LEAD | 7.05 | | 0.515 | MDL | 3.09 | PQL | mg/Kg | J | FD |
| MOLYBDENUM | 0.621 | J | 0.175 | MDL | 2.06 | PQL | mg/Kg | UJ | FD, F |
| SODIUM | 71.2 | J | 17.2 | MDL | 103 | PQL | mg/Kg | J | Z |
| TIN | 2.74 | J | 0.226 | MDL | 10.3 | PQL | mg/Kg | U | B |
| Zirconium | 1.98 | J | 0.865 | MDL | 5.15 | PQL | mg/Kg | J | Z |

Sample ID: SL-708-SA5A-SB-4.0-5.0 Collected: 11/19/2013 2:24:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.24 | U | 0.785 | MDL | 4.24 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.725 | J | 0.0710 | MDL | 1.06 | PQL | mg/Kg | J | Z |
| BORON | 3.78 | J | 0.891 | MDL | 10.6 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.136 | J | 0.0806 | MDL | 1.06 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.401 | J | 0.180 | MDL | 2.12 | PQL | mg/Kg | U | F |
| TIN | 3.03 | J | 0.233 | MDL | 10.6 | PQL | mg/Kg | U | B |
| Zirconium | 1.69 | J | 0.891 | MDL | 5.30 | PQL | mg/Kg | J | Z |

Sample ID: SL-732-SA5A-SB-0.0-0.5 Collected: 11/19/2013 1:38:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.15 | U | 0.767 | MDL | 4.15 | PQL | mg/Kg | UJ | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS
Method: 6010C **Matrix: SO**

Sample ID: SL-732-SA5A-SB-0.0-0.5 Collected: 11/19/2013 1:38:00 Analysis Type: REA/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| BERYLLIUM | 0.595 | J | 0.0694 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| BORON | 3.01 | J | 0.870 | MDL | 10.4 | PQL | mg/Kg | J | Z |
| CADMIUM | 0.169 | J | 0.0788 | MDL | 1.04 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.292 | J | 0.176 | MDL | 2.07 | PQL | mg/Kg | U | F |
| SODIUM | 83.2 | J | 17.3 | MDL | 104 | PQL | mg/Kg | J | Z |
| TIN | 2.80 | J | 0.228 | MDL | 10.4 | PQL | mg/Kg | U | B |
| Zirconium | 1.32 | J | 0.870 | MDL | 5.18 | PQL | mg/Kg | J | Z |

Method Category: METALS
Method: 6020A **Matrix: SO**

Sample ID: SL-1008-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:10:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 22.2 | | 0.0683 | MDL | 0.402 | PQL | mg/Kg | J | Q |

Sample ID: SL-1008-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:10:00 Analysis Type: REA3/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 1.38 | | 0.0261 | MDL | 0.201 | PQL | mg/Kg | J | FD |

Sample ID: SL-1008-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:10:00 Analysis Type: REA4/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.152 | J | 0.100 | MDL | 0.402 | PQL | mg/Kg | J | Z, FD |

Sample ID: SL-518-SA5A-SB-0.0-0.5 Collected: 11/19/2013 8:45:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 13.7 | | 0.0693 | MDL | 0.408 | PQL | mg/Kg | J | Q |

Sample ID: SL-518-SA5A-SB-0.0-0.5 Collected: 11/19/2013 8:45:00 Analysis Type: REA3/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0793 | J | 0.0265 | MDL | 0.204 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS
Method: 6020A **Matrix:** SO

Sample ID: SL-518-SA5A-SB-10.0-11.0 Collected: 11/19/2013 9:17:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 23.0 | | 0.0748 | MDL | 0.440 | PQL | mg/Kg | J | Q |

Sample ID: SL-518-SA5A-SB-10.0-11.0 Collected: 11/19/2013 9:17:00 Analysis Type: REA3/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0341 | J | 0.0286 | MDL | 0.220 | PQL | mg/Kg | J | Z |

Sample ID: SL-518-SA5A-SB-15.0-16.0 Collected: 11/19/2013 10:03:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 19.3 | | 0.0760 | MDL | 0.447 | PQL | mg/Kg | J | Q |

Sample ID: SL-518-SA5A-SB-7.0-8.0 Collected: 11/19/2013 8:55:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 13.3 | | 0.0745 | MDL | 0.438 | PQL | mg/Kg | J | Q |

Sample ID: SL-596-SA5A-SB-0.0-0.5 Collected: 11/19/2013 11:35:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 17.5 | | 0.0702 | MDL | 0.413 | PQL | mg/Kg | J | Q |

Sample ID: SL-596-SA5A-SB-0.0-0.5 Collected: 11/19/2013 11:35:00 Analysis Type: REA3/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0358 | J | 0.0269 | MDL | 0.207 | PQL | mg/Kg | J | Z |

Sample ID: SL-596-SA5A-SB-4.0-5.0 Collected: 11/19/2013 11:43:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 28.2 | | 0.0725 | MDL | 0.426 | PQL | mg/Kg | J | Q |

Sample ID: SL-596-SA5A-SB-4.0-5.0 Collected: 11/19/2013 11:43:00 Analysis Type: REA3/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0528 | J | 0.0277 | MDL | 0.213 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS
Method: 6020A **Matrix: SO**

Sample ID: SL-596-SA5A-SB-4.0-5.0 Collected: 11/19/2013 11:43:00 Analysis Type: REA4/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.124 | J | 0.107 | MDL | 0.426 | PQL | mg/Kg | J | Z |

Sample ID: SL-708-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:15:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 18.6 | | 0.0700 | MDL | 0.412 | PQL | mg/Kg | J | Q |

Sample ID: SL-708-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:15:00 Analysis Type: REA3/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.104 | J | 0.0268 | MDL | 0.206 | PQL | mg/Kg | J | Z, FD |

Sample ID: SL-708-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:15:00 Analysis Type: REA4/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.412 | U | 0.103 | MDL | 0.412 | PQL | mg/Kg | UJ | FD |

Sample ID: SL-708-SA5A-SB-4.0-5.0 Collected: 11/19/2013 2:24:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 21.7 | | 0.0721 | MDL | 0.424 | PQL | mg/Kg | J | Q |

Sample ID: SL-708-SA5A-SB-4.0-5.0 Collected: 11/19/2013 2:24:00 Analysis Type: REA3/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0521 | J | 0.0276 | MDL | 0.212 | PQL | mg/Kg | J | Z |

Sample ID: SL-732-SA5A-SB-0.0-0.5 Collected: 11/19/2013 1:38:00 Analysis Type: REA2/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| STRONTIUM | 17.6 | | 0.0705 | MDL | 0.415 | PQL | mg/Kg | J | Q |

Sample ID: SL-732-SA5A-SB-0.0-0.5 Collected: 11/19/2013 1:38:00 Analysis Type: REA4/TOT Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.182 | J | 0.104 | MDL | 0.415 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 6020A | Matrix: SO |

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 7199 | Matrix: SO |

| | | | | | | | | | |
|--|---------------------------------------|-------------------------------|--------------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-596-SA5A-SB-0.0-0.5 | Collected: 11/19/2013 11:35:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| HEXAVALENT CHROMIUM | 0.31 | J | 0.15 | MDL | 0.42 | PQL | mg/Kg | J | Z |

| | | |
|-------------------------|--------|-------------------|
| Method Category: | METALS | |
| Method: | 7471B | Matrix: SO |

| | | | | | | | | | |
|---|--------------------------------------|-------------------------------|--------------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-1008-SA5A-SB-0.0-0.5 | Collected: 11/19/2013 2:10:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MERCURY | 0.0441 | | 0.0099 | MDL | 0.0164 | PQL | mg/Kg | J | FD |

| | | | | | | | | | |
|--|--------------------------------------|-------------------------------|--------------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-518-SA5A-SB-0.0-0.5 | Collected: 11/19/2013 8:45:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MERCURY | 0.0157 | J | 0.0098 | MDL | 0.0163 | PQL | mg/Kg | J | Z |

| | | | | | | | | | |
|--|---------------------------------------|-------------------------------|--------------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-518-SA5A-SB-15.0-16.0 | Collected: 11/19/2013 10:03:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MERCURY | 0.0184 | J | 0.0113 | MDL | 0.0188 | PQL | mg/Kg | J | Z |

| | | | | | | | | | |
|--|--------------------------------------|-------------------------------|--------------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-518-SA5A-SB-7.0-8.0 | Collected: 11/19/2013 8:55:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MERCURY | 0.0127 | J | 0.0105 | MDL | 0.0175 | PQL | mg/Kg | J | Z |

| | | | | | | | | | |
|--|---------------------------------------|-------------------------------|--------------------|----------------|-----------|----------------|--------------|-------------------------|--------------------|
| Sample ID: SL-596-SA5A-SB-0.0-0.5 | Collected: 11/19/2013 11:35:00 | Analysis Type: RES/TOT | Dilution: 1 | | | | | | |
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| MERCURY | 0.0164 | J | 0.0103 | MDL | 0.0171 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS
Method: 7471B **Matrix: SO**

Sample ID: SL-708-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:15:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0113 | J | 0.0097 | MDL | 0.0162 | PQL | mg/Kg | J | Z, FD |

Sample ID: SL-708-SA5A-SB-4.0-5.0 Collected: 11/19/2013 2:24:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0165 | J | 0.0104 | MDL | 0.0173 | PQL | mg/Kg | J | Z |

Sample ID: SL-732-SA5A-SB-0.0-0.5 Collected: 11/19/2013 1:38:00 Analysis Type: RES/TOT Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|-------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0121 | J | 0.010 | MDL | 0.0167 | PQL | mg/Kg | J | Z |

Method Category: SVOA
Method: 1613B **Matrix: AQ**

Sample ID: EB-111913 Collected: 11/19/2013 3:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.811 | JBQ | 0.422 | MDL | 9.69 | PQL | pg/L | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.559 | JBQ | 0.193 | MDL | 9.69 | PQL | pg/L | U | B |
| 1,2,3,4,7,8-HxCDD | 0.451 | JBQ | 0.283 | MDL | 9.69 | PQL | pg/L | U | B |
| 1,2,3,4,7,8-HxCDF | 0.728 | JBQ | 0.215 | MDL | 9.69 | PQL | pg/L | U | B |
| 1,2,3,6,7,8-HxCDF | 0.775 | JBQ | 0.219 | MDL | 9.69 | PQL | pg/L | U | B |
| 1,2,3,7,8,9-HxCDD | 0.318 | JBQ | 0.290 | MDL | 9.69 | PQL | pg/L | U | B |
| 1,2,3,7,8,9-HxCDF | 0.434 | JBQ | 0.248 | MDL | 9.69 | PQL | pg/L | U | B |
| 1,2,3,7,8-PECDF | 0.816 | JB | 0.288 | MDL | 9.69 | PQL | pg/L | U | B |
| 2,3,4,6,7,8-HxCDF | 0.652 | JB | 0.215 | MDL | 9.69 | PQL | pg/L | U | B |
| 2,3,4,7,8-PECDF | 0.495 | JBQ | 0.262 | MDL | 9.69 | PQL | pg/L | U | B |
| OCDD | 1.73 | JB | 0.475 | MDL | 19.4 | PQL | pg/L | U | B |
| OCDF | 1.92 | JBQ | 0.711 | MDL | 19.4 | PQL | pg/L | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-1008-SA5A-SB-0.0-0.5

Collected: 11/19/2013 2:10:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 80.9 | B | 0.0820 | MDL | 5.05 | PQL | ng/Kg | J | FD |
| 1,2,3,4,6,7,8-HPCDF | 18.6 | B | 0.0270 | MDL | 5.05 | PQL | ng/Kg | J | FD |
| 1,2,3,4,7,8,9-HPCDF | 2.53 | JB | 0.0312 | MDL | 5.05 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8-HxCDD | 0.859 | JB | 0.0455 | MDL | 5.05 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8-HXCDF | 0.991 | JB | 0.0446 | MDL | 5.05 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,6,7,8-HXCDD | 3.23 | JB | 0.0458 | MDL | 5.05 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,6,7,8-HXCDF | 1.05 | JB | 0.0447 | MDL | 5.05 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HXCDD | 1.78 | JB | 0.0422 | MDL | 5.05 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HXCDF | 0.448 | JBQ | 0.0451 | MDL | 5.05 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDD | 0.602 | JBQ | 0.0576 | MDL | 5.05 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8-PECDF | 1.94 | JB | 0.0468 | MDL | 5.05 | PQL | ng/Kg | J | Z, FD |
| 2,3,4,6,7,8-HXCDF | 1.33 | JB | 0.0442 | MDL | 5.05 | PQL | ng/Kg | J | Z, FD |
| 2,3,4,7,8-PECDF | 0.920 | JB | 0.0450 | MDL | 5.05 | PQL | ng/Kg | J | Z, FD |
| 2,3,7,8-TCDD | 1.16 | Q | 0.0626 | MDL | 1.01 | PQL | ng/Kg | J | FD |
| 2,3,7,8-TCDF | 0.462 | J | 0.0962 | MDL | 1.01 | PQL | ng/Kg | J | Z, FD |
| OCDD | 1140 | B | 0.0711 | MDL | 10.1 | PQL | ng/Kg | J | FD |
| OCDF | 44.9 | B | 0.0491 | MDL | 10.1 | PQL | ng/Kg | J | FD |

Sample ID: SL-518-SA5A-SB-0.0-0.5

Collected: 11/19/2013 8:45:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 4.71 | JB | 0.0199 | MDL | 5.17 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.290 | JB | 0.0226 | MDL | 5.17 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.152 | JB | 0.0409 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.204 | JBQ | 0.0276 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.755 | JBQ | 0.0437 | MDL | 5.17 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.151 | JBQ | 0.0268 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.420 | JBQ | 0.0397 | MDL | 5.17 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.182 | JB | 0.0232 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0720 | JBQ | 0.0461 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.348 | JB | 0.0273 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.163 | JB | 0.0252 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.109 | JB | 0.0248 | MDL | 5.17 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0659 | JQ | 0.0605 | MDL | 1.03 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

| Sample ID: SL-518-SA5A-SB-10.0-11.0 | Collected: 11/19/2013 9:17:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-------------------------------------|-------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,4,6,7,8-HPCDD | 1.06 | JB | 0.0568 | MDL | 11.2 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.255 | JBQ | 0.0211 | MDL | 11.2 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.150 | JBQ | 0.0242 | MDL | 11.2 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.106 | JBQ | 0.0502 | MDL | 11.2 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDF | 0.0944 | JBQ | 0.0360 | MDL | 11.2 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.335 | JBQ | 0.0493 | MDL | 11.2 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDF | 0.129 | JBQ | 0.0358 | MDL | 11.2 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.490 | JB | 0.0461 | MDL | 11.2 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDF | 0.485 | JB | 0.0310 | MDL | 11.2 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.164 | JBQ | 0.0824 | MDL | 11.2 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.241 | JBQ | 0.0520 | MDL | 11.2 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HxCDF | 0.101 | JB | 0.0337 | MDL | 11.2 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.119 | JBQ | 0.0469 | MDL | 11.2 | PQL | ng/Kg | U | B |
| OCDD | 7.55 | JB | 0.0392 | MDL | 22.4 | PQL | ng/Kg | J | Z |
| OCDF | 0.789 | JB | 0.0561 | MDL | 22.4 | PQL | ng/Kg | J | Z |

| Sample ID: SL-518-SA5A-SB-15.0-16.0 | Collected: 11/19/2013 10:03:00 | Analysis Type: RES | Dilution: 1 | | | | | | |
|-------------------------------------|--------------------------------|--------------------|-------------|---------|------|---------|-------|------------------|-------------|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
| 1,2,3,4,6,7,8-HPCDD | 0.108 | JBQ | 0.0194 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0538 | JBQ | 0.00741 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0306 | JB | 0.00867 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0375 | JBQ | 0.0220 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDF | 0.0291 | JBQ | 0.0137 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.0828 | JBQ | 0.0221 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDF | 0.0255 | JBQ | 0.0135 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.0396 | JB | 0.0200 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDF | 0.0372 | JBQ | 0.0128 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0376 | JBQ | 0.0375 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0498 | JB | 0.0251 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HxCDF | 0.0321 | JBQ | 0.0127 | MDL | 5.64 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0295 | JBQ | 0.0220 | MDL | 5.64 | PQL | ng/Kg | U | B |
| OCDD | 0.499 | JBQ | 0.0186 | MDL | 11.3 | PQL | ng/Kg | U | B |
| OCDF | 0.178 | JB | 0.0222 | MDL | 11.3 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-518-SA5A-SB-7.0-8.0

Collected: 11/19/2013 8:55:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.727 | JBQ | 0.0319 | MDL | 5.48 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.182 | JB | 0.0125 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0553 | JBQ | 0.0149 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0359 | JBQ | 0.0277 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0777 | JBQ | 0.0206 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.181 | JBQ | 0.0278 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0590 | JB | 0.0200 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.110 | JBQ | 0.0273 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.165 | JBQ | 0.0175 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0586 | JBQ | 0.0462 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0623 | JBQ | 0.0262 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0487 | JBQ | 0.0186 | MDL | 5.48 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0838 | JB | 0.0238 | MDL | 5.48 | PQL | ng/Kg | U | B |
| OCDD | 4.74 | JB | 0.0202 | MDL | 11.0 | PQL | ng/Kg | J | Z |
| OCDF | 0.357 | JBQ | 0.0289 | MDL | 11.0 | PQL | ng/Kg | U | B |

Sample ID: SL-596-SA5A-SB-0.0-0.5

Collected: 11/19/2013 11:35:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDF | 2.26 | JB | 0.0149 | MDL | 5.26 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8,9-HPCDF | 0.256 | JBQ | 0.0166 | MDL | 5.26 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.124 | JB | 0.0392 | MDL | 5.26 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.202 | JBQ | 0.0300 | MDL | 5.26 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.680 | JBQ | 0.0420 | MDL | 5.26 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.146 | JBQ | 0.0294 | MDL | 5.26 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.559 | JB | 0.0372 | MDL | 5.26 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.422 | JB | 0.0282 | MDL | 5.26 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.172 | JB | 0.0440 | MDL | 5.26 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.300 | JB | 0.0300 | MDL | 5.26 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.185 | JBQ | 0.0274 | MDL | 5.26 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.109 | JBQ | 0.0279 | MDL | 5.26 | PQL | ng/Kg | U | B |
| OCDF | 4.44 | JB | 0.0242 | MDL | 10.5 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-596-SA5A-SB-4.0-5.0

Collected: 11/19/2013 11:43:00 Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.675 | JBQ | 0.0413 | MDL | 5.40 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.146 | JB | 0.0182 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.133 | JBQ | 0.0209 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0587 | JBQ | 0.0311 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDF | 0.101 | JBQ | 0.0246 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDD | 0.125 | JBQ | 0.0326 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HxCDF | 0.156 | JB | 0.0250 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDD | 0.164 | JBQ | 0.0298 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HxCDF | 0.112 | JBQ | 0.0265 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.228 | JBQ | 0.0437 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.233 | JBQ | 0.0273 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HxCDF | 0.131 | JB | 0.0242 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.144 | JBQ | 0.0247 | MDL | 5.40 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0935 | JQ | 0.0622 | MDL | 1.08 | PQL | ng/Kg | J | Z |
| OCDD | 5.02 | JB | 0.0257 | MDL | 10.8 | PQL | ng/Kg | J | Z |
| OCDF | 0.267 | JBQ | 0.0438 | MDL | 10.8 | PQL | ng/Kg | U | B |

Sample ID: SL-708-SA5A-SB-0.0-0.5

Collected: 11/19/2013 2:15:00 Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 3.31 | JB | 0.0395 | MDL | 5.07 | PQL | ng/Kg | J | Z, Q, Q, FD |
| 1,2,3,4,6,7,8-HPCDF | 0.903 | JB | 0.0156 | MDL | 5.07 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8,9-HPCDF | 0.153 | JBQ | 0.0188 | MDL | 5.07 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDD | 0.130 | JBQ | 0.0324 | MDL | 5.07 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8-HxCDF | 0.158 | JBQ | 0.0257 | MDL | 5.07 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HxCDD | 0.280 | JBQ | 0.0339 | MDL | 5.07 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,6,7,8-HxCDF | 0.149 | JB | 0.0247 | MDL | 5.07 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8,9-HxCDD | 0.346 | JB | 0.0314 | MDL | 5.07 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HxCDF | 0.161 | JB | 0.0263 | MDL | 5.07 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDD | 0.159 | JBQ | 0.0398 | MDL | 5.07 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDF | 0.248 | JBQ | 0.0256 | MDL | 5.07 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,6,7,8-HxCDF | 0.153 | JB | 0.0241 | MDL | 5.07 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,7,8-PECDF | 0.162 | JB | 0.0226 | MDL | 5.07 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDD | 0.142 | J | 0.0699 | MDL | 1.01 | PQL | ng/Kg | J | Z, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-708-SA5A-SB-0.0-0.5

Collected: 11/19/2013 2:15:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 2,3,7,8-TCDF | 1.01 | U | 0.0564 | MDL | 1.01 | PQL | ng/Kg | UJ | FD |
| OCDD | 34.9 | B | 0.0268 | MDL | 10.1 | PQL | ng/Kg | J | Q, Q, FD |
| OCDF | 1.67 | JB | 0.0328 | MDL | 10.1 | PQL | ng/Kg | J | Z, Q, FD |

Sample ID: SL-708-SA5A-SB-4.0-5.0

Collected: 11/19/2013 2:24:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.291 | JB | 0.0288 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0618 | JBQ | 0.0153 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0391 | JBQ | 0.0179 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0748 | JB | 0.0242 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0630 | JBQ | 0.0242 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.0524 | JBQ | 0.0279 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0672 | JBQ | 0.0246 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0860 | JBQ | 0.0424 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0677 | JBQ | 0.0245 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0425 | JBQ | 0.0241 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0654 | JBQ | 0.0222 | MDL | 5.27 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0694 | JQ | 0.0625 | MDL | 1.05 | PQL | ng/Kg | J | Z |
| OCDD | 1.39 | JB | 0.0248 | MDL | 10.5 | PQL | ng/Kg | J | Z |
| OCDF | 0.226 | JB | 0.0343 | MDL | 10.5 | PQL | ng/Kg | U | B |

Sample ID: SL-732-SA5A-SB-0.0-0.5

Collected: 11/19/2013 1:38:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.136 | JBQ | 0.0256 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0485 | JB | 0.0104 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0433 | JBQ | 0.0128 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.0344 | JBQ | 0.0196 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0429 | JB | 0.0176 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.0419 | JBQ | 0.0208 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0280 | JBQ | 0.0172 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDD | 0.0564 | JBQ | 0.0188 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,7,8,9-HXCDF | 0.0464 | JB | 0.0184 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.0587 | JBQ | 0.0336 | MDL | 5.07 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-732-SA5A-SB-0.0-0.5 Collected: 11/19/2013 1:38:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,7,8-PECDF | 0.0566 | JBQ | 0.0190 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0281 | JBQ | 0.0168 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 2,3,4,7,8-PECDF | 0.0343 | JBQ | 0.0173 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0467 | JQ | 0.0449 | MDL | 1.01 | PQL | ng/Kg | J | Z |
| OCDD | 0.465 | JBQ | 0.0188 | MDL | 10.1 | PQL | ng/Kg | U | B |
| OCDF | 0.168 | JB | 0.0299 | MDL | 10.1 | PQL | ng/Kg | U | B |

Method Category: SVOA
Method: 8015M **Matrix:** AQ

Sample ID: EB-111913 Collected: 11/19/2013 3:00:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| EFH (C30-C40) | 0.48 | U | 0.096 | MDL | 0.48 | PQL | mg/L | UJ | L |
| EFH (C8-C11) | 0.096 | U | 0.048 | MDL | 0.096 | PQL | mg/L | UJ | L |

Method Category: SVOA
Method: 8015M **Matrix:** SO

Sample ID: SL-1008-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:10:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 4.2 | J | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Z |
| EFH (C30-C40) | 9.4 | J | 4.1 | MDL | 10 | PQL | mg/Kg | J | Z |

Sample ID: SL-518-SA5A-SB-0.0-0.5 Collected: 11/19/2013 8:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 4.9 | J | 2.1 | MDL | 5.2 | PQL | mg/Kg | J | Z |

Sample ID: SL-518-SA5A-SB-10.0-11.0 Collected: 11/19/2013 9:17:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 4.6 | J | 2.2 | MDL | 5.6 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 8015M **Matrix:** SO

Sample ID: SL-518-SA5A-SB-7.0-8.0 Collected: 11/19/2013 8:55:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 4.4 | J | 2.2 | MDL | 5.5 | PQL | mg/Kg | J | Z |

Sample ID: SL-596-SA5A-SB-4.0-5.0 Collected: 11/19/2013 11:43:00 Analysis Type: RES Dilution: 23.11

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| GASOLINE RANGE ORGANICS (C5-C12) | 0.6 | J | 0.2 | MDL | 1.0 | PQL | mg/Kg | J | Z |

Sample ID: SL-708-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 3.3 | J | 2.1 | MDL | 5.2 | PQL | mg/Kg | J | Z, Q, Q |
| EFH (C30-C40) | 9.0 | J | 4.2 | MDL | 10 | PQL | mg/Kg | J | Z, Q, Q |

Method Category: SVOA
Method: 8081B **Matrix:** AQ

Sample ID: EB-111913 Collected: 11/19/2013 3:00:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ENDRIN | 0.017 | U | 0.0070 | MDL | 0.017 | PQL | ug/L | UJ | L, E |
| ENDRIN ALDEHYDE | 0.087 | U | 0.017 | MDL | 0.087 | PQL | ug/L | UJ | E |
| ENDRIN KETONE | 0.017 | U | 0.0043 | MDL | 0.017 | PQL | ug/L | UJ | E |

Method Category: SVOA
Method: 8081B **Matrix:** SO

Sample ID: SL-1008-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:10:00 Analysis Type: DL Dilution: 20

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| 4,4'-DDE | 87 | | 6.6 | MDL | 34 | PQL | ug/Kg | J | FD |
| 4,4'-DDT | 52 | | 7.1 | MDL | 34 | PQL | ug/Kg | J | FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 8081B Matrix: SO

Sample ID: SL-1008-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:10:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 4,4'-DDD | 1.1 | J | 0.33 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| DIELDRIN | 1.5 | J | 0.33 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| ENDOSULFAN SULFATE | 0.46 | J | 0.33 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |

Sample ID: SL-708-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 4,4'-DDD | 1.8 | U | 0.34 | MDL | 1.8 | PQL | ug/Kg | UJ | FD |
| 4,4'-DDE | 8.0 | | 0.34 | MDL | 1.8 | PQL | ug/Kg | J | Q, FD |
| 4,4'-DDT | 11 | | 0.36 | MDL | 1.8 | PQL | ug/Kg | J | Q, Q, FD |
| DIELDRIN | 1.8 | U | 0.34 | MDL | 1.8 | PQL | ug/Kg | UJ | FD |
| ENDOSULFAN SULFATE | 1.8 | U | 0.34 | MDL | 1.8 | PQL | ug/Kg | UJ | FD |

Method Category: SVOA
Method: 8082A Matrix: SO

Sample ID: SL-1008-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:10:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| Aroclor 5460 | 16 | J | 10 | MDL | 33 | PQL | ug/Kg | J | Z, FD |

Sample ID: SL-518-SA5A-SB-0.0-0.5 Collected: 11/19/2013 8:45:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| AROCLOR 1254 | 9.4 | J | 4.6 | MDL | 18 | PQL | ug/Kg | J | Z |

Sample ID: SL-708-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| Aroclor 5460 | 34 | U | 10 | MDL | 34 | PQL | ug/Kg | UJ | FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** AQ

Sample ID: EB-111913 Collected: 11/19/2013 3:00:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|-------|---------|-----|---------|-------|------------------|-------------|
| BIS(2-ETHYLHEXYL)PHTHALATE | 0.14 | J | 0.053 | MDL | 1.1 | PQL | ug/L | U | B |
| Diethylphthalate | 0.26 | J | 0.053 | MDL | 1.1 | PQL | ug/L | J | Z |
| Di-n-butylphthalate | 0.22 | J | 0.053 | MDL | 1.1 | PQL | ug/L | U | B |

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-1008-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:10:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 0.49 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(A)ANTHRACENE | 0.72 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(A)PYRENE | 0.91 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BENZO(B)FLUORANTHENE | 31 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BENZO(G,H,I)PERYLENE | 1.1 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |
| BIS(2-ETHYLHEXYL)PHTHALATE | 12 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | Z, FD |
| CHRYSENE | 2.0 | | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| FLUORANTHENE | 2.2 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| PHENANTHRENE | 1.9 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| PYRENE | 2.3 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |

Sample ID: SL-518-SA5A-SB-0.0-0.5 Collected: 11/19/2013 8:45:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ACENAPHTHENE | 1.4 | J | 0.70 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| DIBENZO(A,H)ANTHRACENE | 0.71 | J | 0.70 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-518-SA5A-SB-10.0-11.0 Collected: 11/19/2013 9:17:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 0.75 | J | 0.74 | MDL | 1.8 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-518-SA5A-SB-10.0-11.0 Collected: 11/19/2013 9:17:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 0.75 | J | 0.74 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BENZO(B)FLUORANTHENE | 1.1 | J | 0.74 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 8.4 | J | 6.6 | MDL | 20 | PQL | ug/Kg | J | Z |
| CHRYSENE | 0.60 | J | 0.37 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 0.88 | J | 0.74 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 0.89 | J | 0.74 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-518-SA5A-SB-7.0-8.0 Collected: 11/19/2013 8:55:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 0.67 | J | 0.37 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| FLUORENE | 0.75 | J | 0.74 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 1.1 | J | 0.74 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-596-SA5A-SB-0.0-0.5 Collected: 11/19/2013 11:35:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 0.80 | J | 0.70 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 0.99 | J | 0.70 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| CHRYSENE | 0.89 | J | 0.35 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| N-NITROSODIMETHYLAMINE | 0.72 | J | 0.70 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-596-SA5A-SB-4.0-5.0 Collected: 11/19/2013 11:43:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 1.5 | J | 0.36 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BENZO(A)ANTHRACENE | 0.96 | J | 0.72 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 1.2 | J | 0.72 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 1.4 | J | 0.72 | MDL | 1.8 | PQL | ug/Kg | J | Z |
| N-NITROSODIMETHYLAMINE | 0.75 | J | 0.72 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-708-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:15:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 1.7 | U | 0.34 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-708-SA5A-SB-0.0-0.5 Collected: 11/19/2013 2:15:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)ANTHRACENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(A)PYRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BENZO(B)FLUORANTHENE | 1.1 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, Q, FD |
| BENZO(G,H,I)PERYLENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BIS(2-ETHYLHEXYL)PHTHALATE | 18 | U | 6.2 | MDL | 18 | PQL | ug/Kg | UJ | FD |
| CHRYSENE | 1.7 | U | 0.34 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| FLUORANTHENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| PHENANTHRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| PYRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |

Method Category: VOA
Method: 8260B **Matrix:** SO

Sample ID: SL-518-SA5A-SB-10.0-11.0 Collected: 11/19/2013 9:17:00 Analysis Type: RES Dilution: 0.89

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| 2-BUTANONE (MEK) | 5 | J | 4 | MDL | 10 | PQL | ug/Kg | J | Z |

Method Category: VOA
Method: 8260B SIM **Matrix:** SO

Sample ID: SL-518-SA5A-SB-10.0-11.0 Collected: 11/19/2013 9:17:00 Analysis Type: RES Dilution: 22.12

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| 1,4-DIOXANE | 15 | U | 5.0 | MDL | 15 | PQL | ug/Kg | UJ | S |

Sample ID: SL-518-SA5A-SB-7.0-8.0 Collected: 11/19/2013 8:55:00 Analysis Type: RES Dilution: 27.11

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| 1,4-DIOXANE | 18 | U | 6.0 | MDL | 18 | PQL | ug/Kg | UJ | S |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|--|
| B | Method Blank Contamination |
| E | Laboratory Control Precision |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Field Blank Contamination |
| FD | Field Duplicate Precision |
| L | Laboratory Control Precision |
| L | Laboratory Control Spike Lower Estimation |
| L | Laboratory Control Spike Upper Estimation |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| S | Surrogate/Tracer Recovery Lower Estimation |
| S | Surrogate/Tracer Recovery Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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ADR version 1.7.0.207

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH132

Method Blank Outlier Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B
Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|------------------------|---|--|--------------------|
| BLK3300B372346 | 11/27/2013 11:46:00 PM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF 2,3,7,8-TCDD OCDD OCDF | 3.16 pg/L 2.75 pg/L 3.86 pg/L 3.22 pg/L 3.09 pg/L 2.56 pg/L 2.03 pg/L 2.77 pg/L 3.29 pg/L 3.27 pg/L 2.52 pg/L 3.56 pg/L 2.59 pg/L 1.57 pg/L 10.1 pg/L 9.74 pg/L | EB-111913 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------|---------------------|-----------------|-----------------------|
| EB-111913(RES) | 1,2,3,4,6,7,8-HPCDD | 0.811 pg/L | 0.811U pg/L |
| EB-111913(RES) | 1,2,3,4,7,8,9-HPCDF | 0.559 pg/L | 0.559U pg/L |
| EB-111913(RES) | 1,2,3,4,7,8-HxCDD | 0.451 pg/L | 0.451U pg/L |
| EB-111913(RES) | 1,2,3,4,7,8-HxCDF | 0.728 pg/L | 0.728U pg/L |
| EB-111913(RES) | 1,2,3,6,7,8-HXCDF | 0.775 pg/L | 0.775U pg/L |
| EB-111913(RES) | 1,2,3,7,8,9-HXCDD | 0.318 pg/L | 0.318U pg/L |
| EB-111913(RES) | 1,2,3,7,8,9-HXCDF | 0.434 pg/L | 0.434U pg/L |
| EB-111913(RES) | 1,2,3,7,8-PECDF | 0.816 pg/L | 0.816U pg/L |
| EB-111913(RES) | 2,3,4,6,7,8-HXCDF | 0.652 pg/L | 0.652U pg/L |
| EB-111913(RES) | 2,3,4,7,8-PECDF | 0.495 pg/L | 0.495U pg/L |
| EB-111913(RES) | OCDD | 1.73 pg/L | 1.73U pg/L |
| EB-111913(RES) | OCDF | 1.92 pg/L | 1.92U pg/L |

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|---|---|---|
| BLK3380B371250 | 12/6/2013 12:50:00 PM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HXCDD 1,2,3,6,7,8-HXCDF 1,2,3,7,8,9-HXCDD 1,2,3,7,8,9-HXCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HXCDF 2,3,4,7,8-PECDF OCDD OCDF | 0.0626 ng/Kg 0.0499 ng/Kg 0.0505 ng/Kg 0.0435 ng/Kg 0.0672 ng/Kg 0.0385 ng/Kg 0.0661 ng/Kg 0.0586 ng/Kg 0.0912 ng/Kg 0.0654 ng/Kg 0.111 ng/Kg 0.0394 ng/Kg 0.0386 ng/Kg 0.158 ng/Kg 0.154 ng/Kg | SL-1008-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-10.0-11.0 SL-518-SA5A-SB-15.0-16.0 SL-518-SA5A-SB-7.0-8.0 SL-596-SA5A-SB-0.0-0.5 SL-596-SA5A-SB-4.0-5.0 SL-708-SA5A-SB-0.0-0.5 SL-708-SA5A-SB-4.0-5.0 SL-732-SA5A-SB-0.0-0.5 |

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Method Blank Outlier Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B

Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-------------------------------|---------------------|-----------------|-----------------------|
| SL-1008-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.448 ng/Kg | 0.448U ng/Kg |
| SL-518-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.152 ng/Kg | 0.152U ng/Kg |
| SL-518-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.204 ng/Kg | 0.204U ng/Kg |
| SL-518-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.151 ng/Kg | 0.151U ng/Kg |
| SL-518-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.182 ng/Kg | 0.182U ng/Kg |
| SL-518-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.0720 ng/Kg | 0.0720U ng/Kg |
| SL-518-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.348 ng/Kg | 0.348U ng/Kg |
| SL-518-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.163 ng/Kg | 0.163U ng/Kg |
| SL-518-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.109 ng/Kg | 0.109U ng/Kg |
| SL-518-SA5A-SB-10.0-11.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.150 ng/Kg | 0.150U ng/Kg |
| SL-518-SA5A-SB-10.0-11.0(RES) | 1,2,3,4,7,8-HxCDD | 0.106 ng/Kg | 0.106U ng/Kg |
| SL-518-SA5A-SB-10.0-11.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0944 ng/Kg | 0.0944U ng/Kg |
| SL-518-SA5A-SB-10.0-11.0(RES) | 1,2,3,6,7,8-HXCDF | 0.129 ng/Kg | 0.129U ng/Kg |
| SL-518-SA5A-SB-10.0-11.0(RES) | 1,2,3,7,8-PECDD | 0.164 ng/Kg | 0.164U ng/Kg |
| SL-518-SA5A-SB-10.0-11.0(RES) | 1,2,3,7,8-PECDF | 0.241 ng/Kg | 0.241U ng/Kg |
| SL-518-SA5A-SB-10.0-11.0(RES) | 2,3,4,6,7,8-HXCDF | 0.101 ng/Kg | 0.101U ng/Kg |
| SL-518-SA5A-SB-10.0-11.0(RES) | 2,3,4,7,8-PECDF | 0.119 ng/Kg | 0.119U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.108 ng/Kg | 0.108U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0538 ng/Kg | 0.0538U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0306 ng/Kg | 0.0306U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 1,2,3,4,7,8-HxCDD | 0.0375 ng/Kg | 0.0375U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0291 ng/Kg | 0.0291U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 1,2,3,6,7,8-HXCDD | 0.0828 ng/Kg | 0.0828U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0255 ng/Kg | 0.0255U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 1,2,3,7,8,9-HXCDD | 0.0396 ng/Kg | 0.0396U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0372 ng/Kg | 0.0372U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 1,2,3,7,8-PECDD | 0.0376 ng/Kg | 0.0376U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 1,2,3,7,8-PECDF | 0.0498 ng/Kg | 0.0498U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0321 ng/Kg | 0.0321U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | 2,3,4,7,8-PECDF | 0.0295 ng/Kg | 0.0295U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | OCDD | 0.499 ng/Kg | 0.499U ng/Kg |
| SL-518-SA5A-SB-15.0-16.0(RES) | OCDF | 0.178 ng/Kg | 0.178U ng/Kg |
| SL-518-SA5A-SB-7.0-8.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.182 ng/Kg | 0.182U ng/Kg |
| SL-518-SA5A-SB-7.0-8.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0553 ng/Kg | 0.0553U ng/Kg |
| SL-518-SA5A-SB-7.0-8.0(RES) | 1,2,3,4,7,8-HxCDD | 0.0359 ng/Kg | 0.0359U ng/Kg |
| SL-518-SA5A-SB-7.0-8.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0777 ng/Kg | 0.0777U ng/Kg |
| SL-518-SA5A-SB-7.0-8.0(RES) | 1,2,3,6,7,8-HXCDD | 0.181 ng/Kg | 0.181U ng/Kg |
| SL-518-SA5A-SB-7.0-8.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0590 ng/Kg | 0.0590U ng/Kg |
| SL-518-SA5A-SB-7.0-8.0(RES) | 1,2,3,7,8,9-HXCDD | 0.110 ng/Kg | 0.110U ng/Kg |
| SL-518-SA5A-SB-7.0-8.0(RES) | 1,2,3,7,8,9-HXCDF | 0.165 ng/Kg | 0.165U ng/Kg |

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Method Blank Outlier Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-518-SA5A-SB-7.0-8.0(RES) | 1,2,3,7,8-PECDD | 0.0586 ng/Kg | 0.0586U ng/Kg |
| SL-518-SA5A-SB-7.0-8.0(RES) | 1,2,3,7,8-PECDF | 0.0623 ng/Kg | 0.0623U ng/Kg |
| SL-518-SA5A-SB-7.0-8.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0487 ng/Kg | 0.0487U ng/Kg |
| SL-518-SA5A-SB-7.0-8.0(RES) | 2,3,4,7,8-PECDF | 0.0838 ng/Kg | 0.0838U ng/Kg |
| SL-518-SA5A-SB-7.0-8.0(RES) | OCDF | 0.357 ng/Kg | 0.357U ng/Kg |
| SL-596-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.124 ng/Kg | 0.124U ng/Kg |
| SL-596-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.202 ng/Kg | 0.202U ng/Kg |
| SL-596-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.146 ng/Kg | 0.146U ng/Kg |
| SL-596-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.422 ng/Kg | 0.422U ng/Kg |
| SL-596-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.172 ng/Kg | 0.172U ng/Kg |
| SL-596-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.300 ng/Kg | 0.300U ng/Kg |
| SL-596-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.185 ng/Kg | 0.185U ng/Kg |
| SL-596-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.109 ng/Kg | 0.109U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.146 ng/Kg | 0.146U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.133 ng/Kg | 0.133U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HxCDD | 0.0587 ng/Kg | 0.0587U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.101 ng/Kg | 0.101U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDD | 0.125 ng/Kg | 0.125U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.156 ng/Kg | 0.156U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDD | 0.164 ng/Kg | 0.164U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDF | 0.112 ng/Kg | 0.112U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDD | 0.228 ng/Kg | 0.228U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.233 ng/Kg | 0.233U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | 2,3,4,6,7,8-HXCDF | 0.131 ng/Kg | 0.131U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.144 ng/Kg | 0.144U ng/Kg |
| SL-596-SA5A-SB-4.0-5.0(RES) | OCDF | 0.267 ng/Kg | 0.267U ng/Kg |
| SL-708-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.153 ng/Kg | 0.153U ng/Kg |
| SL-708-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.130 ng/Kg | 0.130U ng/Kg |
| SL-708-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.158 ng/Kg | 0.158U ng/Kg |
| SL-708-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.149 ng/Kg | 0.149U ng/Kg |
| SL-708-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.161 ng/Kg | 0.161U ng/Kg |
| SL-708-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.159 ng/Kg | 0.159U ng/Kg |
| SL-708-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.248 ng/Kg | 0.248U ng/Kg |
| SL-708-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.153 ng/Kg | 0.153U ng/Kg |
| SL-708-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.162 ng/Kg | 0.162U ng/Kg |
| SL-708-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDD | 0.291 ng/Kg | 0.291U ng/Kg |
| SL-708-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0618 ng/Kg | 0.0618U ng/Kg |
| SL-708-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0391 ng/Kg | 0.0391U ng/Kg |
| SL-708-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0748 ng/Kg | 0.0748U ng/Kg |
| SL-708-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDF | 0.0630 ng/Kg | 0.0630U ng/Kg |

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Method Blank Outlier Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|---------------------|-----------------|-----------------------|
| SL-708-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDD | 0.0524 ng/Kg | 0.0524U ng/Kg |
| SL-708-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8,9-HXCDF | 0.0672 ng/Kg | 0.0672U ng/Kg |
| SL-708-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDD | 0.0860 ng/Kg | 0.0860U ng/Kg |
| SL-708-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.0677 ng/Kg | 0.0677U ng/Kg |
| SL-708-SA5A-SB-4.0-5.0(RES) | 2,3,4,6,7,8-HXCDF | 0.0425 ng/Kg | 0.0425U ng/Kg |
| SL-708-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.0654 ng/Kg | 0.0654U ng/Kg |
| SL-708-SA5A-SB-4.0-5.0(RES) | OCDF | 0.226 ng/Kg | 0.226U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.136 ng/Kg | 0.136U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0485 ng/Kg | 0.0485U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.0433 ng/Kg | 0.0433U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.0344 ng/Kg | 0.0344U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0429 ng/Kg | 0.0429U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDD | 0.0419 ng/Kg | 0.0419U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDF | 0.0280 ng/Kg | 0.0280U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDD | 0.0564 ng/Kg | 0.0564U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HXCDF | 0.0464 ng/Kg | 0.0464U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.0587 ng/Kg | 0.0587U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.0566 ng/Kg | 0.0566U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 2,3,4,6,7,8-HXCDF | 0.0281 ng/Kg | 0.0281U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.0343 ng/Kg | 0.0343U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | OCDD | 0.465 ng/Kg | 0.465U ng/Kg |
| SL-732-SA5A-SB-0.0-0.5(RES) | OCDF | 0.168 ng/Kg | 0.168U ng/Kg |

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|---------|------------|---|
| P33637BB220936 | 12/3/2013 9:36:00 AM | TIN | 1.57 mg/Kg | SL-1008-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-10.0-11.0 SL-518-SA5A-SB-15.0-16.0 SL-518-SA5A-SB-7.0-8.0 SL-596-SA5A-SB-0.0-0.5 SL-596-SA5A-SB-4.0-5.0 SL-708-SA5A-SB-0.0-0.5 SL-708-SA5A-SB-4.0-5.0 SL-732-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------------------------|---------|-----------------|-----------------------|
| SL-1008-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 2.51 mg/Kg | 2.51U mg/Kg |
| SL-518-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 2.75 mg/Kg | 2.75U mg/Kg |

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Method Blank Outlier Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C

Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|---------------|---------|--------|--------------------|
|------------------------|---------------|---------|--------|--------------------|

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------------|---------|-----------------|-----------------------|
| SL-518-SA5A-SB-10.0-11.0(REA/TOT) | TIN | 2.73 mg/Kg | 2.73U mg/Kg |
| SL-518-SA5A-SB-15.0-16.0(REA/TOT) | TIN | 2.90 mg/Kg | 2.90U mg/Kg |
| SL-518-SA5A-SB-7.0-8.0(REA/TOT) | TIN | 2.75 mg/Kg | 2.75U mg/Kg |
| SL-596-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 2.79 mg/Kg | 2.79U mg/Kg |
| SL-596-SA5A-SB-4.0-5.0(REA/TOT) | TIN | 3.42 mg/Kg | 3.42U mg/Kg |
| SL-708-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 2.74 mg/Kg | 2.74U mg/Kg |
| SL-708-SA5A-SB-4.0-5.0(REA/TOT) | TIN | 3.03 mg/Kg | 3.03U mg/Kg |
| SL-732-SA5A-SB-0.0-0.5(REA/TOT) | TIN | 2.80 mg/Kg | 2.80U mg/Kg |

Method: 8270D SIM

Matrix: AQ

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|-----------------------|---|------------------------|--------------------|
| PLKWA33B261734 | 11/29/2013 5:34:00 PM | BIS(2-ETHYLHEXYL)PHTHALATE Di-n-butylphthalate | 0.12 ug/L 0.23 ug/L | EB-111913 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|----------------|----------------------------|-----------------|-----------------------|
| EB-111913(RES) | BIS(2-ETHYLHEXYL)PHTHALATE | 0.14 ug/L | 1.1U ug/L |
| EB-111913(RES) | Di-n-butylphthalate | 0.22 ug/L | 1.1U ug/L |

Field Blank Outlier Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PrepPH132

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|-------------------|----------------------------|---|
| FB-041613(REA2/TOT) | 4/16/2013 3:15:00 PM | MOLYBDENUM TIN | 0.0132 mg/L 0.0029 mg/L | SL-1008-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-10.0-11.0 SL-518-SA5A-SB-15.0-16.0 SL-518-SA5A-SB-7.0-8.0 SL-596-SA5A-SB-0.0-0.5 SL-596-SA5A-SB-4.0-5.0 SL-708-SA5A-SB-0.0-0.5 SL-708-SA5A-SB-4.0-5.0 SL-732-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------------|------------|-----------------|-----------------------|
| SL-1008-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.348 mg/Kg | 0.348U mg/Kg |
| SL-518-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.363 mg/Kg | 0.363U mg/Kg |
| SL-518-SA5A-SB-10.0-11.0(REA/TOT) | MOLYBDENUM | 0.343 mg/Kg | 0.343U mg/Kg |
| SL-518-SA5A-SB-15.0-16.0(REA/TOT) | MOLYBDENUM | 0.278 mg/Kg | 0.278U mg/Kg |
| SL-518-SA5A-SB-7.0-8.0(REA/TOT) | MOLYBDENUM | 0.189 mg/Kg | 0.189U mg/Kg |
| SL-596-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.284 mg/Kg | 0.284U mg/Kg |
| SL-596-SA5A-SB-4.0-5.0(REA/TOT) | MOLYBDENUM | 0.218 mg/Kg | 0.218U mg/Kg |
| SL-708-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.621 mg/Kg | 0.621U mg/Kg |
| SL-708-SA5A-SB-4.0-5.0(REA/TOT) | MOLYBDENUM | 0.401 mg/Kg | 0.401U mg/Kg |
| SL-732-SA5A-SB-0.0-0.5(REA/TOT) | MOLYBDENUM | 0.292 mg/Kg | 0.292U mg/Kg |

Surrogate Outlier Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8260B SIM

Matrix: SO

| Sample ID (Analysis Type) | Surrogate | Sample % Recovery | % Recovery Limits | Affected Compounds | Flag |
|------------------------------|------------|----------------------|----------------------|-----------------------|---|
| SL-518-SA5A-SB-10.0-11.0 | TOLUENE-D8 | 42 | 70.00-130.00 | All Target Analytes | J (all detects) UJ (all non-detects) |
| SL-518-SA5A-SB-7.0-8.0 | TOLUENE-D8 | 44 | 70.00-130.00 | All Target Analytes | J(all detects) UJ(all non-detects) |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8081B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|----------------------|--------------|-------------|------------------------------|-----------------|-----------------------|-----------------|
| SL-708-SA5A-SB-0.0-0.5MS SL-708-SA5A-SB-0.0-0.5MSD (SL-708-SA5A-SB-0.0-0.5) | 4,4'-DDE 4,4'-DDT | 1836 1799 | 1622 644 | 35.00-152.00 12.00-193.00 | - 85 (50.00) | 4,4'-DDE 4,4'-DDT | J (all detects) |

Method: 8015M
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---|-------------------|-------------------|--|-------------------------------|---|----------------|
| SL-708-SA5A-SB-0.0-0.5MS SL-708-SA5A-SB-0.0-0.5MSD (SL-708-SA5A-SB-0.0-0.5) | EFH (C15-C20) EFH (C21-C30) EFH (C30-C40) | 135 409 882 | 130 227 305 | 49.00-123.00 49.00-123.00 49.00-123.00 | - 53 (20.00) 89 (20.00) | EFH (C15-C20) EFH (C21-C30) EFH (C30-C40) | J(all detects) |

Method: 1613B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|-------------------------------------|-------------------|-----------------|--|-------------------------------|-------------------------------------|----------------|
| SL-708-SA5A-SB-0.0-0.5MS SL-708-SA5A-SB-0.0-0.5MSD (SL-708-SA5A-SB-0.0-0.5) | 1,2,3,4,6,7,8-HPCDD OCDD OCDF | 214 785 146 | 143 357 - | 40.00-135.00 40.00-135.00 40.00-135.00 | 38 (20.00) 72 (20.00) - | 1,2,3,4,6,7,8-HPCDD OCDD OCDF | J(all detects) |

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--|-------------|-----------------|--|--------------------------------|--|----------------|
| SL-708-SA5A-SB-0.0-0.5MSD (SL-708-SA5A-SB-0.0-0.5) | BENZO(B)FLUORANTHENE BENZO(K)FLUORANTHENE Butylbenzylphthalate | - - - | 151 359 - | 26.00-142.00 54.00-142.00 49.00-151.00 | - 110 (30.00) 31 (30.00) | BENZO(B)FLUORANTHENE BENZO(K)FLUORANTHENE Butylbenzylphthalate | J(all detects) |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|---------------------------------|------------------|--------------------|--|-----------------|---------------------------------|--|
| SL-708-SA5A-SB-0.0-0.5MS (TOT) SL-708-SA5A-SB-0.0-0.5MSD (TOT) (SL-1008-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-10.0-11.0 SL-518-SA5A-SB-15.0-16.0 SL-518-SA5A-SB-7.0-8.0 SL-596-SA5A-SB-0.0-0.5 SL-596-SA5A-SB-4.0-5.0 SL-708-SA5A-SB-0.0-0.5 SL-708-SA5A-SB-4.0-5.0 SL-732-SA5A-SB-0.0-0.5) | ALUMINUM CALCIUM TITANIUM | 1850 - 146 | 2046 126 174 | 75.00-125.00 75.00-125.00 75.00-125.00 | - - - | ALUMINUM CALCIUM TITANIUM | No Qual, >4x |
| SL-708-SA5A-SB-0.0-0.5MS (TOT) SL-708-SA5A-SB-0.0-0.5MSD (TOT) (SL-1008-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-10.0-11.0 SL-518-SA5A-SB-15.0-16.0 SL-518-SA5A-SB-7.0-8.0 SL-596-SA5A-SB-0.0-0.5 SL-596-SA5A-SB-4.0-5.0 SL-708-SA5A-SB-0.0-0.5 SL-708-SA5A-SB-4.0-5.0 SL-732-SA5A-SB-0.0-0.5) | IRON | -69 | 417 | 75.00-125.00 | - | IRON | No Qual, >4x |
| SL-708-SA5A-SB-0.0-0.5MS (TOT) SL-708-SA5A-SB-0.0-0.5MSD (TOT) (SL-1008-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-10.0-11.0 SL-518-SA5A-SB-15.0-16.0 SL-518-SA5A-SB-7.0-8.0 SL-596-SA5A-SB-0.0-0.5 SL-596-SA5A-SB-4.0-5.0 SL-708-SA5A-SB-0.0-0.5 SL-708-SA5A-SB-4.0-5.0 SL-732-SA5A-SB-0.0-0.5) | ANTIMONY MANGANESE | 59 - | 60 46 | 75.00-125.00 75.00-125.00 | - - | ANTIMONY MANGANESE | J(all detects) UJ(all non-detects) Mn, No Qual, >4x |

Method: 6020A
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|-----------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-708-SA5A-SB-0.0-0.5MSD (TOT) (SL-1008-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-0.0-0.5 SL-518-SA5A-SB-10.0-11.0 SL-518-SA5A-SB-15.0-16.0 SL-518-SA5A-SB-7.0-8.0 SL-596-SA5A-SB-0.0-0.5 SL-596-SA5A-SB-4.0-5.0 SL-708-SA5A-SB-0.0-0.5 SL-708-SA5A-SB-4.0-5.0 SL-732-SA5A-SB-0.0-0.5) | STRONTIUM | - | 131 | 75.00-125.00 | - | STRONTIUM | J(all detects) |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|---|-------------------------|------------|----------------|------------------------------|
| SL-708-SA5A-SB-0.0-0.5DUP (TOT) (SL-1008-SA5A-SB-0.0-0.5 SL -518-SA5A-SB-0.0-0.5 SL -518-SA5A-SB-10.0-11.0 SL -518-SA5A-SB-15.0-16.0 SL -518-SA5A-SB-7.0-8.0 SL -596-SA5A-SB-0.0-0.5 SL -596-SA5A-SB-4.0-5.0 SL -708-SA5A-SB-0.0-0.5 SL -708-SA5A-SB-4.0-5.0 SL -732-SA5A-SB-0.0-0.5) | MOLYBDENUM Zirconium | 37 29 | 20.00 20.00 | No Qual, OK by Difference |

Method: 6020A
Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|---|---------|------------|-----------|------------------------------|
| SL-708-SA5A-SB-0.0-0.5DUP (TOT) (SL-1008-SA5A-SB-0.0-0.5 SL -518-SA5A-SB-0.0-0.5 SL -518-SA5A-SB-10.0-11.0 SL -518-SA5A-SB-15.0-16.0 SL -518-SA5A-SB-7.0-8.0 SL -596-SA5A-SB-0.0-0.5 SL -596-SA5A-SB-4.0-5.0 SL -708-SA5A-SB-0.0-0.5 SL -708-SA5A-SB-4.0-5.0 SL -732-SA5A-SB-0.0-0.5) | SILVER | 22 | 20.00 | No Qual, OK by Difference |

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8015M
Matrix: AQ

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|-------------------------------|-----------|------------|------------------------------|-----------------|-------------------------------|---|
| P33264AQ320134A P33264AY320155A (EB-111913) | EFH (C30-C40) EFH (C8-C11) | 68 - | 66 69 | 70.00-130.00 70.00-130.00 | - - | EFH (C30-C40) EFH (C8-C11) | J (all detects) UJ (all non-detects) |

Method: 8151A
Matrix: AQ

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--------------------------------------|----------|-----------|------------|--------------|-----------------|-----------------------|----------------|
| P33276AQ240241A (EB-111913) | DINOSEB | 170 | - | 16.00-163.00 | - | DINOSEB | J(all detects) |

Method: 8081B
Matrix: AQ

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--|--------------|-------------|--|---|--|---------------------------------------|
| P33296AQ241910A P33296AY241922A (EB-111913) | ENDRIN ENDRIN ALDEHYDE ENDRIN KETONE | 15 - - | - - - | 43.00-139.00 55.00-123.00 51.00-133.00 | 140 (30.00) 24 (20.00) 32 (30.00) | ENDRIN ENDRIN ALDEHYDE ENDRIN KETONE | J(all detects) UJ(all non-detects) |

Method: 8260B
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|---------------|-----------|------------|--------------|-----------------|-----------------------|----------------|
| LCSB77Q212218A (SL-518-SA5A-SB-10.0-11.0 SL-518-SA5A-SB-7.0-8.0) | VINYL ACETATE | 152 | - | 40.00-127.00 | - | VINYL ACETATE | J(all detects) |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 160.3M

Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-708-SA5A-SB-0.0-0.5 | SL-1008-SA5A-SB-0.0-0.5 | | | |
| MOISTURE | 3.8 | 1.4 | 92 | | No Qualifiers Applied |

Method: 1613B

Matrix: SO

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-708-SA5A-SB-0.0-0.5 | SL-1008-SA5A-SB-0.0-0.5 | | | |
| TEQ WHO 2005 - EDLx0.0 | 0.325 | 2.68 | 157 | | No Qualifiers Applied |
| 1,2,3,4,6,7,8-HPCDD | 3.31 | 80.9 | 184 | 50.00 | J(all detects) UJ(all non-detects) |
| 1,2,3,4,6,7,8-HPCDF | 0.903 | 18.6 | 181 | 50.00 | |
| 1,2,3,4,7,8,9-HPCDF | 0.153 | 2.53 | 177 | 50.00 | |
| 1,2,3,4,7,8-HxCDD | 0.130 | 0.859 | 147 | 50.00 | |
| 1,2,3,4,7,8-HxCDF | 0.158 | 0.991 | 145 | 50.00 | |
| 1,2,3,6,7,8-HxCDD | 0.280 | 3.23 | 168 | 50.00 | |
| 1,2,3,6,7,8-HxCDF | 0.149 | 1.05 | 150 | 50.00 | |
| 1,2,3,7,8,9-HxCDD | 0.346 | 1.78 | 135 | 50.00 | |
| 1,2,3,7,8,9-HxCDF | 0.161 | 0.448 | 94 | 50.00 | |
| 1,2,3,7,8-PCDD | 0.159 | 0.602 | 116 | 50.00 | |
| 1,2,3,7,8-PCDF | 0.248 | 1.94 | 155 | 50.00 | |
| 2,3,4,6,7,8-HxCDF | 0.153 | 1.33 | 159 | 50.00 | |
| 2,3,4,7,8-PCDF | 0.162 | 0.920 | 140 | 50.00 | |
| 2,3,7,8-TCDD | 0.142 | 1.16 | 156 | 50.00 | |
| 2,3,7,8-TCDF | 1.01 U | 0.462 | 200 | 50.00 | |
| OCDD | 34.9 | 1140 | 188 | 50.00 | |
| OCDF | 1.67 | 44.9 | 186 | 50.00 | |

Method: 6010C

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-708-SA5A-SB-0.0-0.5 (TOT) | SL-1008-SA5A-SB-0.0-0.5 (TOT) | | | |
| ALUMINUM | 16200 | 10400 | 44 | 50.00 | No Qualifiers Applied |
| ARSENIC | 4.91 | 2.99 | 49 | 50.00 | |
| BARIUM | 99.4 | 95.6 | 4 | 50.00 | |
| BERYLLIUM | 0.634 | 0.409 | 43 | 50.00 | |
| BORON | 4.43 | 4.22 | 5 | 50.00 | |
| CADMIUM | 0.308 | 0.495 | 47 | 50.00 | |
| CALCIUM | 1910 | 2720 | 35 | 50.00 | |
| CHROMIUM | 19.2 | 16.5 | 15 | 50.00 | |
| COBALT | 5.65 | 4.35 | 26 | 50.00 | |
| COPPER | 8.45 | 9.48 | 11 | 50.00 | |
| IRON | 20200 | 15700 | 25 | 50.00 | |
| LITHIUM | 19.9 | 14.8 | 29 | 50.00 | |
| MAGNESIUM | 3950 | 3370 | 16 | 50.00 | |
| MANGANESE | 311 | 255 | 20 | 50.00 | |
| NICKEL | 8.91 | 7.60 | 16 | 50.00 | |
| PHOSPHORUS | 229 | 363 | 45 | 50.00 | |
| POTASSIUM | 2750 | 3090 | 12 | 50.00 | |
| SODIUM | 71.2 | 61.6 | 14 | 50.00 | |
| TIN | 2.74 | 2.51 | 9 | 50.00 | |
| TITANIUM | 1110 | 860 | 25 | 50.00 | |
| VANADIUM | 36.5 | 28.0 | 26 | 50.00 | |
| ZINC | 51.6 | 82.9 | 47 | 50.00 | |
| Zirconium | 1.98 | 1.35 | 38 | 50.00 | |
| LEAD | 7.05 | 17.6 | 86 | 50.00 | J(all detects) |
| MOLYBDENUM | 0.621 | 0.348 | 56 | 50.00 | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Field Duplicate RPD Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C

Matrix: SO

Method: 6020A

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|------------------------------|-------------------------------|------------|-----------|---------------------------------------|
| | SL-708-SA5A-SB-0.0-0.5 (TOT) | SL-1008-SA5A-SB-0.0-0.5 (TOT) | | | |
| STRONTIUM | 18.6 | 22.2 | 18 | 50.00 | No Qualifiers Applied |
| THALLIUM | 0.280 | 0.221 | 24 | 50.00 | |
| SELENIUM | 0.412 U | 0.152 | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| SILVER | 0.104 | 1.38 | 172 | 50.00 | |

Method: 7471B

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------|------------------------------|-------------------------------|------------|-----------|----------------|
| | SL-708-SA5A-SB-0.0-0.5 (TOT) | SL-1008-SA5A-SB-0.0-0.5 (TOT) | | | |
| MERCURY | 0.0113 | 0.0441 | 118 | 50.00 | J(all detects) |

Method: 8015M

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-708-SA5A-SB-0.0-0.5 | SL-1008-SA5A-SB-0.0-0.5 | | | |
| EFH (C21-C30) | 3.3 | 4.2 | 24 | 50.00 | No Qualifiers Applied |
| EFH (C30-C40) | 9.0 | 9.4 | 4 | 50.00 | |

Method: 8081B

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|--------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-708-SA5A-SB-0.0-0.5 | SL-1008-SA5A-SB-0.0-0.5 | | | |
| 4,4'-DDD | 1.8 U | 1.1 | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| 4,4'-DDE | 8.0 | 87 | 166 | 50.00 | |
| 4,4'-DDT | 11 | 52 | 130 | 50.00 | |
| DIELDRIN | 1.8 U | 1.5 | 200 | 50.00 | |
| ENDOSULFAN SULFATE | 1.8 U | 0.46 | 200 | 50.00 | |

Method: 8082A

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|--------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-708-SA5A-SB-0.0-0.5 | SL-1008-SA5A-SB-0.0-0.5 | | | |
| Aroclor 5460 | 34 U | 16 | 200 | 50.00 | J(all detects) UJ(all non-detects) |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8270D SIM

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-708-SA5A-SB-0.0-0.5 | SL-1008-SA5A-SB-0.0-0.5 | | | |
| ANTHRACENE | 1.7 U | 0.49 | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| BENZO(A)ANTHRACENE | 1.7 U | 0.72 | 200 | 50.00 | |
| BENZO(A)PYRENE | 1.7 U | 0.91 | 200 | 50.00 | |
| BENZO(B)FLUORANTHENE | 1.1 | 31 | 186 | 50.00 | |
| BENZO(G,H,I)PERYLENE | 1.7 U | 1.1 | 200 | 50.00 | |
| BIS(2-ETHYLHEXYL)PHTHALATE | 18 U | 12 | 200 | 50.00 | |
| CHRYSENE | 1.7 U | 2.0 | 200 | 50.00 | |
| FLUORANTHENE | 1.7 U | 2.2 | 200 | 50.00 | |
| PHENANTHRENE | 1.7 U | 1.9 | 200 | 50.00 | |
| PYRENE | 1.7 U | 2.3 | 200 | 50.00 | |

Method: 9045M

Matrix: SO

| Analyte | Concentration (pH unit) | | Sample RPD | eQAPP RPD | Flag |
|---------|-------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-708-SA5A-SB-0.0-0.5 | SL-1008-SA5A-SB-0.0-0.5 | | | |
| PH | 6.81 | 6.75 | 1 | 50.00 | No Qualifiers Applied |

Reporting Limit Outliers

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B

Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-----------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| EB-111913 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.811 | 9.69 | PQL | pg/L | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.559 | 9.69 | PQL | pg/L | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.451 | 9.69 | PQL | pg/L | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.728 | 9.69 | PQL | pg/L | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.775 | 9.69 | PQL | pg/L | |
| | 1,2,3,7,8,9-HXCDD | JBQ | 0.318 | 9.69 | PQL | pg/L | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.434 | 9.69 | PQL | pg/L | |
| | 1,2,3,7,8-PECDF | JB | 0.816 | 9.69 | PQL | pg/L | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.652 | 9.69 | PQL | pg/L | |
| | 2,3,4,7,8-PECDF | JBQ | 0.495 | 9.69 | PQL | pg/L | |
| | OCDD | JB | 1.73 | 19.4 | PQL | pg/L | |
| | OCDF | JBQ | 1.92 | 19.4 | PQL | pg/L | |

Method: 8270D SIM

Matrix: AQ

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-----------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| EB-111913 | BIS(2-ETHYLHEXYL)PHTHALATE | J | 0.14 | 1.1 | PQL | ug/L | J (all detects) |
| | Diethylphthalate | J | 0.26 | 1.1 | PQL | ug/L | |
| | Di-n-butylphthalate | J | 0.22 | 1.1 | PQL | ug/L | |

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1008-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 2.53 | 5.05 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | JB | 0.859 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.991 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 3.23 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 1.05 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JB | 1.78 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.448 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.602 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 1.94 | 5.05 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 1.33 | 5.05 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.920 | 5.05 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.462 | 1.01 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-518-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 4.71 | 5.17 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.290 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JB | 0.152 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.204 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.755 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.151 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.420 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.182 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0720 | 5.17 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.348 | 5.17 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.163 | 5.17 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.109 | 5.17 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.0659 | 1.03 | PQL | ng/Kg | |
| SL-518-SA5A-SB-10.0-11.0 | 1,2,3,4,6,7,8-HPCDD | JB | 1.06 | 11.2 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.255 | 11.2 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.150 | 11.2 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.106 | 11.2 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0944 | 11.2 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.335 | 11.2 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.129 | 11.2 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.490 | 11.2 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.485 | 11.2 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.164 | 11.2 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.241 | 11.2 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.101 | 11.2 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.119 | 11.2 | PQL | ng/Kg | |
| OCDD | JB | 7.55 | 22.4 | PQL | ng/Kg | | |
| OCDF | JB | 0.789 | 22.4 | PQL | ng/Kg | | |
| SL-518-SA5A-SB-15.0-16.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.108 | 5.64 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0538 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0306 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0375 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0291 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.0828 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JBQ | 0.0255 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.0396 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.0372 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0376 | 5.64 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.0498 | 5.64 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JBQ | 0.0321 | 5.64 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0295 | 5.64 | PQL | ng/Kg | |
| OCDD | JBQ | 0.499 | 11.3 | PQL | ng/Kg | | |
| OCDF | JB | 0.178 | 11.3 | PQL | ng/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------------------|---------------------|--------|-----------------|---------|-------|-----------------|
| SL-518-SA5A-SB-7.0-8.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.727 | 5.48 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.182 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0553 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0359 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.0777 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.181 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.0590 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.110 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.165 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0586 | 5.48 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0623 | 5.48 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0487 | 5.48 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.0838 | 5.48 | PQL | ng/Kg | |
| | OCDD | JB | 4.74 | 11.0 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.357 | 11.0 | PQL | ng/Kg | |
| | SL-596-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 2.26 | 5.26 | PQL | |
| 1,2,3,4,7,8,9-HPCDF | | JBQ | 0.256 | 5.26 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HxCDD | | JB | 0.124 | 5.26 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HxCDF | | JBQ | 0.202 | 5.26 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HxCDD | | JBQ | 0.680 | 5.26 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HxCDF | | JBQ | 0.146 | 5.26 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HxCDD | | JB | 0.559 | 5.26 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HxCDF | | JB | 0.422 | 5.26 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDD | | JB | 0.172 | 5.26 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDF | | JB | 0.300 | 5.26 | PQL | ng/Kg | |
| 2,3,4,6,7,8-HxCDF | | JBQ | 0.185 | 5.26 | PQL | ng/Kg | |
| 2,3,4,7,8-PECDF | | JBQ | 0.109 | 5.26 | PQL | ng/Kg | |
| OCDF | JB | 4.44 | 10.5 | PQL | ng/Kg | | |
| SL-596-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.675 | 5.40 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.146 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.133 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0587 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.101 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.125 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.156 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.164 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.112 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.228 | 5.40 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.233 | 5.40 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 0.131 | 5.40 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.144 | 5.40 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0935 | 1.08 | PQL | ng/Kg | |
| | OCDD | JB | 5.02 | 10.8 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.267 | 10.8 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-708-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JB | 3.31 | 5.07 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.903 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.153 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.130 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JBQ | 0.158 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.280 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 0.149 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.346 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.161 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.159 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.248 | 5.07 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 0.153 | 5.07 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.162 | 5.07 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | J | 0.142 | 1.01 | PQL | ng/Kg | |
| | OCDF | JB | 1.67 | 10.1 | PQL | ng/Kg | |
| SL-708-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JB | 0.291 | 5.27 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.0618 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0391 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JB | 0.0748 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.0630 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.0524 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JBQ | 0.0672 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0860 | 5.27 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0677 | 5.27 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0425 | 5.27 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0654 | 5.27 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0694 | 1.05 | PQL | ng/Kg | |
| | OCDD | JB | 1.39 | 10.5 | PQL | ng/Kg | |
| OCDF | JB | 0.226 | 10.5 | PQL | ng/Kg | | |
| SL-732-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.136 | 5.07 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JB | 0.0485 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.0433 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.0344 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JB | 0.0429 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JBQ | 0.0419 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JBQ | 0.0280 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JBQ | 0.0564 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.0464 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0587 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0566 | 5.07 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JBQ | 0.0281 | 5.07 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0343 | 5.07 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.0467 | 1.01 | PQL | ng/Kg | |
| | OCDD | JBQ | 0.465 | 10.1 | PQL | ng/Kg | |
| | OCDF | JB | 0.168 | 10.1 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1008-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.99 | 4.02 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.409 | 1.00 | PQL | mg/Kg | |
| | BORON | J | 4.22 | 10.0 | PQL | mg/Kg | |
| | CADMIUM | J | 0.495 | 1.00 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.348 | 2.01 | PQL | mg/Kg | |
| | SODIUM | J | 61.6 | 100 | PQL | mg/Kg | |
| | TIN | J | 2.51 | 10.0 | PQL | mg/Kg | |
| Zirconium | J | 1.35 | 5.02 | PQL | mg/Kg | | |
| SL-518-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.480 | 1.02 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.91 | 10.2 | PQL | mg/Kg | |
| | CADMIUM | J | 0.201 | 1.02 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.363 | 2.04 | PQL | mg/Kg | |
| | SODIUM | J | 81.2 | 102 | PQL | mg/Kg | |
| | TIN | J | 2.75 | 10.2 | PQL | mg/Kg | |
| Zirconium | J | 1.91 | 5.09 | PQL | mg/Kg | | |
| SL-518-SA5A-SB-10.0-11.0 | ARSENIC | J | 3.69 | 4.40 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.542 | 1.10 | PQL | mg/Kg | |
| | BORON | J | 4.02 | 11.0 | PQL | mg/Kg | |
| | CADMIUM | J | 0.246 | 1.10 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.343 | 2.20 | PQL | mg/Kg | |
| | SODIUM | J | 102 | 110 | PQL | mg/Kg | |
| | TIN | J | 2.73 | 11.0 | PQL | mg/Kg | |
| Zirconium | J | 1.99 | 5.50 | PQL | mg/Kg | | |
| SL-518-SA5A-SB-15.0-16.0 | BERYLLIUM | J | 0.570 | 1.12 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 2.53 | 11.2 | PQL | mg/Kg | |
| | CADMIUM | J | 0.110 | 1.12 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.278 | 2.24 | PQL | mg/Kg | |
| | TIN | J | 2.90 | 11.2 | PQL | mg/Kg | |
| SL-518-SA5A-SB-7.0-8.0 | ARSENIC | J | 3.22 | 4.38 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.422 | 1.10 | PQL | mg/Kg | |
| | BORON | J | 3.17 | 11.0 | PQL | mg/Kg | |
| | CADMIUM | J | 0.180 | 1.10 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.189 | 2.19 | PQL | mg/Kg | |
| | SODIUM | J | 76.7 | 110 | PQL | mg/Kg | |
| | TIN | J | 2.75 | 11.0 | PQL | mg/Kg | |
| Zirconium | J | 1.10 | 5.48 | PQL | mg/Kg | | |
| SL-596-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.95 | 4.13 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.491 | 1.03 | PQL | mg/Kg | |
| | BORON | J | 3.77 | 10.3 | PQL | mg/Kg | |
| | CADMIUM | J | 0.239 | 1.03 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.284 | 2.07 | PQL | mg/Kg | |
| | SODIUM | J | 79.0 | 103 | PQL | mg/Kg | |
| | TIN | J | 2.79 | 10.3 | PQL | mg/Kg | |
| Zirconium | J | 1.88 | 5.17 | PQL | mg/Kg | | |
| SL-596-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.987 | 1.07 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.80 | 10.7 | PQL | mg/Kg | |
| | CADMIUM | J | 0.226 | 1.07 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.218 | 2.13 | PQL | mg/Kg | |
| | TIN | J | 3.42 | 10.7 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-708-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.634 | 1.03 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.43 | 10.3 | PQL | mg/Kg | |
| | CADMIUM | J | 0.308 | 1.03 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.621 | 2.06 | PQL | mg/Kg | |
| | SODIUM | J | 71.2 | 103 | PQL | mg/Kg | |
| | TIN | J | 2.74 | 10.3 | PQL | mg/Kg | |
| | Zirconium | J | 1.98 | 5.15 | PQL | mg/Kg | |
| SL-708-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.725 | 1.06 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.78 | 10.6 | PQL | mg/Kg | |
| | CADMIUM | J | 0.136 | 1.06 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.401 | 2.12 | PQL | mg/Kg | |
| | TIN | J | 3.03 | 10.6 | PQL | mg/Kg | |
| | Zirconium | J | 1.69 | 5.30 | PQL | mg/Kg | |
| SL-732-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.595 | 1.04 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 3.01 | 10.4 | PQL | mg/Kg | |
| | CADMIUM | J | 0.169 | 1.04 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.292 | 2.07 | PQL | mg/Kg | |
| | SODIUM | J | 83.2 | 104 | PQL | mg/Kg | |
| | TIN | J | 2.80 | 10.4 | PQL | mg/Kg | |
| | Zirconium | J | 1.32 | 5.18 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1008-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.152 | 0.402 | PQL | mg/Kg | J (all detects) |
| SL-518-SA5A-SB-0.0-0.5 | SILVER | J | 0.0793 | 0.204 | PQL | mg/Kg | J (all detects) |
| SL-518-SA5A-SB-10.0-11.0 | SILVER | J | 0.0341 | 0.220 | PQL | mg/Kg | J (all detects) |
| SL-596-SA5A-SB-0.0-0.5 | SILVER | J | 0.0358 | 0.207 | PQL | mg/Kg | J (all detects) |
| SL-596-SA5A-SB-4.0-5.0 | SELENIUM | J | 0.124 | 0.426 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0528 | 0.213 | PQL | mg/Kg | |
| SL-708-SA5A-SB-0.0-0.5 | SILVER | J | 0.104 | 0.206 | PQL | mg/Kg | J (all detects) |
| SL-708-SA5A-SB-4.0-5.0 | SILVER | J | 0.0521 | 0.212 | PQL | mg/Kg | J (all detects) |
| SL-732-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.182 | 0.415 | PQL | mg/Kg | J (all detects) |

Method: 7199
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-596-SA5A-SB-0.0-0.5 | HEXAVALENT CHROMIUM | J | 0.31 | 0.42 | PQL | mg/Kg | J (all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 7471B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-518-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0157 | 0.0163 | PQL | mg/Kg | J (all detects) |
| SL-518-SA5A-SB-15.0-16.0 | MERCURY | J | 0.0184 | 0.0188 | PQL | mg/Kg | J (all detects) |
| SL-518-SA5A-SB-7.0-8.0 | MERCURY | J | 0.0127 | 0.0175 | PQL | mg/Kg | J (all detects) |
| SL-596-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0164 | 0.0171 | PQL | mg/Kg | J (all detects) |
| SL-708-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0113 | 0.0162 | PQL | mg/Kg | J (all detects) |
| SL-708-SA5A-SB-4.0-5.0 | MERCURY | J | 0.0165 | 0.0173 | PQL | mg/Kg | J (all detects) |
| SL-732-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0121 | 0.0167 | PQL | mg/Kg | J (all detects) |

Method: 8015M
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|----------------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1008-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 4.2 | 5.1 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 9.4 | 10 | PQL | mg/Kg | |
| SL-518-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 4.9 | 5.2 | PQL | mg/Kg | J (all detects) |
| SL-518-SA5A-SB-10.0-11.0 | EFH (C15-C20) | J | 4.6 | 5.6 | PQL | mg/Kg | J (all detects) |
| SL-518-SA5A-SB-7.0-8.0 | EFH (C15-C20) | J | 4.4 | 5.5 | PQL | mg/Kg | J (all detects) |
| SL-596-SA5A-SB-4.0-5.0 | GASOLINE RANGE ORGANICS (C5-C12) | J | 0.6 | 1.0 | PQL | mg/Kg | J (all detects) |
| SL-708-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 3.3 | 5.2 | PQL | mg/Kg | J (all detects) |
| | EFH (C30-C40) | J | 9.0 | 10 | PQL | mg/Kg | |

Method: 8081B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|--------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1008-SA5A-SB-0.0-0.5 | 4,4'-DDD | J | 1.1 | 1.7 | PQL | ug/Kg | J (all detects) |
| | DIELDRIN | J | 1.5 | 1.7 | PQL | ug/Kg | |
| | ENDOSULFAN SULFATE | J | 0.46 | 1.7 | PQL | ug/Kg | |

Method: 8082A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|--------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1008-SA5A-SB-0.0-0.5 | Aroclor 5460 | J | 16 | 33 | PQL | ug/Kg | J (all detects) |
| SL-518-SA5A-SB-0.0-0.5 | AROCLOR 1254 | J | 9.4 | 18 | PQL | ug/Kg | J (all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH132

Laboratory: LL

EDD Filename: PH132_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8260B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-518-SA5A-SB-10.0-11.0 | 2-BUTANONE (MEK) | J | 5 | 10 | PQL | ug/Kg | J (all detects) |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1008-SA5A-SB-0.0-0.5 | ANTHRACENE | J | 0.49 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)ANTHRACENE | J | 0.72 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 0.91 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 1.1 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 12 | 18 | PQL | ug/Kg | |
| SL-518-SA5A-SB-0.0-0.5 | ACENAPHTHENE | J | 1.4 | 1.7 | PQL | ug/Kg | J (all detects) |
| | DIBENZO(A,H)ANTHRACENE | J | 0.71 | 1.7 | PQL | ug/Kg | |
| SL-518-SA5A-SB-10.0-11.0 | 1-METHYLNAPHTHALENE | J | 0.75 | 1.8 | PQL | ug/Kg | J (all detects) |
| | 2-METHYLNAPHTHALENE | J | 0.75 | 1.8 | PQL | ug/Kg | |
| | BENZO(B)FLUORANTHENE | J | 1.1 | 1.8 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 8.4 | 20 | PQL | ug/Kg | |
| | CHRYSENE | J | 0.60 | 1.8 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 0.88 | 1.8 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 0.89 | 1.8 | PQL | ug/Kg | |
| SL-518-SA5A-SB-7.0-8.0 | ANTHRACENE | J | 0.67 | 1.8 | PQL | ug/Kg | J (all detects) |
| | FLUORENE | J | 0.75 | 1.8 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.1 | 1.8 | PQL | ug/Kg | |
| SL-596-SA5A-SB-0.0-0.5 | BENZO(A)PYRENE | J | 0.80 | 1.8 | PQL | ug/Kg | J (all detects) |
| | BENZO(G,H,I)PERYLENE | J | 0.99 | 1.8 | PQL | ug/Kg | |
| | CHRYSENE | J | 0.89 | 1.8 | PQL | ug/Kg | |
| | N-NITROSODIMETHYLAMINE | J | 0.72 | 1.8 | PQL | ug/Kg | |
| SL-596-SA5A-SB-4.0-5.0 | ANTHRACENE | J | 1.5 | 1.8 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)ANTHRACENE | J | 0.96 | 1.8 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 1.2 | 1.8 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 1.4 | 1.8 | PQL | ug/Kg | |
| | N-NITROSODIMETHYLAMINE | J | 0.75 | 1.8 | PQL | ug/Kg | |
| SL-708-SA5A-SB-0.0-0.5 | BENZO(B)FLUORANTHENE | J | 1.1 | 1.7 | PQL | ug/Kg | J (all detects) |

LDC #: 31212B4

VALIDATION COMPLETENESS WORKSHEET

SDG #: PH132

ADR

Laboratory: Eurofins Lancaster Laboratories

Date: 11/31/14

Page: 6 of 1

Reviewer: CL

2nd Reviewer: SM

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|-----|-----------------------------|
| I. | Technical holding times | — | Sampling dates: 11/19/13 |
| II. | ICP/MS Tune | — | |
| III. | Calibration | — | |
| IV. | Blanks | A | |
| V. | ICP Interference Check Sample (ICS) Analysis | N | |
| VI. | Matrix Spike Analysis | SWX | MSD |
| VII. | Duplicate Sample Analysis | N | DUP |
| VIII. | Laboratory Control Samples (LCS) | A | ICS/D |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | ICP Serial Dilution | A | |
| XI. | Sample Result Verification | N | |
| XII. | Overall Assessment of Data | N | |
| XIII. | Field Duplicates | — | (7,8) |
| XIV. | Field Blanks | SW | *EB=11 FB=FB-011613 (PH032) |

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

*ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

| | | | | | | | |
|----|--------------------------|----|---------------------------|----|--|----|--|
| 1 | SL-518-SA5A-SB-0.0-0.5 | 11 | EB-111913 | 21 | | 31 | |
| 2 | SL-518-SA5A-SB-7.0-8.0 | 12 | SL-708-SA5A-SB-0.0-0.5MS | 22 | | 32 | |
| 3 | SL-518-SA5A-SB-10.0-11.0 | 13 | SL-708-SA5A-SB-0.0-0.5MSD | 23 | | 33 | |
| 4 | SL-518-SA5A-SB-15.0-16.0 | 14 | SL-708-SA5A-SB-0.0-0.5DUP | 24 | | 34 | |
| 5 | SL-596-SA5A-SB-0.0-0.5 | 15 | | 25 | | 35 | |
| 6 | SL-596-SA5A-SB-4.0-5.0 | 16 | | 26 | | 36 | |
| 7 | SL-708-SA5A-SB-0.0-0.5 | 17 | | 27 | | 37 | |
| 8 | SL-1008-SA5A-SB-0.0-0.5 | 18 | | 28 | | 38 | |
| 9 | SL-708-SA5A-SB-4.0-5.0 | 19 | | 29 | | 39 | |
| 10 | SL-732-SA5A-SB-0.0-0.5 | 20 | | 30 | | 40 | |

Notes: _____

VALIDATION FINDINGS WORKSHEET
Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L Associated sample units: mg/Kg Reason: F

Sampling date: 4/16/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All Soil

| Analyte | Blank ID | Action Limit | Sample Identification | | | | | | | | | | | |
|---------|----------|--------------|-----------------------|--------------------------|-------|--------------------------|-------|--------------------------|-------|--------------------------|-------|-------|--|--|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| Mo | 0.0132 | 6.60 | 0.363 | 0.189 0.19 | 0.343 | 0.276 0.28 | 0.284 | 0.218 0.22 | 0.621 | 0.348 0.35 | 0.401 | 0.292 | | |
| Sn | 0.0029 | 1.45 | | | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

74X

QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: PH132

Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 7284471BKG Matrix Spike Lab Sample ID: 7284472MS Matrix Spike Duplicate Lab Sample ID: 7284473MSD
Batch Id(s): P33637B, P33638B

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | Control Limit | | M | | |
|------------|------|------------|---|------------|---|------------|---|----------------|-----------------|-------|------|---|------|---|---------------|---|----------|----|-----|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | RPD | Q | | %R | RPD |
| Aluminum | | 15598.5059 | | 19261.0505 | | 19649.3752 | | 198.0198 | 198.0198 | MG/KG | 1850 | | 2046 | | | | 20 | P | |
| Antimony | | 0.7327 | U | 29.4218 | | 29.9149 | | 49.5050 | 49.5050 | MG/KG | 59 | N | 60 | N | 2 | | 75 - 125 | 20 | P |
| Arsenic | | 4.7257 | | 19.2851 | | 19.5465 | | 14.8515 | 14.8515 | MG/KG | 98 | | 100 | | 1 | | 75 - 125 | 20 | P |
| Barium | | 95.6604 | | 291.6198 | | 289.8287 | | 198.0198 | 198.0198 | MG/KG | 99 | | 98 | | 1 | | 75 - 125 | 20 | P |
| Beryllium | | 0.6099 | B | 5.5287 | | 5.5079 | | 4.9505 | 4.9505 | MG/KG | 99 | | 99 | | 0 | | 75 - 125 | 20 | P |
| Boron | | 4.2614 | B | 200.3614 | | 199.0475 | | 198.0198 | 198.0198 | MG/KG | 99 | | 98 | | 1 | | 75 - 125 | 20 | P |
| Cadmium | | 0.2960 | B | 5.1554 | | 5.0980 | | 4.9505 | 4.9505 | MG/KG | 98 | | 97 | | 1 | | 75 - 125 | 20 | P |
| Calcium | | 1836.1980 | | 2276.6287 | | 2337.1208 | | 396.0396 | 396.0396 | MG/KG | 111 | | 126 | | 3 | | | 20 | P |
| Chromium | | 18.5099 | | 40.1891 | | 39.7960 | | 19.8020 | 19.8020 | MG/KG | 109 | | 107 | | 1 | | 75 - 125 | 20 | P |
| Cobalt | | 5.4317 | | 53.9020 | | 53.2416 | | 49.5050 | 49.5050 | MG/KG | 98 | | 97 | | 1 | | 75 - 125 | 20 | P |
| Copper | | 8.1267 | | 34.1139 | | 34.0287 | | 24.7525 | 24.7525 | MG/KG | 105 | | 105 | | 0 | | 75 - 125 | 20 | P |
| Iron | | 19443.0020 | | 19374.6723 | | 19855.9119 | | 99.0099 | 99.0099 | MG/KG | -69 | | 417 | | 2 | | | 20 | P |
| Lead | | 6.7812 | | 23.9416 | | 21.9228 | | 14.8515 | 14.8515 | MG/KG | 116 | | 102 | | 9 | | 75 - 125 | 20 | P |
| Lithium | | 19.1119 | | 120.1901 | | 120.8386 | | 99.0099 | 99.0099 | MG/KG | 102 | | 103 | | 1 | | 75 - 125 | 20 | P |
| Magnesium | | 3801.9139 | | 3990.6970 | | 4022.4743 | | 198.0198 | 198.0198 | MG/KG | 95 | | 111 | | 1 | | | 20 | P |
| Manganese | | 299.5248 | | 351.0564 | | 322.1436 | | 49.5050 | 49.5050 | MG/KG | 104 | | 46 | | 9 | | | 20 | P |
| Mercury | | 0.0109 | B | 0.1857 | | 0.1807 | | 0.1615 | 0.1627 | MG/KG | 108 | | 104 | | 3 | | 65 - 135 | 20 | CV |
| Molybdenum | | 0.5970 | B | 197.2564 | | 195.6743 | | 198.0198 | 198.0198 | MG/KG | 99 | | 99 | | 1 | | 75 - 125 | 20 | P |
| Nickel | | 8.5673 | | 57.5059 | | 57.2366 | | 49.5050 | 49.5050 | MG/KG | 99 | | 98 | | 0 | | 75 - 125 | 20 | P |
| Phosphorus | | 220.5248 | | 313.3713 | | 318.9238 | | 99.0099 | 99.0099 | MG/KG | 94 | | 99 | | 2 | | 75 - 125 | 20 | P |
| Potassium | | 2643.5624 | | 3630.5168 | | 3597.5030 | | 990.0990 | 990.0990 | MG/KG | 100 | | 96 | | 1 | | 75 - 125 | 20 | P |
| Selenium | 78 | 0.0990 | U | 1.7461 | | 1.7311 | | 1.9802 | 1.9802 | MG/KG | 88 | | 87 | | 1 | | 75 - 125 | 20 | MS |
| Silver | 107 | 0.0998 | B | 9.9960 | | 10.1723 | | 9.9010 | 9.9010 | MG/KG | 100 | | 102 | | 2 | | 75 - 125 | 20 | MS |
| Sodium | | 68.4851 | B | 1031.1238 | | 1033.7634 | | 990.0990 | 990.0990 | MG/KG | 97 | | 97 | | 0 | | 75 - 125 | 20 | P |
| Strontium | 88 | 17.8515 | | 25.2871 | | 28.2376 | | 7.9208 | 7.9208 | MG/KG | 94 | | 131 | N | 11 | | 75 - 125 | 20 | MS |
| Thallium | 203 | 0.2693 | | 0.6309 | | 0.6713 | | 0.3960 | 0.3960 | MG/KG | 91 | | 102 | | 6 | | 75 - 125 | 20 | MS |
| Tin | | 2.6366 | B | 361.6515 | | 359.1386 | | 396.0396 | 396.0396 | MG/KG | 91 | | 90 | | 1 | | 75 - 125 | 20 | P |
| Titanium | | 1069.7525 | | 1214.2871 | | 1241.9604 | | 99.0099 | 99.0099 | MG/KG | 146 | | 174 | | 2 | | | 20 | P |
| Vanadium | | 35.1248 | | 86.5188 | | 85.5475 | | 49.5050 | 49.5050 | MG/KG | 104 | | 102 | | 1 | | 75 - 125 | 20 | P |
| Zinc | | 49.6337 | | 98.6673 | | 99.2307 | | 49.5050 | 49.5050 | MG/KG | 99 | | 100 | | 1 | | 75 - 125 | 20 | P |
| Zirconium | | 1.9050 | B | 97.9901 | | 97.0802 | | 99.0099 | 99.0099 | MG/KG | 97 | | 96 | | 1 | | 75 - 125 | 20 | P |

Note: Results shown are reported on an as-received basis.

METHODS:

P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:

U = Below MDL, B = Below LOQ

FLAGS:

N = Matrix Spike OOS, * = Duplicate OOS

Background Lab Sample ID: 7284471BKG
 Batch ID(s): P33637B, P33638B
 Concentration Units: MG/KG

Duplicate Lab Sample ID: 7284474DUP

| Analyte | Mass | Control Limit | Samples (S) | C | Duplicate (D) | C | RPD | Q | M |
|------------|------|---------------|-------------|---|---------------|---|-----|---|----|
| Aluminum | | | 15598.5059 | | 14965.7386 | | 4 | | P |
| Antimony | | | 0.7327 | U | 0.7327 | U | | | P |
| Arsenic | | 4.0 | 4.7257 | | 4.5317 | | 4 | | P |
| Barium | | | 95.6604 | | 87.5743 | | 9 | | P |
| Beryllium | | | 0.6099 | B | 0.5683 | B | 7 | | P |
| Boron | | | 4.2614 | B | 4.0109 | B | 6 | | P |
| Cadmium | | | 0.2960 | B | 0.2564 | B | 14 | | P |
| Calcium | | | 1836.1980 | | 1732.3733 | | 6 | | P |
| Chromium | | | 18.5099 | | 17.5554 | | 5 | | P |
| Cobalt | | 1.0 | 5.4317 | | 4.7891 | | 13 | | P |
| Copper | | 2.0 | 8.1267 | | 7.5653 | | 7 | | P |
| Iron | | | 19443.0020 | | 18070.1832 | | 7 | | P |
| Lead | | 3.0 | 6.7812 | | 6.2574 | | 8 | | P |
| Lithium | | 4.0 | 19.1119 | | 17.9238 | | 6 | | P |
| Magnesium | | | 3801.9139 | | 3510.1594 | | 8 | | P |
| Manganese | | | 299.5248 | | 255.7505 | | 16 | | P |
| Mercury | | | 0.0109 | B | 0.0125 | B | 14 | | CV |
| Molybdenum | | | 0.5970 | B | 0.4089 | B | 37 | | P |
| Nickel | | 2.0 | 8.5673 | | 8.0644 | | 6 | | P |
| Phosphorus | | | 220.5248 | | 202.4139 | | 9 | | P |
| Potassium | | | 2643.5624 | | 2329.9337 | | 13 | | P |
| Selenium | 78 | | 0.0990 | U | 0.0990 | U | | | MS |
| Silver | 107 | | 0.0998 | B | 0.1248 | B | 22 | | MS |
| Sodium | | | 68.4851 | B | 65.7891 | B | 4 | | P |
| Strontium | 88 | | 17.8515 | | 16.1485 | | 10 | | MS |
| Thallium | 203 | 0.2 | 0.2693 | | 0.2337 | | 14 | | MS |
| Tin | | | 2.6366 | B | 2.4644 | B | 7 | | P |
| Titanium | | | 1069.7525 | | 972.9040 | | 9 | | P |
| Vanadium | | | 35.1248 | | 32.8485 | | 7 | | P |
| Zinc | | | 49.6337 | | 45.4505 | | 9 | | P |
| Zirconium | | | 1.9050 | B | 2.5604 | B | 29 | | P |

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
 The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

ok by difference

Note: Results shown are reported on an as-received basis.

| | |
|---|--|
| METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence | CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: Duplicate Out of Spec |
|---|--|

**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5A

SDG: PH133

Prepared for

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Prepared by

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February 19, 2014

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected on November 22, 2013. Data validation was performed in accordance with the Quality Assurance Project Plan (QAPP) for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFGs) for Superfund Organic Methods Data Review (June 2008), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)
Pesticides by EPA SW 846 Method 8081B
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A and 7471B
Herbicides by EPA SW 846 Method 8151A
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M
TPH as Extractables by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment 2. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards (dioxins only), matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks, field blanks and field duplicate samples. No samples in this SDG were subjected to Level IV evaluation.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the ICB/CCBs and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met QC criteria.

II. Initial Calibration

Initial Calibration data were not reviewed for level III.

III. Continuing Calibration

Continuing calibration data were not reviewed for level III.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of several blanks for dioxins and metals. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VI. ICP Interference Check Sample (ICS) Analysis

ICP interference check data were not reviewed for level III.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one MS/MSD pair for SVOCs, TPH as extractables and metals. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

IX. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of two LCS/LCSD pairs for SVOCs and herbicides. The associated sample results were qualified as detected estimated (J). The details regarding the qualification of data are provided in Enclosure I.

X. Internal Standards

Internal standards were reviewed for dioxins. Percent recoveries (%R) were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the RL as detected were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--|-----------------|--------|
| All samples in SDG PH133 | All compounds reported as detected below the RL. | J (all detects) | A |

XIII. Field Duplicate Samples

One field duplicate pair was collected and analyzed for SVOCs, pesticides, PCBs, metals, herbicides, TPH as extractables and dioxins. All RPDs were within QC limits with the exception of several SVOCs, pesticides, metals, TPH as extractables and dioxins. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The field duplicate result comparisons are provided in Enclosure I.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No contaminants were found in the trip blank.

One equipment blank (from SDG PH135) was collected and analyzed for SVOCs, pesticides, PCBs, metals, TPH as gasoline, TPH as extractables and dioxins. The equipment blank had detections for SVOCs, metals and dioxins. The sample results were not detected or were significantly greater than the concentrations found in the equipment blank, therefore no data were qualified.

One field blank (from SDG PH032) was collected and analyzed for SVOCs, pesticides, PCBs, metals, herbicides, TPH as gasoline, TPH as extractables and dioxins. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were

not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosure I.

XV. Overall Assessment of Data

The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. The remainder of the data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1

Sample Cross Reference

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|--------------------------|---------------|-------------|-------------|-------------------|--------------|
| 22-Nov-2013 | TB-112213 | 7290757 | TB | 5030B | 8015M | III |
| 22-Nov-2013 | SL-673-SA5A-SB-4.0-5.0 | 7290755 | N | 3050B | 6010C | III |
| 22-Nov-2013 | SL-673-SA5A-SB-4.0-5.0 | 7290755 | N | 3050B | 6020A | III |
| 22-Nov-2013 | SL-673-SA5A-SB-4.0-5.0 | 7290755 | N | 3546 | 8015M | III |
| 22-Nov-2013 | SL-673-SA5A-SB-4.0-5.0 | 7290755 | N | 3546 | 8082A | III |
| 22-Nov-2013 | SL-673-SA5A-SB-4.0-5.0 | 7290755 | N | 3546 | 8270D SIM | III |
| 22-Nov-2013 | SL-673-SA5A-SB-4.0-5.0 | 7290755 | N | 5035A | 8015M | III |
| 22-Nov-2013 | SL-673-SA5A-SB-4.0-5.0 | 7290755 | N | METHOD | 1613B | III |
| 22-Nov-2013 | SL-673-SA5A-SB-4.0-5.0 | 7290755 | N | METHOD | 7471B | III |
| 22-Nov-2013 | SL-673-SA5A-SB-10.5-11.5 | 7290756 | N | 3050B | 6010C | III |
| 22-Nov-2013 | SL-673-SA5A-SB-10.5-11.5 | 7290756 | N | 3050B | 6020A | III |
| 22-Nov-2013 | SL-673-SA5A-SB-10.5-11.5 | 7290756 | N | 3546 | 8015M | III |
| 22-Nov-2013 | SL-673-SA5A-SB-10.5-11.5 | 7290756 | N | 3546 | 8082A | III |
| 22-Nov-2013 | SL-673-SA5A-SB-10.5-11.5 | 7290756 | N | 3546 | 8270D SIM | III |
| 22-Nov-2013 | SL-673-SA5A-SB-10.5-11.5 | 7290756 | N | 5035A | 8015M | III |
| 22-Nov-2013 | SL-673-SA5A-SB-10.5-11.5 | 7290756 | N | METHOD | 1613B | III |
| 22-Nov-2013 | SL-673-SA5A-SB-10.5-11.5 | 7290756 | N | METHOD | 7471B | III |
| 22-Nov-2013 | SL-673-SA5A-SB-0.0-0.5 | 7290754 | N | 3050B | 6010C | III |
| 22-Nov-2013 | SL-673-SA5A-SB-0.0-0.5 | 7290754 | N | 3050B | 6020A | III |
| 22-Nov-2013 | SL-673-SA5A-SB-0.0-0.5 | 7290754 | N | 3546 | 8015M | III |
| 22-Nov-2013 | SL-673-SA5A-SB-0.0-0.5 | 7290754 | N | 3546 | 8082A | III |
| 22-Nov-2013 | SL-673-SA5A-SB-0.0-0.5 | 7290754 | N | 3546 | 8270D SIM | III |
| 22-Nov-2013 | SL-673-SA5A-SB-0.0-0.5 | 7290754 | N | METHOD | 1613B | III |
| 22-Nov-2013 | SL-673-SA5A-SB-0.0-0.5 | 7290754 | N | METHOD | 7471B | III |
| 22-Nov-2013 | SL-676-SA5A-SB-0.0-0.5 | 7290758 | N | 3050B | 6010C | III |
| 22-Nov-2013 | SL-676-SA5A-SB-0.0-0.5 | 7290758 | N | 3050B | 6020A | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|--------------------------|---------------|-------------|-------------|-------------------|--------------|
| 22-Nov-2013 | SL-676-SA5A-SB-0.0-0.5 | 7290758 | N | 3546 | 8015M | III |
| 22-Nov-2013 | SL-676-SA5A-SB-0.0-0.5 | 7290758 | N | 3546 | 8082A | III |
| 22-Nov-2013 | SL-676-SA5A-SB-0.0-0.5 | 7290758 | N | 3546 | 8270D SIM | III |
| 22-Nov-2013 | SL-676-SA5A-SB-0.0-0.5 | 7290758 | N | METHOD | 1613B | III |
| 22-Nov-2013 | SL-676-SA5A-SB-0.0-0.5 | 7290758 | N | METHOD | 7471B | III |
| 22-Nov-2013 | SL-676-SA5A-SB-4.0-5.0 | 7290759 | N | 3050B | 6010C | III |
| 22-Nov-2013 | SL-676-SA5A-SB-4.0-5.0 | 7290759 | N | 3050B | 6020A | III |
| 22-Nov-2013 | SL-676-SA5A-SB-4.0-5.0 | 7290759 | N | 3546 | 8015M | III |
| 22-Nov-2013 | SL-676-SA5A-SB-4.0-5.0 | 7290759 | N | 3546 | 8082A | III |
| 22-Nov-2013 | SL-676-SA5A-SB-4.0-5.0 | 7290759 | N | 3546 | 8270D SIM | III |
| 22-Nov-2013 | SL-676-SA5A-SB-4.0-5.0 | 7290759 | N | 5035A | 8015M | III |
| 22-Nov-2013 | SL-676-SA5A-SB-4.0-5.0 | 7290759 | N | METHOD | 1613B | III |
| 22-Nov-2013 | SL-676-SA5A-SB-4.0-5.0 | 7290759 | N | METHOD | 7471B | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5 | 7290760 | N | 3050B | 6010C | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5 | 7290760 | N | 3050B | 6020A | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5 | 7290760 | N | 3546 | 8015M | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5 | 7290760 | N | 3546 | 8081B | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5 | 7290760 | N | 3546 | 8082A | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5 | 7290760 | N | 3546 | 8270D SIM | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5 | 7290760 | N | 3550B | 8151A | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5 | 7290760 | N | METHOD | 1613B | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5 | 7290760 | N | METHOD | 7471B | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MS | 7290761 | MS | 3050B | 6010C | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MS | 7290761 | MS | 3050B | 6020A | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MS | 7290761 | MS | 3546 | 8015M | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MS | 7290761 | MS | 3546 | 8081B | III |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MS | 7290761 | MS | 3546 | 8082A | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MS | 7290761 | MS | 3546 | 8270D SIM | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MS | 7290761 | MS | 3550B | 8151A | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MS | 7290761 | MS | METHOD | 1613B | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MS | 7290761 | MS | METHOD | 7471B | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MSD | 7290762 | MSD | 3050B | 6010C | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MSD | 7290762 | MSD | 3050B | 6020A | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MSD | 7290762 | MSD | 3546 | 8015M | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MSD | 7290762 | MSD | 3546 | 8081B | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MSD | 7290762 | MSD | 3546 | 8082A | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MSD | 7290762 | MSD | 3546 | 8270D SIM | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MSD | 7290762 | MSD | 3550B | 8151A | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MSD | 7290762 | MSD | METHOD | 1613B | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5MSD | 7290762 | MSD | METHOD | 7471B | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5DUP | 7290763 | DUP | 3050B | 6010C | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5DUP | 7290763 | DUP | 3050B | 6020A | III |
| 22-Nov-2013 | SL-686-SA5A-SB-0.0-0.5DUP | 7290763 | DUP | METHOD | 7471B | III |
| 22-Nov-2013 | SL-986-SA5A-SB-0.0-0.5 | 7290764 | FD | 3050B | 6010C | III |
| 22-Nov-2013 | SL-986-SA5A-SB-0.0-0.5 | 7290764 | FD | 3050B | 6020A | III |
| 22-Nov-2013 | SL-986-SA5A-SB-0.0-0.5 | 7290764 | FD | 3546 | 8015M | III |
| 22-Nov-2013 | SL-986-SA5A-SB-0.0-0.5 | 7290764 | FD | 3546 | 8081B | III |
| 22-Nov-2013 | SL-986-SA5A-SB-0.0-0.5 | 7290764 | FD | 3546 | 8082A | III |
| 22-Nov-2013 | SL-986-SA5A-SB-0.0-0.5 | 7290764 | FD | 3546 | 8270D SIM | III |
| 22-Nov-2013 | SL-986-SA5A-SB-0.0-0.5 | 7290764 | FD | 3550B | 8151A | III |
| 22-Nov-2013 | SL-986-SA5A-SB-0.0-0.5 | 7290764 | FD | METHOD | 1613B | III |
| 22-Nov-2013 | SL-986-SA5A-SB-0.0-0.5 | 7290764 | FD | METHOD | 7471B | III |

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-673-SA5A-SB-0.0-0.5

Collected: 11/22/2013 11:33:00 Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.01 | U | 0.742 | MDL | 4.01 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.616 | J | 0.0672 | MDL | 1.00 | PQL | mg/Kg | J | Z |
| BORON | 4.55 | J | 0.842 | MDL | 10.0 | PQL | mg/Kg | J | Z |
| IRON | 22200 | | 3.63 | MDL | 40.1 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.495 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | U | F |
| POTASSIUM | 3500 | | 8.36 | MDL | 100 | PQL | mg/Kg | J | Q |
| TIN | 3.15 | J | 0.221 | MDL | 10.0 | PQL | mg/Kg | U | B |
| Zirconium | 2.66 | J | 0.842 | MDL | 5.01 | PQL | mg/Kg | J | Z |
| PHOSPHORUS | 428 | | 2.90 | MDL | 10.0 | PQL | mg/Kg | J | Q |

Sample ID: SL-673-SA5A-SB-10.5-11.5

Collected: 11/22/2013 11:21:00 Analysis Type: REA

Dilution: 5

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| IRON | 41100 | | 20.1 | MDL | 222 | PQL | mg/Kg | J | Q |

Sample ID: SL-673-SA5A-SB-10.5-11.5

Collected: 11/22/2013 11:21:00 Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.44 | U | 0.822 | MDL | 4.44 | PQL | mg/Kg | UJ | Q |
| BORON | 3.55 | J | 0.933 | MDL | 11.1 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.640 | J | 0.189 | MDL | 2.22 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 399 | | 3.21 | MDL | 11.1 | PQL | mg/Kg | J | Q |
| POTASSIUM | 1850 | | 9.26 | MDL | 111 | PQL | mg/Kg | J | Q |
| TIN | 4.15 | J | 0.244 | MDL | 11.1 | PQL | mg/Kg | U | B |
| Zirconium | 2.19 | J | 0.933 | MDL | 5.55 | PQL | mg/Kg | J | Z |

Sample ID: SL-673-SA5A-SB-4.0-5.0

Collected: 11/22/2013 11:15:00 Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.25 | U | 0.786 | MDL | 4.25 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.674 | J | 0.0712 | MDL | 1.06 | PQL | mg/Kg | J | Z |
| BORON | 4.38 | J | 0.892 | MDL | 10.6 | PQL | mg/Kg | J | Z |
| IRON | 23800 | | 3.85 | MDL | 42.5 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.593 | J | 0.181 | MDL | 2.12 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 267 | | 3.07 | MDL | 10.6 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-673-SA5A-SB-4.0-5.0

Collected: 11/22/2013 11:15:00 Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| POTASSIUM | 2650 | | 8.86 | MDL | 106 | PQL | mg/Kg | J | Q |
| SODIUM | 102 | J | 17.7 | MDL | 106 | PQL | mg/Kg | J | Z |
| TIN | 3.52 | J | 0.234 | MDL | 10.6 | PQL | mg/Kg | U | B |
| Zirconium | 2.74 | J | 0.892 | MDL | 5.31 | PQL | mg/Kg | J | Z |

Sample ID: SL-676-SA5A-SB-0.0-5.0

Collected: 11/22/2013 1:30:00 Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.04 | U | 0.747 | MDL | 4.04 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.601 | J | 0.0676 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 4.55 | J | 0.848 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| IRON | 20500 | | 3.65 | MDL | 40.4 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.555 | J | 0.172 | MDL | 2.02 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 335 | | 2.92 | MDL | 10.1 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3600 | | 8.41 | MDL | 101 | PQL | mg/Kg | J | Q |
| TIN | 3.18 | J | 0.222 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 2.15 | J | 0.848 | MDL | 5.04 | PQL | mg/Kg | J | Z |

Sample ID: SL-676-SA5A-SB-4.0-5.0

Collected: 11/22/2013 1:42:00 Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.33 | U | 0.802 | MDL | 4.33 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.882 | J | 0.0726 | MDL | 1.08 | PQL | mg/Kg | J | Z |
| BORON | 4.23 | J | 0.910 | MDL | 10.8 | PQL | mg/Kg | J | Z |
| IRON | 27600 | | 3.92 | MDL | 43.3 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.498 | J | 0.184 | MDL | 2.17 | PQL | mg/Kg | U | F |
| PHOSPHORUS | 177 | | 3.13 | MDL | 10.8 | PQL | mg/Kg | J | Q |
| POTASSIUM | 1730 | | 9.03 | MDL | 108 | PQL | mg/Kg | J | Q |
| SODIUM | 97.5 | J | 18.1 | MDL | 108 | PQL | mg/Kg | J | Z |
| TIN | 3.67 | J | 0.238 | MDL | 10.8 | PQL | mg/Kg | U | B |
| Zirconium | 3.00 | J | 0.910 | MDL | 5.42 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS
Method: 6010C **Matrix: SO**

Sample ID: SL-686-SA5A-SB-0.0-0.5 Collected: 11/22/2013 2:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.06 | U | 0.751 | MDL | 4.06 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.591 | J | 0.0680 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 4.70 | J | 0.852 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| IRON | 22100 | | 3.67 | MDL | 40.6 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 0.544 | J | 0.172 | MDL | 2.03 | PQL | mg/Kg | UJ | FD, F |
| PHOSPHORUS | 387 | | 2.93 | MDL | 10.1 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3410 | | 8.46 | MDL | 101 | PQL | mg/Kg | J | Q |
| TIN | 3.46 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| Zirconium | 2.46 | J | 0.852 | MDL | 5.07 | PQL | mg/Kg | J | Z |

Sample ID: SL-986-SA5A-SB-0.0-0.5 Collected: 11/22/2013 2:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| ANTIMONY | 3.99 | U | 0.739 | MDL | 3.99 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.715 | J | 0.0669 | MDL | 0.998 | PQL | mg/Kg | J | Z |
| BORON | 4.18 | J | 0.839 | MDL | 9.98 | PQL | mg/Kg | J | Z |
| IRON | 22700 | | 3.61 | MDL | 39.9 | PQL | mg/Kg | J | Q |
| MOLYBDENUM | 1.04 | J | 0.170 | MDL | 2.00 | PQL | mg/Kg | UJ | FD, F |
| PHOSPHORUS | 279 | | 2.89 | MDL | 9.98 | PQL | mg/Kg | J | Q |
| POTASSIUM | 3110 | | 8.33 | MDL | 99.8 | PQL | mg/Kg | J | Q |
| TIN | 3.19 | J | 0.220 | MDL | 9.98 | PQL | mg/Kg | U | B |
| Zirconium | 2.95 | J | 0.839 | MDL | 4.99 | PQL | mg/Kg | J | Z |

Method Category: METALS
Method: 6020A **Matrix: SO**

Sample ID: SL-673-SA5A-SB-0.0-0.5 Collected: 11/22/2013 11:33:00 Analysis Type: REA Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.159 | J | 0.100 | MDL | 0.401 | PQL | mg/Kg | J | Z |

Sample ID: SL-673-SA5A-SB-0.0-0.5 Collected: 11/22/2013 11:33:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0874 | J | 0.0261 | MDL | 0.200 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS
Method: 6020A **Matrix:** SO

| Sample ID: SL-673-SA5A-SB-10.5-11.5 | | | Collected: 11/22/2013 11:21:00 | | | | Analysis Type: REA | | Dilution: 2 | |
|-------------------------------------|------------|----------|--------------------------------|---------|-------|---------|--------------------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SELENIUM | 0.184 | J | 0.111 | MDL | 0.444 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-673-SA5A-SB-10.5-11.5 | | | Collected: 11/22/2013 11:21:00 | | | | Analysis Type: RES | | Dilution: 2 | |
|-------------------------------------|------------|----------|--------------------------------|---------|-------|---------|--------------------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SILVER | 0.0484 | J | 0.0289 | MDL | 0.222 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-673-SA5A-SB-4.0-5.0 | | | Collected: 11/22/2013 11:15:00 | | | | Analysis Type: REA | | Dilution: 2 | |
|-----------------------------------|------------|----------|--------------------------------|---------|-------|---------|--------------------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SELENIUM | 0.125 | J | 0.106 | MDL | 0.425 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-673-SA5A-SB-4.0-5.0 | | | Collected: 11/22/2013 11:15:00 | | | | Analysis Type: RES | | Dilution: 2 | |
|-----------------------------------|------------|----------|--------------------------------|---------|-------|---------|--------------------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SILVER | 0.0846 | J | 0.0276 | MDL | 0.212 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-676-SA5A-SB-0.0-0.5 | | | Collected: 11/22/2013 1:30:00 | | | | Analysis Type: REA | | Dilution: 2 | |
|-----------------------------------|------------|----------|-------------------------------|---------|-------|---------|--------------------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SELENIUM | 0.154 | J | 0.101 | MDL | 0.404 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-676-SA5A-SB-0.0-0.5 | | | Collected: 11/22/2013 1:30:00 | | | | Analysis Type: RES | | Dilution: 2 | |
|-----------------------------------|------------|----------|-------------------------------|---------|-------|---------|--------------------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SILVER | 0.0654 | J | 0.0262 | MDL | 0.202 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-676-SA5A-SB-4.0-5.0 | | | Collected: 11/22/2013 1:42:00 | | | | Analysis Type: RES | | Dilution: 2 | |
|-----------------------------------|------------|----------|-------------------------------|---------|-------|---------|--------------------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SILVER | 0.0405 | J | 0.0282 | MDL | 0.217 | PQL | mg/Kg | J | Z | |

| Sample ID: SL-686-SA5A-SB-0.0-0.5 | | | Collected: 11/22/2013 2:35:00 | | | | Analysis Type: REA | | Dilution: 2 | |
|-----------------------------------|------------|----------|-------------------------------|---------|-------|---------|--------------------|------------------|-------------|--|
| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code | |
| SELENIUM | 0.162 | J | 0.101 | MDL | 0.406 | PQL | mg/Kg | J | Z | |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS
Method: 6020A Matrix: SO

Sample ID: SL-686-SA5A-SB-0.0-0.5 Collected: 11/22/2013 2:35:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0390 | J | 0.0264 | MDL | 0.203 | PQL | mg/Kg | J | Z |

Sample ID: SL-986-SA5A-SB-0.0-0.5 Collected: 11/22/2013 2:40:00 Analysis Type: REA Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.137 | J | 0.0998 | MDL | 0.399 | PQL | mg/Kg | J | Z |

Sample ID: SL-986-SA5A-SB-0.0-0.5 Collected: 11/22/2013 2:40:00 Analysis Type: RES Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0333 | J | 0.0260 | MDL | 0.200 | PQL | mg/Kg | J | Z |

Method Category: METALS
Method: 7471B Matrix: SO

Sample ID: SL-673-SA5A-SB-4.0-5.0 Collected: 11/22/2013 11:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0141 | J | 0.0101 | MDL | 0.0168 | PQL | mg/Kg | J | Z |

Sample ID: SL-676-SA5A-SB-0.0-0.5 Collected: 11/22/2013 1:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0113 | J | 0.0103 | MDL | 0.0171 | PQL | mg/Kg | J | Z |

Sample ID: SL-676-SA5A-SB-4.0-5.0 Collected: 11/22/2013 1:42:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0112 | J | 0.0110 | MDL | 0.0183 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-673-SA5A-SB-0.0-0.5 Collected: 11/22/2013 11:33:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 1.69 | JBQ | 0.0937 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 2.47 | J | 0.0925 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 2.18 | JB | 0.0752 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 1.40 | J | 0.0725 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 4.24 | J | 0.0943 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 1.53 | J | 0.0862 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 1.43 | JBQ | 0.0947 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 1.18 | JB | 0.0545 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 1.61 | J | 0.0718 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 1.50 | JB | 0.0537 | MDL | 5.05 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.183 | JQ | 0.0637 | MDL | 1.01 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.475 | J | 0.0888 | MDL | 1.01 | PQL | ng/Kg | J | Z |

Sample ID: SL-673-SA5A-SB-10.5-11.5 Collected: 11/22/2013 11:21:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.139 | JB | 0.0429 | MDL | 5.46 | PQL | ng/Kg | U | B |
| 1,2,3,4,6,7,8-HPCDF | 0.0656 | JBQ | 0.0179 | MDL | 5.46 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0902 | JBQ | 0.0290 | MDL | 5.46 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.0400 | JBQ | 0.0314 | MDL | 5.46 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0448 | JQ | 0.0296 | MDL | 5.46 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 0.0727 | J | 0.0314 | MDL | 5.46 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.0728 | JQ | 0.0373 | MDL | 5.46 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.0765 | JBQ | 0.0293 | MDL | 5.46 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0312 | J | 0.0307 | MDL | 5.46 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.0405 | JB | 0.0310 | MDL | 5.46 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.0709 | JQ | 0.0583 | MDL | 1.09 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.0986 | JQ | 0.0666 | MDL | 1.09 | PQL | ng/Kg | J | Z |
| OCDD | 0.677 | JB | 0.0496 | MDL | 10.9 | PQL | ng/Kg | U | B |
| OCDF | 0.295 | JBQ | 0.0817 | MDL | 10.9 | PQL | ng/Kg | U | B |

Sample ID: SL-673-SA5A-SB-4.0-5.0 Collected: 11/22/2013 11:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.550 | JB | 0.0646 | MDL | 5.19 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-673-SA5A-SB-4.0-5.0 Collected: 11/22/2013 11:15:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8-HxCDD | 0.770 | J | 0.0892 | MDL | 5.19 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDF | 0.715 | JB | 0.0680 | MDL | 5.19 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 1.80 | JB | 0.0917 | MDL | 5.19 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDF | 0.444 | J | 0.0631 | MDL | 5.19 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 1.24 | JQ | 0.0883 | MDL | 5.19 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDF | 0.559 | J | 0.0700 | MDL | 5.19 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.448 | JB | 0.0607 | MDL | 5.19 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.525 | JBQ | 0.0412 | MDL | 5.19 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HxCDF | 0.608 | J | 0.0681 | MDL | 5.19 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.619 | JB | 0.0396 | MDL | 5.19 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.192 | J | 0.0697 | MDL | 1.04 | PQL | ng/Kg | J | Z |

Sample ID: SL-676-SA5A-SB-0.0-0.5 Collected: 11/22/2013 1:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 1.24 | JB | 0.0943 | MDL | 5.16 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 1.76 | J | 0.0587 | MDL | 5.16 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDF | 0.747 | JB | 0.0651 | MDL | 5.16 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDD | 4.56 | JB | 0.0603 | MDL | 5.16 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HxCDF | 0.668 | JQ | 0.0584 | MDL | 5.16 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 3.31 | J | 0.0588 | MDL | 5.16 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDF | 0.447 | J | 0.0633 | MDL | 5.16 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 1.17 | JBQ | 0.0773 | MDL | 5.16 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.428 | JB | 0.0417 | MDL | 5.16 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HxCDF | 0.772 | JQ | 0.0580 | MDL | 5.16 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.490 | JB | 0.0409 | MDL | 5.16 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.181 | JQ | 0.0641 | MDL | 1.03 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.223 | JQ | 0.0786 | MDL | 1.03 | PQL | ng/Kg | J | Z |

Sample ID: SL-676-SA5A-SB-4.0-5.0 Collected: 11/22/2013 1:42:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.752 | JB | 0.0383 | MDL | 5.38 | PQL | ng/Kg | J | Z |
| 1,2,3,4,6,7,8-HPCDF | 0.150 | JBQ | 0.0197 | MDL | 5.38 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8,9-HPCDF | 0.0416 | JB | 0.0274 | MDL | 5.38 | PQL | ng/Kg | U | B |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-676-SA5A-SB-4.0-5.0 Collected: 11/22/2013 1:42:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8-HXCDF | 0.0603 | JBQ | 0.0298 | MDL | 5.38 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDD | 0.0928 | JBQ | 0.0369 | MDL | 5.38 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.0521 | JQ | 0.0285 | MDL | 5.38 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 0.0841 | JQ | 0.0328 | MDL | 5.38 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.0647 | JQ | 0.0273 | MDL | 5.38 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.0501 | JBQ | 0.0423 | MDL | 5.38 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.0772 | JBQ | 0.0271 | MDL | 5.38 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.0661 | JQ | 0.0280 | MDL | 5.38 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.0385 | JBQ | 0.0270 | MDL | 5.38 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.0593 | J | 0.0582 | MDL | 1.08 | PQL | ng/Kg | J | Z |
| OCDF | 0.528 | JBQ | 0.0714 | MDL | 10.8 | PQL | ng/Kg | U | B |

Sample ID: SL-686-SA5A-SB-0.0-0.5 Collected: 11/22/2013 2:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 5.89 | B | 0.0438 | MDL | 5.08 | PQL | ng/Kg | J | FD |
| 1,2,3,4,6,7,8-HPCDF | 1.32 | JB | 0.0232 | MDL | 5.08 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8,9-HPCDF | 0.151 | JBQ | 0.0288 | MDL | 5.08 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.116 | J | 0.0466 | MDL | 5.08 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8-HXCDF | 0.138 | JBQ | 0.0362 | MDL | 5.08 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HXCDD | 0.317 | JBQ | 0.0491 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.138 | JQ | 0.0340 | MDL | 5.08 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HXCDD | 0.364 | J | 0.0447 | MDL | 5.08 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.208 | J | 0.0409 | MDL | 5.08 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8-PECDD | 0.216 | JBQ | 0.0422 | MDL | 5.08 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,7,8-PECDF | 0.240 | JB | 0.0308 | MDL | 5.08 | PQL | ng/Kg | UJ | B, FD |
| 2,3,4,6,7,8-HXCDF | 0.155 | JQ | 0.0358 | MDL | 5.08 | PQL | ng/Kg | J | Z, FD |
| 2,3,4,7,8-PECDF | 0.205 | JBQ | 0.0295 | MDL | 5.08 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDD | 0.0856 | JQ | 0.0552 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 1.02 | U | 0.0561 | MDL | 1.02 | PQL | ng/Kg | UJ | FD |
| OCDD | 61.6 | B | 0.0476 | MDL | 10.2 | PQL | ng/Kg | J | FD |
| OCDF | 5.97 | JB | 0.0583 | MDL | 10.2 | PQL | ng/Kg | J | Z, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-986-SA5A-SB-0.0-0.5

Collected: 11/22/2013 2:40:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 0.584 | JBQ | 0.0475 | MDL | 5.15 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,6,7,8-HPCDF | 0.303 | JBQ | 0.0256 | MDL | 5.15 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,4,7,8,9-HPCDF | 0.212 | JBQ | 0.0317 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HxCDD | 0.244 | JQ | 0.0469 | MDL | 5.15 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8-HXCDF | 0.344 | JB | 0.0435 | MDL | 5.15 | PQL | ng/Kg | UJ | B, FD |
| 1,2,3,6,7,8-HXCDD | 0.277 | JB | 0.0468 | MDL | 5.15 | PQL | ng/Kg | U | B |
| 1,2,3,6,7,8-HXCDF | 0.353 | J | 0.0407 | MDL | 5.15 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HXCDD | 0.319 | JQ | 0.0468 | MDL | 5.15 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.389 | J | 0.0494 | MDL | 5.15 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8-PECDD | 0.385 | JBQ | 0.0543 | MDL | 5.15 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8-PECDF | 0.486 | JBQ | 0.0340 | MDL | 5.15 | PQL | ng/Kg | J | Z, FD |
| 2,3,4,6,7,8-HXCDF | 0.368 | J | 0.0434 | MDL | 5.15 | PQL | ng/Kg | J | Z, FD |
| 2,3,4,7,8-PECDF | 0.435 | JBQ | 0.0331 | MDL | 5.15 | PQL | ng/Kg | UJ | B, FD |
| 2,3,7,8-TCDD | 0.128 | JQ | 0.0697 | MDL | 1.03 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.106 | JQ | 0.0688 | MDL | 1.03 | PQL | ng/Kg | J | Z, FD |
| OCDD | 3.25 | JB | 0.0540 | MDL | 10.3 | PQL | ng/Kg | J | Z, FD |
| OCDF | 0.553 | JB | 0.0908 | MDL | 10.3 | PQL | ng/Kg | UJ | B, FD |

Method Category: SVOA

Method: 8015M

Matrix: SO

Sample ID: SL-673-SA5A-SB-4.0-5.0

Collected: 11/22/2013 11:15:00

Analysis Type: RES

Dilution: 26.54

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| GASOLINE RANGE ORGANICS (C5-C12) | 0.5 | J | 0.2 | MDL | 1.1 | PQL | mg/Kg | J | Z |

Sample ID: SL-686-SA5A-SB-0.0-0.5

Collected: 11/22/2013 2:35:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 2.1 | J | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Z, FD |
| EFH (C21-C30) | 32 | | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | Q, FD |
| EFH (C30-C40) | 89 | | 4.1 | MDL | 10 | PQL | mg/Kg | J | FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 8015M Matrix: SO

Sample ID: SL-986-SA5A-SB-0.0-0.5 Collected: 11/22/2013 2:40:00 Analysis Type: RES Dilution: 5

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 26 | U | 10 | MDL | 26 | PQL | mg/Kg | UJ | FD |
| EFH (C21-C30) | 130 | | 10 | MDL | 26 | PQL | mg/Kg | J | FD |
| EFH (C30-C40) | 320 | | 21 | MDL | 52 | PQL | mg/Kg | J | FD |

Method Category: SVOA
Method: 8081B Matrix: SO

Sample ID: SL-686-SA5A-SB-0.0-0.5 Collected: 11/22/2013 2:35:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 4,4'-DDD | 1.7 | U | 0.33 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| 4,4'-DDE | 1.7 | U | 0.33 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| 4,4'-DDT | 1.7 | U | 0.36 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| BETA-BHC | 1.9 | U | 0.97 | MDL | 1.9 | PQL | ug/Kg | UJ | FD |
| DIELDRIN | 1.7 | U | 0.33 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |

Sample ID: SL-986-SA5A-SB-0.0-0.5 Collected: 11/22/2013 2:40:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 4,4'-DDD | 3.2 | | 0.34 | MDL | 1.8 | PQL | ug/Kg | J | FD |
| 4,4'-DDE | 1.5 | J | 0.34 | MDL | 1.8 | PQL | ug/Kg | J | Z, FD |
| 4,4'-DDT | 6.7 | | 0.36 | MDL | 1.8 | PQL | ug/Kg | J | FD |
| BETA-BHC | 1.6 | J | 0.99 | MDL | 2.0 | PQL | ug/Kg | J | Z, FD |
| DIELDRIN | 0.37 | J | 0.34 | MDL | 1.8 | PQL | ug/Kg | J | Z, FD |

Method Category: SVOA
Method: 8082A Matrix: SO

Sample ID: SL-673-SA5A-SB-0.0-0.5 Collected: 11/22/2013 11:33:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| Aroclor 5460 | 16 | J | 10 | MDL | 33 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-673-SA5A-SB-0.0-0.5 Collected: 11/22/2013 11:33:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 5

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 2.4 | J | 1.7 | MDL | 8.5 | PQL | ug/Kg | J | Z |
| BENZO(A)ANTHRACENE | 7.2 | J | 3.4 | MDL | 8.5 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 5.9 | J | 3.4 | MDL | 8.5 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 5.4 | J | 3.4 | MDL | 8.5 | PQL | ug/Kg | J | Z |
| INDENO(1,2,3-CD)PYRENE | 3.7 | J | 3.4 | MDL | 8.5 | PQL | ug/Kg | J | Z |
| PYRENE | 17 | | 3.4 | MDL | 8.5 | PQL | ug/Kg | J | L |

Sample ID: SL-673-SA5A-SB-4.0-5.0 Collected: 11/22/2013 11:15:00 Analysis Type: RES Dilution: 5

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 6.3 | J | 3.6 | MDL | 8.9 | PQL | ug/Kg | J | Z |

Sample ID: SL-673-SA5A-SB-4.0-5.0 Collected: 11/22/2013 11:15:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 5

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 8.4 | J | 3.6 | MDL | 8.9 | PQL | ug/Kg | J | Z |
| BENZO(A)ANTHRACENE | 4.5 | J | 3.6 | MDL | 8.9 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 3.9 | J | 3.6 | MDL | 8.9 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 4.6 | J | 3.6 | MDL | 8.9 | PQL | ug/Kg | J | Z |
| PYRENE | 12 | | 3.6 | MDL | 8.9 | PQL | ug/Kg | J | L |

Sample ID: SL-676-SA5A-SB-0.0-0.5 Collected: 11/22/2013 1:30:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 0.71 | J | 0.70 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-676-SA5A-SB-0.0-0.5 Collected: 11/22/2013 1:30:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 1.2 | J | 0.70 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(E)PYRENE | 5.1 | J | 3.5 | MDL | 18 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 1.6 | J | 0.70 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| INDENO(1,2,3-CD)PYRENE | 0.91 | J | 0.70 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| NAPHTHALENE | 1.1 | J | 0.70 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PYRENE | 3.9 | | 0.70 | MDL | 1.7 | PQL | ug/Kg | J | L |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-676-SA5A-SB-4.0-5.0 Collected: 11/22/2013 1:42:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 1.1 | J | 0.74 | MDL | 1.8 | PQL | ug/Kg | J | Z |

Sample ID: SL-686-SA5A-SB-0.0-0.5 Collected: 11/22/2013 2:35:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 0.47 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z, FD |

Sample ID: SL-986-SA5A-SB-0.0-0.5 Collected: 11/22/2013 2:40:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| CHRYSENE | 1.7 | U | 0.35 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---|
| B | Method Blank Contamination |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Field Blank Contamination |
| FD | Field Duplicate Precision |
| L | Laboratory Control Spike Upper Estimation |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH133

Method Blank Outlier Report

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|------------------------|--|---|--|
| BLK3440B372223 | 12/11/2013 10:23:00 PM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8-HPCDF 1,2,3,4,7,8-HXCDF 1,2,3,6,7,8-HXCDD 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,7,8-PECDF OCDD OCDF | 0.0821 ng/Kg 0.0752 ng/Kg 0.0762 ng/Kg 0.0702 ng/Kg 0.0597 ng/Kg 0.0696 ng/Kg 0.0848 ng/Kg 0.103 ng/Kg 0.452 ng/Kg 0.270 ng/Kg | SL-673-SA5A-SB-0.0-0.5 SL-673-SA5A-SB-10.5-11.5 SL-673-SA5A-SB-4.0-5.0 SL-676-SA5A-SB-0.0-0.5 SL-676-SA5A-SB-4.0-5.0 SL-686-SA5A-SB-0.0-0.5 SL-986-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-------------------------------|---------------------|-----------------|-----------------------|
| SL-673-SA5A-SB-10.5-11.5(RES) | 1,2,3,4,6,7,8-HPCDD | 0.139 ng/Kg | 0.139U ng/Kg |
| SL-673-SA5A-SB-10.5-11.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.0656 ng/Kg | 0.0656U ng/Kg |
| SL-673-SA5A-SB-10.5-11.5(RES) | 1,2,3,4,7,8-HPCDF | 0.0902 ng/Kg | 0.0902U ng/Kg |
| SL-673-SA5A-SB-10.5-11.5(RES) | 1,2,3,4,7,8-HXCDF | 0.0400 ng/Kg | 0.0400U ng/Kg |
| SL-673-SA5A-SB-10.5-11.5(RES) | 1,2,3,7,8-PECDF | 0.0765 ng/Kg | 0.0765U ng/Kg |
| SL-673-SA5A-SB-10.5-11.5(RES) | 2,3,4,7,8-PECDF | 0.0405 ng/Kg | 0.0405U ng/Kg |
| SL-673-SA5A-SB-10.5-11.5(RES) | OCDD | 0.677 ng/Kg | 0.677U ng/Kg |
| SL-673-SA5A-SB-10.5-11.5(RES) | OCDF | 0.295 ng/Kg | 0.295U ng/Kg |
| SL-676-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.490 ng/Kg | 0.490U ng/Kg |
| SL-676-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,6,7,8-HPCDF | 0.150 ng/Kg | 0.150U ng/Kg |
| SL-676-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HPCDF | 0.0416 ng/Kg | 0.0416U ng/Kg |
| SL-676-SA5A-SB-4.0-5.0(RES) | 1,2,3,4,7,8-HXCDF | 0.0603 ng/Kg | 0.0603U ng/Kg |
| SL-676-SA5A-SB-4.0-5.0(RES) | 1,2,3,6,7,8-HXCDD | 0.0928 ng/Kg | 0.0928U ng/Kg |
| SL-676-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDD | 0.0501 ng/Kg | 0.0501U ng/Kg |
| SL-676-SA5A-SB-4.0-5.0(RES) | 1,2,3,7,8-PECDF | 0.0772 ng/Kg | 0.0772U ng/Kg |
| SL-676-SA5A-SB-4.0-5.0(RES) | 2,3,4,7,8-PECDF | 0.0385 ng/Kg | 0.0385U ng/Kg |
| SL-676-SA5A-SB-4.0-5.0(RES) | OCDF | 0.528 ng/Kg | 0.528U ng/Kg |
| SL-686-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.151 ng/Kg | 0.151U ng/Kg |
| SL-686-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.138 ng/Kg | 0.138U ng/Kg |
| SL-686-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.216 ng/Kg | 0.216U ng/Kg |
| SL-686-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.240 ng/Kg | 0.240U ng/Kg |
| SL-686-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.205 ng/Kg | 0.205U ng/Kg |
| SL-986-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,6,7,8-HPCDF | 0.303 ng/Kg | 0.303U ng/Kg |
| SL-986-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8,9-HPCDF | 0.212 ng/Kg | 0.212U ng/Kg |
| SL-986-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HXCDF | 0.344 ng/Kg | 0.344U ng/Kg |
| SL-986-SA5A-SB-0.0-0.5(RES) | 1,2,3,6,7,8-HXCDD | 0.277 ng/Kg | 0.277U ng/Kg |
| SL-986-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.435 ng/Kg | 0.435U ng/Kg |
| SL-986-SA5A-SB-0.0-0.5(RES) | OCDF | 0.553 ng/Kg | 0.553U ng/Kg |

Method Blank Outlier Report

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|----------------|--------------------------|--|
| P34037BB220910 | 12/9/2013 9:10:00 AM | CALCIUM TIN | 3.62 mg/Kg 1.43 mg/Kg | SL-673-SA5A-SB-0.0-0.5 SL-673-SA5A-SB-10.5-11.5 SL-673-SA5A-SB-4.0-5.0 SL-676-SA5A-SB-0.0-0.5 SL-676-SA5A-SB-4.0-5.0 SL-686-SA5A-SB-0.0-0.5 SL-986-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-------------------------------|---------|-----------------|-----------------------|
| SL-673-SA5A-SB-0.0-0.5(RES) | TIN | 3.15 mg/Kg | 3.15U mg/Kg |
| SL-673-SA5A-SB-10.5-11.5(RES) | TIN | 4.15 mg/Kg | 4.15U mg/Kg |
| SL-673-SA5A-SB-4.0-5.0(RES) | TIN | 3.52 mg/Kg | 3.52U mg/Kg |
| SL-676-SA5A-SB-0.0-0.5(RES) | TIN | 3.18 mg/Kg | 3.18U mg/Kg |
| SL-676-SA5A-SB-4.0-5.0(RES) | TIN | 3.67 mg/Kg | 3.67U mg/Kg |
| SL-686-SA5A-SB-0.0-0.5(RES) | TIN | 3.46 mg/Kg | 3.46U mg/Kg |
| SL-986-SA5A-SB-0.0-0.5(RES) | TIN | 3.19 mg/Kg | 3.19U mg/Kg |

Method: 6020A
Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|----------------------|----------|--------------|--|
| P34037BB221923A | 12/9/2013 7:23:00 PM | THALLIUM | 0.0320 mg/Kg | SL-673-SA5A-SB-0.0-0.5 SL-673-SA5A-SB-10.5-11.5 SL-673-SA5A-SB-4.0-5.0 SL-676-SA5A-SB-0.0-0.5 SL-676-SA5A-SB-4.0-5.0 SL-686-SA5A-SB-0.0-0.5 SL-986-SA5A-SB-0.0-0.5 |

Field Blank Outlier Report

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|-------------------|----------------------------|--|
| FB-041613(REA2/TQT) | 4/16/2013 3:15:00 PM | MOLYBDENUM TIN | 0.0132 mg/L 0.0029 mg/L | SL-673-SA5A-SB-0.0-0.5 SL-673-SA5A-SB-10.5-11.5 SL-673-SA5A-SB-4.0-5.0 SL-676-SA5A-SB-0.0-0.5 SL-676-SA5A-SB-4.0-5.0 SL-686-SA5A-SB-0.0-0.5 SL-986-SA5A-SB-0.0-0.5 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-------------------------------|------------|-----------------|-----------------------|
| SL-673-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.495 mg/Kg | 0.495U mg/Kg |
| SL-673-SA5A-SB-10.5-11.5(RES) | MOLYBDENUM | 0.640 mg/Kg | 0.640U mg/Kg |
| SL-673-SA5A-SB-4.0-5.0(RES) | MOLYBDENUM | 0.593 mg/Kg | 0.593U mg/Kg |
| SL-676-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.555 mg/Kg | 0.555U mg/Kg |
| SL-676-SA5A-SB-4.0-5.0(RES) | MOLYBDENUM | 0.498 mg/Kg | 0.498U mg/Kg |
| SL-686-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.544 mg/Kg | 0.544U mg/Kg |
| SL-986-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 1.04 mg/Kg | 1.04U mg/Kg |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8015M
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--------------------------------|--------------|--------------|------------------------------|-----------------|--------------------------------|---|
| SL-686-SA5A-SB-0.0-0.5MS SL-686-SA5A-SB-0.0-0.5MSD (SL-686-SA5A-SB-0.0-0.5) | EFH (C21-C30) EFH (C30-C40) | -127 -387 | -141 -436 | 49.00-123.00 49.00-123.00 | - 30 (20.00) | EFH (C21-C30) EFH (C30-C40) | J (all detects) R (all non-detects) EFH (C30-C40), No Qual, >4x |

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------------|----------|-----------|--------------|-----------------|-----------------------|----------------|
| SL-686-SA5A-SB-0.0-0.5MSD (SL-686-SA5A-SB-0.0-0.5) | Di-n-octylphthalate | - | 191 | 52.00-162.00 | - | Di-n-octylphthalate | J(all detects) |

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--|---|--|--|--------------------------------------|--|---|
| SL-686-SA5A-SB-0.0-0.5MS (TOT) SL-686-SA5A-SB-0.0-0.5MSD (TOT) (SL-673-SA5A-SB-0.0-0.5 SL-673-SA5A-SB-10.5-11.5 SL-673-SA5A-SB-4.0-5.0 SL-676-SA5A-SB-0.0-0.5 SL-676-SA5A-SB-4.0-5.0 SL-686-SA5A-SB-0.0-0.5 SL-986-SA5A-SB-0.0-0.5) | ALUMINUM CALCIUM IRON MAGNESIUM MANGANESE PHOSPHORUS POTASSIUM TITANIUM | 1019 183 231 276 - 151 141 339 | 969 215 - 194 129 143 140 265 | 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 75.00-125.00 | - - - - - - - - | ALUMINUM CALCIUM IRON MAGNESIUM MANGANESE PHOSPHORUS POTASSIUM TITANIUM | J(all detects) Al, Ca, Mg, Mn, TI, No Qual, >4x |
| SL-686-SA5A-SB-0.0-0.5MS (TOT) SL-686-SA5A-SB-0.0-0.5MSD (TOT) (SL-673-SA5A-SB-0.0-0.5 SL-673-SA5A-SB-10.5-11.5 SL-673-SA5A-SB-4.0-5.0 SL-676-SA5A-SB-0.0-0.5 SL-676-SA5A-SB-4.0-5.0 SL-686-SA5A-SB-0.0-0.5 SL-986-SA5A-SB-0.0-0.5) | ANTIMONY | 67 | 65 | 75.00-125.00 | - | ANTIMONY | J(all detects) UJ(all non-detects) |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C

Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|---|------------|------------|-----------|------------------------------|
| SL-686-SA5A-SB-0.0-0.5DUP (TOT) (SL-673-SA5A-SB-0.0-0.5 SL-673-SA5A-SB-10.5-11.5 SL-673-SA5A-SB-4.0-5.0 SL-676-SA5A-SB-0.0-0.5 SL-676-SA5A-SB-4.0-5.0 SL-686-SA5A-SB-0.0-0.5 SL-986-SA5A-SB-0.0-0.5) | MOLYBDENUM | 30 | 20.00 | No Qual, OK by Difference |

Method: 6020A

Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|---|---------|------------|-----------|------------------------------|
| SL-686-SA5A-SB-0.0-0.5DUP (TOT) (SL-673-SA5A-SB-0.0-0.5 SL-673-SA5A-SB-10.5-11.5 SL-673-SA5A-SB-4.0-5.0 SL-676-SA5A-SB-0.0-0.5 SL-676-SA5A-SB-4.0-5.0 SL-686-SA5A-SB-0.0-0.5 SL-986-SA5A-SB-0.0-0.5) | SILVER | 200 | 20.00 | No Qual, OK by Difference |

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8151A
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|-----------------|------------|------------|------------------------------|-----------------|-----------------------|-----------------|
| P33370AQ241144A (SL-686-SA5A-SB-0.0-0.5 SL-986-SA5A-SB-0.0-0.5) | 2,4-D 2,4-DB | 135 134 | - - | 59.00-122.00 54.00-131.00 | - - | 2,4-D 2,4-DB | J (all detects) |

Method: 8270D SIM
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | LCS %R | LCSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|----------|-----------|------------|--------------|-----------------|-----------------------|----------------|
| P8LELCSQ260410 (SL-673-SA5A-SB-0.0-0.5 SL-673-SA5A-SB-10.5-11.5 SL-673-SA5A-SB-4.0-5.0 SL-676-SA5A-SB-0.0-0.5 SL-676-SA5A-SB-4.0-5.0 SL-686-SA5A-SB-0.0-0.5 SL-986-SA5A-SB-0.0-0.5) | PYRENE | 118 | - | 79.00-112.00 | - | PYRENE | J(all detects) |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 160.3M

Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|------------------------|------------|-----------|-----------------------|
| | SL-686-SA5A-SB-0.0-0.5 | SL-986-SA5A-SB-0.0-0.5 | | | |
| MOISTURE | 2.4 | 3.7 | 43 | | No Qualifiers Applied |

Method: 1613B

Matrix: SO

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------------|------------------------|------------------------|------------|-----------|---------------------------------------|
| | SL-686-SA5A-SB-0.0-0.5 | SL-986-SA5A-SB-0.0-0.5 | | | |
| 1,2,3,4,7,8,9-HPCDF | 0.151 | 0.212 | 34 | 50.00 | No Qualifiers Applied |
| 1,2,3,6,7,8-HXCDD | 0.317 | 0.277 | 13 | 50.00 | |
| 1,2,3,7,8,9-HXCDD | 0.364 | 0.319 | 13 | 50.00 | |
| 2,3,7,8-TCDD | 0.0856 | 0.128 | 40 | 50.00 | |
| 1,2,3,4,6,7,8-HPCDD | 5.89 | 0.584 | 164 | 50.00 | J(all detects) UJ(all non-detects) |
| 1,2,3,4,6,7,8-HPCDF | 1.32 | 0.303 | 125 | 50.00 | |
| 1,2,3,4,7,8-HxCDD | 0.116 | 0.244 | 71 | 50.00 | |
| 1,2,3,4,7,8-HXCDF | 0.138 | 0.344 | 85 | 50.00 | |
| 1,2,3,6,7,8-HXCDF | 0.138 | 0.353 | 88 | 50.00 | |
| 1,2,3,7,8,9-HXCDF | 0.208 | 0.389 | 61 | 50.00 | |
| 1,2,3,7,8-PECDD | 0.216 | 0.385 | 56 | 50.00 | |
| 1,2,3,7,8-PECDF | 0.240 | 0.486 | 68 | 50.00 | |
| 2,3,4,6,7,8-HXCDF | 0.155 | 0.368 | 81 | 50.00 | |
| 2,3,4,7,8-PECDF | 0.205 | 0.435 | 72 | 50.00 | |
| 2,3,7,8-TCDF | 1.02 U | 0.106 | 200 | 50.00 | |
| OCDD | 61.6 | 3.25 | 180 | 50.00 | |
| OCDF | 5.97 | 0.553 | 166 | 50.00 | |

Method: 6010C

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|------------------------------|------------------------------|------------|-----------|-----------------------|
| | SL-686-SA5A-SB-0.0-0.5 (TOT) | SL-986-SA5A-SB-0.0-0.5 (TOT) | | | |
| ALUMINUM | 16800 | 19000 | 12 | 50.00 | No Qualifiers Applied |
| ARSENIC | 4.79 | 5.35 | 11 | 50.00 | |
| BARIUM | 98.9 | 105 | 6 | 50.00 | |
| BERYLLIUM | 0.591 | 0.715 | 19 | 50.00 | |
| BORON | 4.70 | 4.18 | 12 | 50.00 | |
| CALCIUM | 2680 | 2170 | 21 | 50.00 | |
| CHROMIUM | 21.7 | 23.9 | 10 | 50.00 | |
| COBALT | 5.61 | 6.30 | 12 | 50.00 | |
| COPPER | 15.2 | 15.4 | 1 | 50.00 | |
| IRON | 22100 | 22700 | 3 | 50.00 | |
| LEAD | 5.87 | 8.45 | 36 | 50.00 | |
| LITHIUM | 23.4 | 20.2 | 15 | 50.00 | |
| MAGNESIUM | 4710 | 4300 | 9 | 50.00 | |
| MANGANESE | 316 | 321 | 2 | 50.00 | |
| NICKEL | 12.3 | 13.0 | 6 | 50.00 | |
| PHOSPHORUS | 387 | 279 | 32 | 50.00 | |
| POTASSIUM | 3410 | 3110 | 9 | 50.00 | |
| SODIUM | 124 | 171 | 32 | 50.00 | |
| TIN | 3.46 | 3.19 | 8 | 50.00 | |
| TITANIUM | 1260 | 1290 | 2 | 50.00 | |
| VANADIUM | 38.5 | 43.1 | 11 | 50.00 | |
| ZINC | 53.6 | 48.2 | 11 | 50.00 | |
| Zirconium | 2.46 | 2.95 | 18 | 50.00 | |
| MOLYBDENUM | 0.544 | 1.04 | 63 | 50.00 | J(all detects) |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

2/7/2014 12:33:12 PM

ADR version 1.7.0.207

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Field Duplicate RPD Report

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6020A

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|------------------------------|------------------------------|------------|-----------|-----------------------|
| | SL-686-SA5A-SB-0.0-0.5 (TOT) | SL-986-SA5A-SB-0.0-0.5 (TOT) | | | |
| SELENIUM | 0.162 | 0.137 | 17 | 50.00 | No Qualifiers Applied |
| SILVER | 0.0390 | 0.0333 | 16 | 50.00 | |
| STRONTIUM | 20.4 | 21.7 | 6 | 50.00 | |
| THALLIUM | 0.274 | 0.282 | 3 | 50.00 | |

Method: 8015M

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------|------------------------|------------------------|------------|-----------|---------------------------------------|
| | SL-686-SA5A-SB-0.0-0.5 | SL-986-SA5A-SB-0.0-0.5 | | | |
| EFH (C15-C20) | 2.1 | 26 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| EFH (C21-C30) | 32 | 130 | 121 | 50.00 | |
| EFH (C30-C40) | 89 | 320 | 113 | 50.00 | |

Method: 8081B

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|------------------------|------------|-----------|---------------------------------------|
| | SL-686-SA5A-SB-0.0-0.5 | SL-986-SA5A-SB-0.0-0.5 | | | |
| 4,4'-DDD | 1.7 U | 3.2 | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| 4,4'-DDE | 1.7 U | 1.5 | 200 | 50.00 | |
| 4,4'-DDT | 1.7 U | 6.7 | 200 | 50.00 | |
| BETA-BHC | 1.9 U | 1.6 | 200 | 50.00 | |
| DIELDRIN | 1.7 U | 0.37 | 200 | 50.00 | |

Method: 8270D SIM

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|------------------------|------------|-----------|---------------------------------------|
| | SL-686-SA5A-SB-0.0-0.5 | SL-986-SA5A-SB-0.0-0.5 | | | |
| CHRYSENE | 0.47 | 1.7 U | 200 | 50.00 | J(all detects) UJ(all non-detects) |

Method: 9045M

Matrix: SO

| Analyte | Concentration (pH unit) | | Sample RPD | eQAPP RPD | Flag |
|---------|-------------------------|------------------------|------------|-----------|-----------------------|
| | SL-686-SA5A-SB-0.0-0.5 | SL-986-SA5A-SB-0.0-0.5 | | | |
| PH | 7.09 | 6.62 | 7 | 50.00 | No Qualifiers Applied |

Reporting Limit Outliers

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|--------------------------|---------------------|--------|-----------------|---------|-------|-----------------|
| SL-673-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JBQ | 1.69 | 5.05 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | J | 2.47 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 2.18 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | J | 1.40 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | J | 4.24 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | J | 1.53 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 1.43 | 5.05 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 1.18 | 5.05 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | J | 1.61 | 5.05 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 1.50 | 5.05 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.183 | 1.01 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.475 | 1.01 | PQL | ng/Kg | |
| | SL-673-SA5A-SB-10.5-11.5 | 1,2,3,4,6,7,8-HPCDD | JB | 0.139 | 5.46 | PQL | |
| 1,2,3,4,6,7,8-HPCDF | | JBQ | 0.0656 | 5.46 | PQL | ng/Kg | |
| 1,2,3,4,7,8,9-HPCDF | | JBQ | 0.0902 | 5.46 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HXCDF | | JBQ | 0.0400 | 5.46 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HXCDF | | JQ | 0.0448 | 5.46 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HXCDD | | J | 0.0727 | 5.46 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HXCDF | | JQ | 0.0728 | 5.46 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDF | | JBQ | 0.0765 | 5.46 | PQL | ng/Kg | |
| 2,3,4,6,7,8-HXCDF | | J | 0.0312 | 5.46 | PQL | ng/Kg | |
| 2,3,4,7,8-PECDF | | JB | 0.0405 | 5.46 | PQL | ng/Kg | |
| 2,3,7,8-TCDD | | JQ | 0.0709 | 1.09 | PQL | ng/Kg | |
| 2,3,7,8-TCDF | | JQ | 0.0986 | 1.09 | PQL | ng/Kg | |
| OCDD | | JB | 0.677 | 10.9 | PQL | ng/Kg | |
| OCDF | JBQ | 0.295 | 10.9 | PQL | ng/Kg | | |
| SL-673-SA5A-SB-4.0-5.0 | 1,2,3,4,7,8,9-HPCDF | JB | 0.550 | 5.19 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | J | 0.770 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.715 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 1.80 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | J | 0.444 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JQ | 1.24 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | J | 0.559 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.448 | 5.19 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.525 | 5.19 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | J | 0.608 | 5.19 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.619 | 5.19 | PQL | ng/Kg | |
| 2,3,7,8-TCDF | J | 0.192 | 1.04 | PQL | ng/Kg | | |
| SL-676-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 1.24 | 5.16 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | J | 1.76 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.747 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 4.56 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JQ | 0.668 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | J | 3.31 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | J | 0.447 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 1.17 | 5.16 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.428 | 5.16 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JQ | 0.772 | 5.16 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.490 | 5.16 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.181 | 1.03 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.223 | 1.03 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------------------|---------------------|--------|-----------------|---------|-------|-----------------|
| SL-676-SA5A-SB-4.0-5.0 | 1,2,3,4,6,7,8-HPCDD | JB | 0.752 | 5.38 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.150 | 5.38 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JB | 0.0416 | 5.38 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JBQ | 0.0603 | 5.38 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JBQ | 0.0928 | 5.38 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JQ | 0.0521 | 5.38 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JQ | 0.0841 | 5.38 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JQ | 0.0647 | 5.38 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.0501 | 5.38 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.0772 | 5.38 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JQ | 0.0661 | 5.38 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.0385 | 5.38 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.0593 | 1.08 | PQL | ng/Kg | |
| | OCDF | JBQ | 0.528 | 10.8 | PQL | ng/Kg | |
| | SL-686-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDF | JB | 1.32 | 5.08 | PQL | |
| 1,2,3,4,7,8,9-HPCDF | | JBQ | 0.151 | 5.08 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HxCDD | | J | 0.116 | 5.08 | PQL | ng/Kg | |
| 1,2,3,4,7,8-HXCDF | | JBQ | 0.138 | 5.08 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HXCDD | | JBQ | 0.317 | 5.08 | PQL | ng/Kg | |
| 1,2,3,6,7,8-HXCDF | | JQ | 0.138 | 5.08 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HXCDD | | J | 0.364 | 5.08 | PQL | ng/Kg | |
| 1,2,3,7,8,9-HXCDF | | J | 0.208 | 5.08 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDD | | JBQ | 0.216 | 5.08 | PQL | ng/Kg | |
| 1,2,3,7,8-PECDF | | JB | 0.240 | 5.08 | PQL | ng/Kg | |
| 2,3,4,6,7,8-HXCDF | | JQ | 0.155 | 5.08 | PQL | ng/Kg | |
| 2,3,4,7,8-PECDF | | JBQ | 0.205 | 5.08 | PQL | ng/Kg | |
| 2,3,7,8-TCDD | | JQ | 0.0856 | 1.02 | PQL | ng/Kg | |
| OCDF | JB | 5.97 | 10.2 | PQL | ng/Kg | | |
| SL-986-SA5A-SB-0.0-0.5 | 1,2,3,4,6,7,8-HPCDD | JBQ | 0.584 | 5.15 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,6,7,8-HPCDF | JBQ | 0.303 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,4,7,8,9-HPCDF | JBQ | 0.212 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDD | JQ | 0.244 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.344 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDD | JB | 0.277 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | J | 0.353 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDD | JQ | 0.319 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | J | 0.389 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.385 | 5.15 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JBQ | 0.486 | 5.15 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | J | 0.368 | 5.15 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.435 | 5.15 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | JQ | 0.128 | 1.03 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | JQ | 0.106 | 1.03 | PQL | ng/Kg | |
| | OCDD | JB | 3.25 | 10.3 | PQL | ng/Kg | |
| | OCDF | JB | 0.553 | 10.3 | PQL | ng/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-673-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.616 | 1.00 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.55 | 10.0 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.495 | 2.00 | PQL | mg/Kg | |
| | TIN | J | 3.15 | 10.0 | PQL | mg/Kg | |
| | Zirconium | J | 2.66 | 5.01 | PQL | mg/Kg | |
| SL-673-SA5A-SB-10.5-11.5 | BORON | J | 3.55 | 11.1 | PQL | mg/Kg | J (all detects) |
| | MOLYBDENUM | J | 0.640 | 2.22 | PQL | mg/Kg | |
| | TIN | J | 4.15 | 11.1 | PQL | mg/Kg | |
| | Zirconium | J | 2.19 | 5.55 | PQL | mg/Kg | |
| SL-673-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.674 | 1.06 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.38 | 10.6 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.593 | 2.12 | PQL | mg/Kg | |
| | SODIUM | J | 102 | 106 | PQL | mg/Kg | |
| | TIN | J | 3.52 | 10.6 | PQL | mg/Kg | |
| | Zirconium | J | 2.74 | 5.31 | PQL | mg/Kg | |
| SL-676-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.601 | 1.01 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.55 | 10.1 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.555 | 2.02 | PQL | mg/Kg | |
| | TIN | J | 3.18 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 2.15 | 5.04 | PQL | mg/Kg | |
| SL-676-SA5A-SB-4.0-5.0 | BERYLLIUM | J | 0.882 | 1.08 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.23 | 10.8 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.498 | 2.17 | PQL | mg/Kg | |
| | SODIUM | J | 97.5 | 108 | PQL | mg/Kg | |
| | TIN | J | 3.67 | 10.8 | PQL | mg/Kg | |
| | Zirconium | J | 3.00 | 5.42 | PQL | mg/Kg | |
| SL-686-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.591 | 1.01 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.70 | 10.1 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.544 | 2.03 | PQL | mg/Kg | |
| | TIN | J | 3.46 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 2.46 | 5.07 | PQL | mg/Kg | |
| SL-986-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.715 | 0.998 | PQL | mg/Kg | J (all detects) |
| | BORON | J | 4.18 | 9.98 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 1.04 | 2.00 | PQL | mg/Kg | |
| | TIN | J | 3.19 | 9.98 | PQL | mg/Kg | |
| | Zirconium | J | 2.95 | 4.99 | PQL | mg/Kg | |

Method: 6020A
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|--------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-673-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.159 | 0.401 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0874 | 0.200 | PQL | mg/Kg | |
| SL-673-SA5A-SB-10.5-11.5 | SELENIUM | J | 0.184 | 0.444 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0484 | 0.222 | PQL | mg/Kg | |
| SL-673-SA5A-SB-4.0-5.0 | SELENIUM | J | 0.125 | 0.425 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0846 | 0.212 | PQL | mg/Kg | |
| SL-676-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.154 | 0.404 | PQL | mg/Kg | J (all detects) |
| | SILVER | J | 0.0654 | 0.202 | PQL | mg/Kg | |

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Reporting Limit Outliers

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6020A

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|--------------------|----------|-----------------|-----------------|------------|----------------|-----------------|
| SL-676-SA5A-SB-4.0-5.0 | SILVER | J | 0.0405 | 0.217 | PQL | mg/Kg | J (all detects) |
| SL-686-SA5A-SB-0.0-0.5 | SELENIUM SILVER | J J | 0.162 0.0390 | 0.406 0.203 | PQL PQL | mg/Kg mg/Kg | J (all detects) |
| SL-986-SA5A-SB-0.0-0.5 | SELENIUM SILVER | J J | 0.137 0.0333 | 0.399 0.200 | PQL PQL | mg/Kg mg/Kg | J (all detects) |

Method: 7471B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-673-SA5A-SB-4.0-5.0 | MERCURY | J | 0.0141 | 0.0168 | PQL | mg/Kg | J (all detects) |
| SL-676-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0113 | 0.0171 | PQL | mg/Kg | J (all detects) |
| SL-676-SA5A-SB-4.0-5.0 | MERCURY | J | 0.0112 | 0.0183 | PQL | mg/Kg | J (all detects) |

Method: 8015M

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-673-SA5A-SB-4.0-5.0 | GASOLINE RANGE ORGANICS (C5-C12) | J | 0.5 | 1.1 | PQL | mg/Kg | J (all detects) |
| SL-686-SA5A-SB-0.0-0.5 | EFH (C15-C20) | J | 2.1 | 5.1 | PQL | mg/Kg | J (all detects) |

Method: 8081B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------|----------|--------|-----------------|---------|-------|-----------------|
| SL-986-SA5A-SB-0.0-0.5 | 4,4'-DDE | J | 1.5 | 1.8 | PQL | ug/Kg | J (all detects) |
| | BETA-BHC | J | 1.6 | 2.0 | PQL | ug/Kg | |
| | DIELDRIN | J | 0.37 | 1.8 | PQL | ug/Kg | |

Method: 8082A

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|--------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-673-SA5A-SB-0.0-0.5 | Aroclor 5460 | J | 16 | 33 | PQL | ug/Kg | J (all detects) |

Reporting Limit Outliers

Lab Reporting Batch ID: PH133

Laboratory: LL

EDD Filename: PH133_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8270D SIM

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-673-SA5A-SB-0.0-0.5 | ANTHRACENE | J | 2.4 | 8.5 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)ANTHRACENE | J | 7.2 | 8.5 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 5.9 | 8.5 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 5.4 | 8.5 | PQL | ug/Kg | |
| | INDENO(1,2,3-CD)PYRENE | J | 3.7 | 8.5 | PQL | ug/Kg | |
| SL-673-SA5A-SB-4.0-5.0 | 1-METHYLNAPHTHALENE | J | 6.3 | 8.9 | PQL | ug/Kg | J (all detects) |
| | 2-METHYLNAPHTHALENE | J | 8.4 | 8.9 | PQL | ug/Kg | |
| | BENZO(A)ANTHRACENE | J | 4.5 | 8.9 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 3.9 | 8.9 | PQL | ug/Kg | |
| | NAPHTHALENE | J | 4.6 | 8.9 | PQL | ug/Kg | |
| SL-676-SA5A-SB-0.0-0.5 | 1-METHYLNAPHTHALENE | J | 0.71 | 1.7 | PQL | ug/Kg | J (all detects) |
| | 2-METHYLNAPHTHALENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | BENZO(E)PYRENE | J | 5.1 | 18 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 1.6 | 1.7 | PQL | ug/Kg | |
| | INDENO(1,2,3-CD)PYRENE | J | 0.91 | 1.7 | PQL | ug/Kg | |
| SL-676-SA5A-SB-4.0-5.0 | 1-METHYLNAPHTHALENE | J | 1.1 | 1.8 | PQL | ug/Kg | J (all detects) |
| SL-686-SA5A-SB-0.0-0.5 | CHRYSENE | J | 0.47 | 1.7 | PQL | ug/Kg | J (all detects) |

LDC #: 31212C4
 SDG #: PH133
 Laboratory: Eurofins Lancaster Laboratories

VALIDATION COMPLETENESS WORKSHEET
 ADR

Date: 1/31/19
 Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: Metals (EPA SW 846 Method 6010C/6020A/7000)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|--|
| I. | Technical holding times | — | Sampling dates: 11/22/13 |
| II. | ICP/MS Tune | — | |
| III. | Calibration | — | |
| IV. | Blanks | A | |
| V. | ICP Interference Check Sample (ICS) Analysis | — | |
| VI. | Matrix Spike Analysis | SW | MS/0 |
| VII. | Duplicate Sample Analysis | SW | DUP |
| VIII. | Laboratory Control Samples (LCS) | A | LCS |
| IX. | Internal Standard (ICP-MS) | N | |
| X. | ICP Serial Dilution | A | |
| XI. | Sample Result Verification | N | |
| XII. | Overall Assessment of Data | N | |
| XIII. | Field Duplicates | — | (6.7) |
| XIV. | Field Blanks | SW | EB = EB1-112613 FB = FB-041613 (PH133) (PH032) |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

| | | | | | | | |
|----|---------------------------|----|--|----|--|----|--|
| 1 | SL-673-SA5A-SB-0.0-0.5 | 11 | | 21 | | 31 | |
| 2 | SL-673-SA5A-SB-4.0-5.0 | 12 | | 22 | | 32 | |
| 3 | SL-673-SA5A-SB-10.5-11.5 | 13 | | 23 | | 33 | |
| 4 | SL-676-SA5A-SB-0.0-0.5 | 14 | | 24 | | 34 | |
| 5 | SL-676-SA5A-SB-4.0-5.0 | 15 | | 25 | | 35 | |
| 6 | SL-686-SA5A-SB-0.0-0.5 | 16 | | 26 | | 36 | |
| 7 | SL-986-SA5A-SB-0.0-0.5 | 17 | | 27 | | 37 | |
| 8 | SL-686-SA5A-SB-0.0-0.5MS | 18 | | 28 | | 38 | |
| 9 | SL-686-SA5A-SB-0.0-0.5MSD | 19 | | 29 | | 39 | |
| 10 | SL-686-SA5A-SB-0.0-0.5DUP | 20 | | 30 | | 40 | |

Notes: _____

VALIDATION FINDINGS WORKSHEET Field Blanks

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: mg/L Associated sample units: mg/Kg Reason: F

Sampling date: 4/16/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | | | |
|---------|---------------------------|-----------------------|---------------------------------|-------|-------|-------|---------------------------------|-------|------|--|--|--|--|--|
| | FB-041613 (SDG: PH032) | Action Limit | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | | | | |
| Mo | 0.0132 | 6.60 | <u>0.495</u> 0.50 | 0.593 | 0.640 | 0.555 | <u>0.498</u> 0.50 | 0.544 | 1.04 | | | | | |
| Sn | 0.0029 | 1.45 | | | | | | | | | | | | |

Sampling date: 11/26/13 Soil factor applied 100x

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All

| Analyte | Blank ID | Sample Identification | | | | | | | | | | | | |
|---------|----------------------------|-----------------------|---------------|--|--|--|--|--|--|--|--|--|--|--|
| | EB1-112613 (SDG: PH125) | Action Limit | No Qualifiers | | | | | | | | | | | |
| Zn | 0.0032 | 1.6 | | | | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".



QUALITY ASSURANCE SUMMARY

FORM 5A (MS/MSD)

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SDG No.: PH133

Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 7290760BKG Matrix Spike Lab Sample ID: 7290761MS Matrix Spike Duplicate Lab Sample ID: 7290762MSD
Batch Id(s): P34037B, P34038A

| Analyte | Mass | BKG Sample | | MS Sample | | MSD Sample | | MS Spike Added | MSD Spike Added | Units | MS | | MSD | | Control Limit | | | |
|------------|------|------------|---|------------|---|------------|---|----------------|-----------------|-------|------|---|-----|---|---------------|----------|----|-----|
| | | Result | C | Result | C | Result | C | | | | %R | Q | %R | Q | RPD | Q | %R | RPD |
| Aluminum | | 16409.2980 | | 18427.0149 | | 18327.6535 | | 198.0198 | 198.0198 | MG/KG | 1019 | | 969 | | 1 | | 20 | P |
| Antimony | | 0.7327 | U | 32.9208 | | 31.9931 | | 49.5050 | 49.5050 | MG/KG | 66 | N | 65 | N | 3 | 75 - 125 | 20 | P |
| Arsenic | | 4.6703 | | 20.2554 | | 19.9554 | | 14.8515 | 14.8515 | MG/KG | 105 | | 103 | | 1 | 75 - 125 | 20 | P |
| Barium | | 96.5158 | | 302.1366 | | 298.2426 | | 198.0198 | 198.0198 | MG/KG | 104 | | 102 | | 1 | 75 - 125 | 20 | P |
| Beryllium | | 0.5772 | B | 5.5535 | | 5.4931 | | 4.9505 | 4.9505 | MG/KG | 101 | | 99 | | 1 | 75 - 125 | 20 | P |
| Boron | | 4.5881 | B | 202.3861 | | 200.4782 | | 198.0198 | 198.0198 | MG/KG | 100 | | 99 | | 1 | 75 - 125 | 20 | P |
| Cadmium | | 0.0752 | U | 4.5921 | | 4.5317 | | 4.9505 | 4.9505 | MG/KG | 93 | | 92 | | 1 | 75 - 125 | 20 | P |
| Calcium | | 2611.5495 | | 3337.0238 | | 3461.7366 | | 396.0396 | 396.0396 | MG/KG | 183 | | 215 | | 4 | | 20 | P |
| Chromium | | 21.1396 | | 42.3495 | | 41.3228 | | 19.8020 | 19.8020 | MG/KG | 107 | | 102 | | 2 | 75 - 125 | 20 | P |
| Cobalt | | 5.4792 | | 53.7109 | | 53.1050 | | 49.5050 | 49.5050 | MG/KG | 97 | | 96 | | 1 | 75 - 125 | 20 | P |
| Copper | | 14.8139 | | 42.3386 | | 41.4198 | | 24.7525 | 24.7525 | MG/KG | 111 | | 107 | | 2 | 75 - 125 | 20 | P |
| Iron | | 21549.6099 | | 21777.9584 | | 21653.7584 | | 99.0099 | 99.0099 | MG/KG | 231 | | 105 | | 1 | | 20 | P |
| Lead | | 5.7327 | | 20.6050 | | 20.7168 | | 14.8515 | 14.8515 | MG/KG | 100 | | 101 | | 1 | 75 - 125 | 20 | P |
| Lithium | | 22.8139 | | 123.4040 | | 121.9099 | | 99.0099 | 99.0099 | MG/KG | 102 | | 100 | | 1 | 75 - 125 | 20 | P |
| Magnesium | | 4593.7990 | | 5141.1901 | | 4977.5564 | | 198.0198 | 198.0198 | MG/KG | 276 | | 194 | | 3 | | 20 | P |
| Manganese | | 308.0426 | | 364.8594 | | 372.0485 | | 49.5050 | 49.5050 | MG/KG | 115 | | 129 | | 2 | | 20 | P |
| Mercury | | 0.0098 | U | 0.1731 | | 0.1779 | | 0.1606 | 0.1638 | MG/KG | 108 | | 109 | | 3 | 65 - 135 | 20 | CV |
| Molybdenum | | 0.5307 | B | 193.0891 | | 191.9396 | | 198.0198 | 198.0198 | MG/KG | 97 | | 97 | | 1 | 75 - 125 | 20 | P |
| Nickel | | 11.9832 | | 61.7970 | | 60.6594 | | 49.5050 | 49.5050 | MG/KG | 101 | | 98 | | 2 | 75 - 125 | 20 | P |
| Phosphorus | | 378.1079 | | 527.7812 | | 519.5208 | | 99.0099 | 99.0099 | MG/KG | 151 | N | 143 | N | 2 | 75 - 125 | 20 | P |
| Potassium | | 3324.2733 | | 4715.8752 | | 4706.4673 | | 990.0990 | 990.0990 | MG/KG | 141 | N | 140 | N | 0 | 75 - 125 | 20 | P |
| Selenium | 78 | 0.1584 | B | 2.0687 | | 2.0962 | | 1.9802 | 1.9802 | MG/KG | 96 | | 98 | | 1 | 75 - 125 | 20 | MS |
| Silver | 107 | 0.0380 | B | 9.9511 | | 10.1216 | | 9.9010 | 9.9010 | MG/KG | 100 | | 102 | | 2 | 75 - 125 | 20 | MS |
| Sodium | | 121.0842 | | 1113.0604 | | 1103.7604 | | 990.0990 | 990.0990 | MG/KG | 100 | | 99 | | 1 | 75 - 125 | 20 | P |
| Strontium | 88 | 19.9113 | | 28.6770 | | 28.5251 | | 7.9208 | 7.9208 | MG/KG | 111 | | 109 | | 1 | 75 - 125 | 20 | MS |
| Thallium | 203 | 0.2675 | | 0.6663 | | 0.6440 | | 0.3960 | 0.3960 | MG/KG | 101 | | 95 | | 3 | 75 - 125 | 20 | MS |
| Tin | | 3.3812 | B | 368.4723 | | 367.7792 | | 396.0396 | 396.0396 | MG/KG | 92 | | 92 | | 0 | 75 - 125 | 20 | P |
| Titanium | | 1228.7248 | | 1564.6426 | | 1491.3079 | | 99.0099 | 99.0099 | MG/KG | 339 | | 265 | | 5 | | 20 | P |
| Vanadium | | 37.5416 | | 91.7129 | | 90.2228 | | 49.5050 | 49.5050 | MG/KG | 109 | | 106 | | 2 | 75 - 125 | 20 | P |
| Zinc | | 52.3436 | | 103.3743 | | 102.4960 | | 49.5050 | 49.5050 | MG/KG | 103 | | 101 | | 1 | 75 - 125 | 20 | P |
| Zirconium | | 2.4040 | B | 97.4030 | | 96.7436 | | 99.0099 | 99.0099 | MG/KG | 96 | | 95 | | 1 | 75 - 125 | 20 | P |

Note: Results shown are reported on an as-received basis.

| | | |
|--|-------------------------------------|--|
| METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry | CV = Cold Vapor | CONCENTRATION QUALIFIERS: U = Below MDL, B = Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS |
| | AF = Cold Vapor Atomic Fluorescence | |

Background Lab Sample ID: 7290760BKG
 Batch ID(s): P34037B, P34038A
 Concentration Units: MG/KG

Duplicate Lab Sample ID: 7290763DUP

| Analyte | Mass | Control Limit | Samples (S) | C | Duplicate (D) | C | RPD | Q | M |
|------------|------|---------------|-------------|---|---------------|---|-----|---|----|
| Aluminum | | | 16409.2980 | | 16486.4158 | | 0 | | P |
| Antimony | | | 0.7327 | U | 0.7327 | U | | | P |
| Arsenic | | 4.0 | 4.6703 | | 5.3733 | | 14 | | P |
| Barium | | | 96.5158 | | 100.6693 | | 4 | | P |
| Beryllium | | | 0.5772 | B | 0.6030 | B | 4 | | P |
| Boron | | | 4.5881 | B | 3.9129 | B | 16 | | P |
| Cadmium | | | -0.2861 | B | -0.3000 | B | -5 | | P |
| Calcium | | | 2611.5495 | | 2645.8347 | | 1 | | P |
| Chromium | | | 21.1396 | | 21.7832 | | 3 | | P |
| Cobalt | | | 5.4792 | | 6.0069 | | 9 | | P |
| Copper | | | 14.8139 | | 15.8911 | | 7 | | P |
| Iron | | | 21549.6099 | | 23321.9762 | | 8 | | P |
| Lead | | 3.0 | 5.7327 | | 6.6059 | | 14 | | P |
| Lithium | | | 22.8139 | | 23.7109 | | 4 | | P |
| Magnesium | | | 4593.7990 | | 4903.9604 | | 7 | | P |
| Manganese | | | 308.0426 | | 322.6396 | | 5 | | P |
| Mercury | | | 0.0098 | U | 0.0098 | U | | | CV |
| Molybdenum | | | 0.5307 | B | 0.3921 | B | 30 | | P |
| Nickel | | | 11.9832 | | 12.7653 | | 6 | | P |
| Phosphorus | | | 378.1079 | | 445.5465 | | 16 | | P |
| Potassium | | | 3324.2733 | | 3519.3752 | | 6 | | P |
| Selenium | 78 | | 0.1584 | B | 0.1554 | B | 2 | | MS |
| Silver | 107 | | 0.0380 | B | 0.0257 | U | 200 | | MS |
| Sodium | | 99.0 | 121.0842 | | 122.9010 | | 1 | | P |
| Strontium | 88 | | 19.9113 | | 20.1689 | | 1 | | MS |
| Thallium | 203 | 0.2 | 0.2675 | | 0.2612 | | 2 | | MS |
| Tin | | | 3.3812 | B | 3.3446 | B | 1 | | P |
| Titanium | | | 1228.7248 | | 1215.7733 | | 1 | | P |
| Vanadium | | | 37.5416 | | 40.5871 | | 8 | | P |
| Zinc | | | 52.3436 | | 55.8891 | | 7 | | P |
| Zirconium | | | 2.4040 | B | 2.8248 | B | 16 | | P |

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
 The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

ok by ch. [unclear]

Note: Results shown are reported on an as-received basis.

| | |
|---|--|
| METHODS: P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence | CONCENTRATION QUALIFIERS: U= Below MDL B= Below LOQ FLAGS: Duplicate Out of Spec |
|---|--|

**Data Validation Report
Santa Susana Field Laboratory**

Subarea 5A

SDG: PH134

Prepared for

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February 19, 2014

INTRODUCTION

This Data Validation Report (DVR) presents Level IV data validation results for samples collected on November 25, 2013. Data validation was performed in accordance with the Quality Assurance Project Plan (QAPP) for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFGs) for Superfund Organic Methods Data Review (June 2008), Polychlorinated Dioxins/Dibenzofurans Data Review (September 2005) and for Inorganic Data Review (January 2010). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Semivolatiles (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D
SVOCs by EPA SW 846 Method 8270D utilizing Selective Ion Monitoring (SIM)
Polychlorinated Biphenyls (PCBs) by EPA SW 846 Method 8082A
Metals by EPA SW 846 Method 6010C, 6020A and 7471B
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW 846 Method 8015M
TPH as Extractables by EPA SW 846 Method 8015M
Dioxins and Dibenzofurans by EPA Method 1613B
Formaldehyde by EPA Method 8315A

Wet Chemistry:

Hexavalent Chromium by EPA Method 7199

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment II. Level III Automated Data Review outliers are presented in Enclosure I. Level IV DVRs are presented in Enclosure II.

All sample results were subjected to Level IV data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibrations, initial and continuing calibration blanks (ICB/CCBs), surrogates, internal standards, interference check (ICSA and ICSAB) samples, matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates (DUP), laboratory control sample/laboratory control sample duplicates (LCS/LCSD), ICP serial dilutions, method blanks, trip blanks, equipment blanks, field blanks, field duplicate samples, and the raw data to confirm sample quantitation and identification.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the initial and continuing calibrations, ICB/CCBs, interference check samples, internal standards (except dioxins), and ICP serial dilutions, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met QC criteria.

II. Initial Calibration

All criteria for the initial calibration of each method were met with the following exceptions of several SVOCs. The associated sample results were qualified as non-detected estimated (UJ). The details regarding the qualification of data are provided in Enclosure II.

III. Continuing Calibration

All criteria for the initial calibration verifications and continuing calibration of each method were met with the exception of one SVOC. The associated sample results were qualified as non-detected estimated (UJ). The details regarding the qualification of data are provided in Enclosure II.

IV. Blanks

Method blanks were performed at the required frequencies. No contaminant concentrations were detected in the method or preparation blanks with the exception of two blanks for metals and dioxins. The associated sample results were qualified as non-detected (U) due to method blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosures I and II.

No contaminant concentrations were detected in the initial or continuing calibration blanks with the exception of several metals. The associated sample results were not detected or were significantly greater than the concentrations found in the associated blanks, therefore no data were qualified. The details are provided in Enclosure II.

V. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the exception of one sample for PCBs. No data were qualified due to high %Rs since the associated results were non-detected. The details are provided in Enclosures I and II.

VI. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of one MS/MSD pair for SVOCs, metals, TPH as extractables and dioxins. The benzidine result in sample SL-715-SA5A-SB-0.0-0.5 was qualified as rejected (R) due to MS/MSD %Rs grossly outside QC limits (i.e., $\leq 0\%$). The remainder of the associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosures I and II.

VIII. Laboratory Duplicates Sample

Laboratory duplicates (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

IX. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC.

X. Internal Standards

All internal standard areas and retention times or percent recoveries were within QC limits.

XI. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

XII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compound quantitations were within validation criteria with the following exceptions:

| SDG/ Method | Sample | Compound | Finding | Criteria | Flag |
|-----------------|---|----------|--|--|-----------------|
| PH134/ 1613B | SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0 SL-1015-SA5A-SB-0.0-0.5 | OCDD | Sample result exceeded calibration range | Reported result should be within calibration range | J (all detects) |

All compounds reported below the RL as detected were qualified as follows:

| Sample | Finding | Flag |
|--------------------------|--|-----------------|
| All samples in SDG PH134 | All compounds reported as detected below the RL. | J (all detects) |

XIII. Field Duplicate Samples

One field duplicate pair was collected and analyzed for SVOCs, PCBs, metals, TPH as extractables, dioxins, formaldehyde and hexavalent chromium. All RPDs were within QC limits with the exception of several SVOCs, metals, TPH as extractables, dioxins and hexavalent chromium. The associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The field duplicate result comparisons are provided in Enclosures I and II.

XIV. Field Blank Samples

One trip blank was collected and analyzed for TPH as gasoline. No volatile contaminants were found in the trip blank.

One equipment blank (from SDG PH135) was collected and analyzed for SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables, dioxins, formaldehyde and hexavalent chromium. The equipment blank had detections for SVOCs, metals and dioxins. The associated sample results were not detected or were significantly greater than the concentrations found in the equipment blanks, therefore no data were qualified. The details are provided in Enclosure II.

One field blank (from SDG PH032) was collected and analyzed for SVOCs, PCBs, metals, TPH as gasoline, TPH as extractables, dioxins, formaldehyde and hexavalent chromium. The field blank had detections for SVOCs, metals and dioxins. The associated sample results were qualified as non-detected (U) due to field blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the field blank were not qualified. The field blank outlier reports are presented in Enclosures I and II.

XV. Overall Assessment of Data

One benzidine result was rejected due to MS/MSD %Rs grossly outside of QC limits. This result is not useable for all purposes.

The overall assessment of QA/QC data review by automated and manual validation of this sampling event met project requirements and analytical completeness levels with the exceptions noted in the above sections. The remainder of the data are deemed useable for the intended use.

Data flags are summarized and are presented as Attachment 2.

Attachment 1

Sample Cross Reference

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|-------------------------|---------------|-------------|-------------|-------------------|--------------|
| 25-Nov-2013 | TB-112513 | 7293070 | TB | 5030B | 8015M | IV |
| 25-Nov-2013 | SL-584-SA5A-SB-0.0-0.5 | 7293060 | N | 3050B | 6010C | IV |
| 25-Nov-2013 | SL-584-SA5A-SB-0.0-0.5 | 7293060 | N | 3050B | 6020A | IV |
| 25-Nov-2013 | SL-584-SA5A-SB-0.0-0.5 | 7293060 | N | 3546 | 8015M | IV |
| 25-Nov-2013 | SL-584-SA5A-SB-0.0-0.5 | 7293060 | N | 3546 | 8082A | IV |
| 25-Nov-2013 | SL-584-SA5A-SB-0.0-0.5 | 7293060 | N | 3546 | 8270D SIM | IV |
| 25-Nov-2013 | SL-584-SA5A-SB-0.0-0.5 | 7293060 | N | METHOD | 1613B | IV |
| 25-Nov-2013 | SL-584-SA5A-SB-0.0-0.5 | 7293060 | N | METHOD | 7471B | IV |
| 25-Nov-2013 | SL-1015-SA5A-SB-0.0-0.5 | 7293069 | FD | 3050B | 6010C | IV |
| 25-Nov-2013 | SL-1015-SA5A-SB-0.0-0.5 | 7293069 | FD | 3050B | 6020A | IV |
| 25-Nov-2013 | SL-1015-SA5A-SB-0.0-0.5 | 7293069 | FD | 3060A | 7199 | IV |
| 25-Nov-2013 | SL-1015-SA5A-SB-0.0-0.5 | 7293069 | FD | 3546 | 8015M | IV |
| 25-Nov-2013 | SL-1015-SA5A-SB-0.0-0.5 | 7293069 | FD | 3546 | 8082A | IV |
| 25-Nov-2013 | SL-1015-SA5A-SB-0.0-0.5 | 7293069 | FD | 3546 | 8270D | IV |
| 25-Nov-2013 | SL-1015-SA5A-SB-0.0-0.5 | 7293069 | FD | 3546 | 8270D SIM | IV |
| 25-Nov-2013 | SL-1015-SA5A-SB-0.0-0.5 | 7293069 | FD | METHOD | 1613B | IV |
| 25-Nov-2013 | SL-1015-SA5A-SB-0.0-0.5 | 7293069 | FD | METHOD | 7471B | IV |
| 25-Nov-2013 | SL-1015-SA5A-SB-0.0-0.5 | 7293069 | FD | METHOD | 8315A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5 | 7293061 | N | 3050B | 6010C | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5 | 7293061 | N | 3050B | 6020A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5 | 7293061 | N | 3060A | 7199 | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5 | 7293061 | N | 3546 | 8015M | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5 | 7293061 | N | 3546 | 8082A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5 | 7293061 | N | 3546 | 8270D | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5 | 7293061 | N | 3546 | 8270D SIM | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5 | 7293061 | N | METHOD | 1613B | IV |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|---------------------------|---------------|-------------|-------------|-------------------|--------------|
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5 | 7293061 | N | METHOD | 7471B | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5 | 7293061 | N | METHOD | 8315A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MS | 7293062 | MS | 3050B | 6010C | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MS | 7293062 | MS | 3050B | 6020A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MS | 7293062 | MS | 3546 | 8015M | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MS | 7293062 | MS | 3546 | 8082A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MS | 7293062 | MS | 3546 | 8270D | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MS | 7293062 | MS | 3546 | 8270D SIM | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MS | 7293062 | MS | METHOD | 1613B | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MS | 7293062 | MS | METHOD | 7471B | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MS | 7293062 | MS | METHOD | 8315A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MSD | 7293063 | MSD | 3050B | 6010C | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MSD | 7293063 | MSD | 3050B | 6020A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MSD | 7293063 | MSD | 3546 | 8015M | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MSD | 7293063 | MSD | 3546 | 8082A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MSD | 7293063 | MSD | 3546 | 8270D | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MSD | 7293063 | MSD | 3546 | 8270D SIM | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MSD | 7293063 | MSD | METHOD | 1613B | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MSD | 7293063 | MSD | METHOD | 7471B | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MSD | 7293063 | MSD | METHOD | 8315A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MS | 7293064 | MS | 3060A | 7199 | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5MS | 7293065 | MS | 3060A | 7199 | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5DUP | 7293067 | DUP | 3050B | 6010C | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5DUP | 7293067 | DUP | 3050B | 6020A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5DUP | 7293067 | DUP | 3060A | 7199 | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-0.0-0.5DUP | 7293067 | DUP | METHOD | 7471B | IV |

Sample Cross Reference

| Date Collected | Field Sample ID | Lab Sample ID | Sample Type | Prep Method | Analytical Method | Review Level |
|----------------|------------------------|---------------|-------------|-------------|-------------------|--------------|
| 25-Nov-2013 | SL-715-SA5A-SB-6.0-7.0 | 7293068 | N | 3050B | 6010C | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-6.0-7.0 | 7293068 | N | 3050B | 6020A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-6.0-7.0 | 7293068 | N | 3060A | 7199 | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-6.0-7.0 | 7293068 | N | 3546 | 8015M | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-6.0-7.0 | 7293068 | N | 3546 | 8082A | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-6.0-7.0 | 7293068 | N | 3546 | 8270D | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-6.0-7.0 | 7293068 | N | 3546 | 8270D SIM | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-6.0-7.0 | 7293068 | N | 5035A | 8015M | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-6.0-7.0 | 7293068 | N | METHOD | 1613B | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-6.0-7.0 | 7293068 | N | METHOD | 7471B | IV |
| 25-Nov-2013 | SL-715-SA5A-SB-6.0-7.0 | 7293068 | N | METHOD | 8315A | IV |
| 25-Nov-2013 | SL-631-SA5A-SB-0.0-0.5 | 7293071 | N | 3050B | 6010C | IV |
| 25-Nov-2013 | SL-631-SA5A-SB-0.0-0.5 | 7293071 | N | 3050B | 6020A | IV |
| 25-Nov-2013 | SL-631-SA5A-SB-0.0-0.5 | 7293071 | N | 3546 | 8015M | IV |
| 25-Nov-2013 | SL-631-SA5A-SB-0.0-0.5 | 7293071 | N | 3546 | 8082A | IV |
| 25-Nov-2013 | SL-631-SA5A-SB-0.0-0.5 | 7293071 | N | 3546 | 8270D SIM | IV |
| 25-Nov-2013 | SL-631-SA5A-SB-0.0-0.5 | 7293071 | N | METHOD | 1613B | IV |
| 25-Nov-2013 | SL-631-SA5A-SB-0.0-0.5 | 7293071 | N | METHOD | 7471B | IV |

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-1015-SA5A-SB-0.0-0.5

Collected: 11/25/2013 10:02:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.02 | U | 0.744 | MDL | 4.02 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.56 | J | 0.704 | MDL | 4.02 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.661 | J | 0.0674 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 10.1 | U | 0.845 | MDL | 10.1 | PQL | mg/Kg | UJ | FD |
| POTASSIUM | 2630 | | 8.39 | MDL | 101 | PQL | mg/Kg | J | Q |
| SODIUM | 96.4 | J | 16.8 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 3.00 | J | 0.221 | MDL | 10.1 | PQL | mg/Kg | U | B |
| ZINC | 132 | | 0.201 | MDL | 4.02 | PQL | mg/Kg | J | Q |
| Zirconium | 2.73 | J | 0.845 | MDL | 5.03 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.429 | J | 0.171 | MDL | 2.01 | PQL | mg/Kg | U | F |

Sample ID: SL-584-SA5A-SB-0.0-0.5

Collected: 11/25/2013 8:50:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.05 | U | 0.750 | MDL | 4.05 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 2.95 | J | 0.709 | MDL | 4.05 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.605 | J | 0.0679 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| BORON | 1.60 | J | 0.851 | MDL | 10.1 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.321 | J | 0.172 | MDL | 2.03 | PQL | mg/Kg | U | F |
| POTASSIUM | 3420 | | 8.45 | MDL | 101 | PQL | mg/Kg | J | Q |
| SODIUM | 88.1 | J | 16.9 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 2.94 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| ZINC | 60.5 | | 0.203 | MDL | 4.05 | PQL | mg/Kg | J | Q |
| Zirconium | 3.14 | J | 0.851 | MDL | 5.07 | PQL | mg/Kg | J | Z |

Sample ID: SL-631-SA5A-SB-0.0-0.5

Collected: 11/25/2013 2:20:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.05 | U | 0.749 | MDL | 4.05 | PQL | mg/Kg | UJ | Q |
| BERYLLIUM | 0.643 | J | 0.0678 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.379 | J | 0.172 | MDL | 2.02 | PQL | mg/Kg | U | F |
| POTASSIUM | 3570 | | 8.44 | MDL | 101 | PQL | mg/Kg | J | Q |
| SODIUM | 91.3 | J | 16.9 | MDL | 101 | PQL | mg/Kg | J | Z |
| TIN | 2.90 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| ZINC | 62.1 | | 0.202 | MDL | 4.05 | PQL | mg/Kg | J | Q |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

2/20/2014 11:08:53 AM

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Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6010C

Matrix: SO

Sample ID: SL-631-SA5A-SB-0.0-0.5

Collected: 11/25/2013 2:20:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-----------|------------|----------|-------|---------|------|---------|-------|------------------|-------------|
| Zirconium | 3.50 | J | 0.850 | MDL | 5.06 | PQL | mg/Kg | J | Z |

Sample ID: SL-715-SA5A-SB-0.0-0.5

Collected: 11/25/2013 10:10:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.08 | U | 0.755 | MDL | 4.08 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.16 | J | 0.714 | MDL | 4.08 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.619 | J | 0.0684 | MDL | 1.02 | PQL | mg/Kg | J | Z |
| BORON | 2.03 | J | 0.857 | MDL | 10.2 | PQL | mg/Kg | J | Z, FD |
| MOLYBDENUM | 0.439 | J | 0.173 | MDL | 2.04 | PQL | mg/Kg | U | F |
| POTASSIUM | 3200 | | 8.51 | MDL | 102 | PQL | mg/Kg | J | Q |
| SODIUM | 96.9 | J | 17.0 | MDL | 102 | PQL | mg/Kg | J | Z |
| TIN | 3.10 | J | 0.224 | MDL | 10.2 | PQL | mg/Kg | U | B |
| ZINC | 116 | | 0.204 | MDL | 4.08 | PQL | mg/Kg | J | Q |
| Zirconium | 2.64 | J | 0.857 | MDL | 5.10 | PQL | mg/Kg | J | Z |

Sample ID: SL-715-SA5A-SB-6.0-7.0

Collected: 11/25/2013 11:50:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| ANTIMONY | 4.06 | U | 0.750 | MDL | 4.06 | PQL | mg/Kg | UJ | Q |
| ARSENIC | 3.91 | J | 0.710 | MDL | 4.06 | PQL | mg/Kg | J | Z |
| BERYLLIUM | 0.619 | J | 0.0679 | MDL | 1.01 | PQL | mg/Kg | J | Z |
| MOLYBDENUM | 0.322 | J | 0.172 | MDL | 2.03 | PQL | mg/Kg | U | F |
| POTASSIUM | 2070 | | 8.46 | MDL | 101 | PQL | mg/Kg | J | Q |
| TIN | 2.97 | J | 0.223 | MDL | 10.1 | PQL | mg/Kg | U | B |
| ZINC | 65.5 | | 0.203 | MDL | 4.06 | PQL | mg/Kg | J | Q |
| Zirconium | 2.73 | J | 0.852 | MDL | 5.07 | PQL | mg/Kg | J | Z |

Method Category: METALS

Method: 6020A

Matrix: SO

Sample ID: SL-1015-SA5A-SB-0.0-0.5

Collected: 11/25/2013 10:02:00

Analysis Type: REA

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.208 | J | 0.101 | MDL | 0.402 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS

Method: 6020A

Matrix: SO

Sample ID: SL-1015-SA5A-SB-0.0-0.5

Collected: 11/25/2013 10:02:00

Analysis Type: RES

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 3.03 | | 0.0261 | MDL | 0.201 | PQL | mg/Kg | J | FD |

Sample ID: SL-584-SA5A-SB-0.0-0.5

Collected: 11/25/2013 8:50:00

Analysis Type: REA

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.123 | J | 0.101 | MDL | 0.405 | PQL | mg/Kg | J | Z |

Sample ID: SL-584-SA5A-SB-0.0-0.5

Collected: 11/25/2013 8:50:00

Analysis Type: RES

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0282 | J | 0.0263 | MDL | 0.203 | PQL | mg/Kg | J | Z |

Sample ID: SL-631-SA5A-SB-0.0-0.5

Collected: 11/25/2013 2:20:00

Analysis Type: REA

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.164 | J | 0.101 | MDL | 0.405 | PQL | mg/Kg | J | Z |

Sample ID: SL-631-SA5A-SB-0.0-0.5

Collected: 11/25/2013 2:20:00

Analysis Type: RES

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 0.0441 | J | 0.0263 | MDL | 0.202 | PQL | mg/Kg | J | Z |

Sample ID: SL-715-SA5A-SB-0.0-0.5

Collected: 11/25/2013 10:10:00

Analysis Type: REA

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.184 | J | 0.102 | MDL | 0.408 | PQL | mg/Kg | J | Z |

Sample ID: SL-715-SA5A-SB-0.0-0.5

Collected: 11/25/2013 10:10:00

Analysis Type: RES

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| SILVER | 13.6 | | 0.0265 | MDL | 0.204 | PQL | mg/Kg | J | FD |

Sample ID: SL-715-SA5A-SB-6.0-7.0

Collected: 11/25/2013 11:50:00

Analysis Type: REA

Dilution: 2

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------|------------|----------|-------|---------|-------|---------|-------|------------------|-------------|
| SELENIUM | 0.107 | J | 0.101 | MDL | 0.406 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: METALS
Method: 6020A **Matrix:** SO

Method Category: METALS
Method: 7199 **Matrix:** SO

Sample ID: SL-1015-SA5A-SB-0.0-0.5 Collected: 11/25/2013 10:02:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|------|---------|-------|------------------|-------------|
| HEXAVALENT CHROMIUM | 3.1 | | 0.14 | MDL | 0.40 | PQL | mg/Kg | J | FD |

Sample ID: SL-715-SA5A-SB-0.0-0.5 Collected: 11/25/2013 10:10:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|------|---------|------|---------|-------|------------------|-------------|
| HEXAVALENT CHROMIUM | 1.1 | | 0.15 | MDL | 0.42 | PQL | mg/Kg | J | FD |

Method Category: METALS
Method: 7471B **Matrix:** SO

Sample ID: SL-584-SA5A-SB-0.0-0.5 Collected: 11/25/2013 8:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0108 | J | 0.0101 | MDL | 0.0168 | PQL | mg/Kg | J | Z |

Sample ID: SL-631-SA5A-SB-0.0-0.5 Collected: 11/25/2013 2:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------|------------|----------|--------|---------|--------|---------|-------|------------------|-------------|
| MERCURY | 0.0164 | J | 0.0101 | MDL | 0.0168 | PQL | mg/Kg | J | Z |

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-1015-SA5A-SB-0.0-0.5 Collected: 11/25/2013 10:02:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 547 | B | 0.240 | MDL | 5.11 | PQL | ng/Kg | J | FD |
| 1,2,3,4,6,7,8-HPCDF | 99.9 | B | 0.0464 | MDL | 5.11 | PQL | ng/Kg | J | FD |
| 1,2,3,4,7,8,9-HPCDF | 13.1 | B | 0.0639 | MDL | 5.11 | PQL | ng/Kg | J | FD |
| 1,2,3,4,7,8-HxCDD | 1.75 | JB | 0.0586 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDF | 2.88 | JB | 0.0661 | MDL | 5.11 | PQL | ng/Kg | J | Z, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-1015-SA5A-SB-0.0-0.5

Collected: 11/25/2013 10:02:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,6,7,8-HXCDD | 17.0 | B | 0.0598 | MDL | 5.11 | PQL | ng/Kg | J | FD |
| 1,2,3,6,7,8-HXCDF | 2.82 | JB | 0.0636 | MDL | 5.11 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HXCDD | 4.12 | JB | 0.0583 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.951 | JB | 0.0698 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 1.02 | JB | 0.0661 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.439 | JB | 0.0402 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 4.00 | JB | 0.0641 | MDL | 5.11 | PQL | ng/Kg | J | Z, FD |
| 2,3,4,7,8-PECDF | 0.577 | JBQ | 0.0400 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.262 | J | 0.0733 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.231 | J | 0.0872 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| OCDD | 29900 | BE | 0.272 | MDL | 10.2 | PQL | ng/Kg | J | FD, *XI |
| OCDF | 245 | B | 0.0825 | MDL | 10.2 | PQL | ng/Kg | J | FD |

Sample ID: SL-584-SA5A-SB-0.0-0.5

Collected: 11/25/2013 8:50:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 1.16 | JB | 0.0494 | MDL | 5.12 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.309 | JBQ | 0.0580 | MDL | 5.12 | PQL | ng/Kg | U | B |
| 1,2,3,4,7,8-HXCDF | 0.804 | JB | 0.0621 | MDL | 5.12 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDD | 1.25 | JB | 0.0616 | MDL | 5.12 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.466 | JB | 0.0588 | MDL | 5.12 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 0.637 | JB | 0.0581 | MDL | 5.12 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.624 | JB | 0.0664 | MDL | 5.12 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.228 | JBQ | 0.0601 | MDL | 5.12 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.311 | JB | 0.0419 | MDL | 5.12 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 0.547 | JB | 0.0589 | MDL | 5.12 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.266 | JB | 0.0381 | MDL | 5.12 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDF | 0.121 | J | 0.0792 | MDL | 1.02 | PQL | ng/Kg | J | Z |

Sample ID: SL-631-SA5A-SB-0.0-0.5

Collected: 11/25/2013 2:20:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 0.630 | JB | 0.0389 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 0.853 | JB | 0.0426 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 0.692 | JB | 0.0537 | MDL | 4.96 | PQL | ng/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 1613B

Matrix: SO

Sample ID: SL-631-SA5A-SB-0.0-0.5

Collected: 11/25/2013 2:20:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|--------|---------|-------|---------|-------|------------------|-------------|
| 1,2,3,6,7,8-HXCDD | 2.03 | JB | 0.0423 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 0.669 | JB | 0.0525 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDD | 1.48 | JB | 0.0412 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.481 | JB | 0.0563 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDD | 0.541 | JBQ | 0.0519 | MDL | 4.96 | PQL | ng/Kg | U | B |
| 1,2,3,7,8-PECDF | 0.652 | JB | 0.0506 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 2,3,4,6,7,8-HXCDF | 0.825 | JB | 0.0509 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 1.64 | JB | 0.0466 | MDL | 4.96 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDD | 0.234 | J | 0.0588 | MDL | 0.992 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.831 | J | 0.105 | MDL | 0.992 | PQL | ng/Kg | J | Z |

Sample ID: SL-715-SA5A-SB-0.0-0.5

Collected: 11/25/2013 10:10:00

Analysis Type: RES

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,6,7,8-HPCDD | 273 | B | 0.152 | MDL | 5.07 | PQL | ng/Kg | J | Q, Q, FD |
| 1,2,3,4,6,7,8-HPCDF | 35.5 | B | 0.0297 | MDL | 5.07 | PQL | ng/Kg | J | FD |
| 1,2,3,4,7,8,9-HPCDF | 4.62 | JB | 0.0405 | MDL | 5.07 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,4,7,8-HxCDD | 1.46 | JB | 0.0435 | MDL | 5.07 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDF | 1.55 | JB | 0.0510 | MDL | 5.07 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,6,7,8-HXCDD | 8.18 | B | 0.0456 | MDL | 5.07 | PQL | ng/Kg | J | FD |
| 1,2,3,6,7,8-HXCDF | 1.42 | JB | 0.0480 | MDL | 5.07 | PQL | ng/Kg | J | Z, FD |
| 1,2,3,7,8,9-HXCDD | 3.15 | JB | 0.0438 | MDL | 5.07 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.585 | JBQ | 0.0584 | MDL | 5.07 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.914 | JB | 0.0607 | MDL | 5.07 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.497 | JB | 0.0338 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 1.98 | JB | 0.0496 | MDL | 5.07 | PQL | ng/Kg | J | Z, FD |
| 2,3,4,7,8-PECDF | 0.580 | JB | 0.0320 | MDL | 5.07 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.301 | J | 0.0599 | MDL | 1.01 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.314 | J | 0.0792 | MDL | 1.01 | PQL | ng/Kg | J | Z |
| OCDD | 10200 | BE | 0.160 | MDL | 10.1 | PQL | ng/Kg | J | FD, *XI |
| OCDF | 91.9 | B | 0.0606 | MDL | 10.1 | PQL | ng/Kg | J | FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 1613B **Matrix:** SO

Sample ID: SL-715-SA5A-SB-6.0-7.0 Collected: 11/25/2013 11:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|--------|---------|------|---------|-------|------------------|-------------|
| 1,2,3,4,7,8,9-HPCDF | 2.95 | JB | 0.0460 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HxCDD | 1.49 | JB | 0.0537 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,4,7,8-HXCDF | 1.39 | JB | 0.0582 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,6,7,8-HXCDF | 1.20 | JB | 0.0567 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HxCDD | 2.83 | JB | 0.0509 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8,9-HXCDF | 0.562 | JB | 0.0543 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDD | 0.950 | JB | 0.0588 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 1,2,3,7,8-PECDF | 0.545 | JB | 0.0385 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 2,3,4,6,7,8-HXCDF | 1.60 | JB | 0.0544 | MDL | 5.11 | PQL | ng/Kg | J | Z |
| 2,3,4,7,8-PECDF | 0.616 | JB | 0.0359 | MDL | 5.11 | PQL | ng/Kg | U | B |
| 2,3,7,8-TCDD | 0.296 | J | 0.0637 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| 2,3,7,8-TCDF | 0.417 | J | 0.0876 | MDL | 1.02 | PQL | ng/Kg | J | Z |
| OCDD | 5390 | BE | 0.227 | MDL | 10.2 | PQL | ng/Kg | J | *XI |

Method Category: SVOA
Method: 8015M **Matrix:** SO

Sample ID: SL-1015-SA5A-SB-0.0-0.5 Collected: 11/25/2013 10:02:00 Analysis Type: RES Dilution: 5

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 32 | | 10 | MDL | 26 | PQL | mg/Kg | J | FD |
| EFH (C30-C40) | 180 | | 20 | MDL | 51 | PQL | mg/Kg | J | FD |

Sample ID: SL-584-SA5A-SB-0.0-0.5 Collected: 11/25/2013 8:50:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 4.7 | J | 2.1 | MDL | 5.2 | PQL | mg/Kg | J | Z |

Sample ID: SL-631-SA5A-SB-0.0-0.5 Collected: 11/25/2013 2:20:00 Analysis Type: RES Dilution: 5

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| EFH (C15-C20) | 10 | J | 10 | MDL | 25 | PQL | mg/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 8015M **Matrix:** SO

Sample ID: SL-715-SA5A-SB-0.0-0.5 Collected: 11/25/2013 10:10:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 12 | | 2.0 | MDL | 5.1 | PQL | mg/Kg | J | FD |
| EFH (C30-C40) | 32 | | 4.1 | MDL | 10 | PQL | mg/Kg | J | Q, FD |

Sample ID: SL-715-SA5A-SB-6.0-7.0 Collected: 11/25/2013 11:50:00 Analysis Type: REA Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| EFH (C21-C30) | 5.0 | J | 2.1 | MDL | 5.1 | PQL | mg/Kg | J | Z |

Method Category: SVOA
Method: 8082A **Matrix:** SO

Sample ID: SL-631-SA5A-SB-0.0-0.5 Collected: 11/25/2013 2:20:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| Aroclor 5460 | 14 | J | 10 | MDL | 34 | PQL | ug/Kg | J | Z |

Method Category: SVOA
Method: 8270D **Matrix:** SO

Sample ID: SL-1015-SA5A-SB-0.0-0.5 Collected: 11/25/2013 10:02:00 Analysis Type: RES Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| 2-BUTOXY-ETHANOL | 170 | U | 170 | MDL | 170 | PQL | ug/Kg | UJ | C |
| 2-PHENOXY-ETHANOL | 170 | U | 170 | MDL | 170 | PQL | ug/Kg | UJ | C |
| Tetralin | 170 | U | 34 | MDL | 170 | PQL | ug/Kg | UJ | C |

Sample ID: SL-1015-SA5A-SB-0.0-0.5 Collected: 11/25/2013 10:02:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| BENZO(A)ANTHRACENE | 9 | J | 3 | MDL | 17 | PQL | ug/Kg | J | Z, FD |
| BENZO(A)PYRENE | 13 | J | 3 | MDL | 17 | PQL | ug/Kg | J | Z, FD |
| BENZO(B)FLUORANTHENE | 16 | J | 3 | MDL | 17 | PQL | ug/Kg | J | Z, FD |
| BENZO(K)FLUORANTHENE | 9 | J | 3 | MDL | 17 | PQL | ug/Kg | J | Z, FD |
| CHRYSENE | 13 | J | 3 | MDL | 17 | PQL | ug/Kg | J | Z, FD |
| FLUORANTHENE | 22 | | 3 | MDL | 17 | PQL | ug/Kg | J | FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 8270D

Matrix: SO

Sample ID: SL-1015-SA5A-SB-0.0-0.5 **Collected:** 11/25/2013 10:02:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| PHENANTHRENE | 7 | J | 3 | MDL | 17 | PQL | ug/Kg | J | Z, FD |
| PYRENE | 21 | | 3 | MDL | 17 | PQL | ug/Kg | J | FD |

Sample ID: SL-715-SA5A-SB-0.0-0.5 **Collected:** 11/25/2013 10:10:00 **Analysis Type:** RES **Dilution:** 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| 2-BUTOXY-ETHANOL | 170 | U | 170 | MDL | 170 | PQL | ug/Kg | UJ | C |
| 2-PHENOXY-ETHANOL | 170 | U | 170 | MDL | 170 | PQL | ug/Kg | UJ | C |
| Tetralin | 170 | U | 34 | MDL | 170 | PQL | ug/Kg | UJ | C |

Sample ID: SL-715-SA5A-SB-0.0-0.5 **Collected:** 11/25/2013 10:10:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|-----|---------|------|---------|-------|------------------|-------------|
| BENZIDINE | 1700 | U | 710 | MDL | 1700 | PQL | ug/Kg | R | Q |
| BENZO(A)ANTHRACENE | 17 | U | 3 | MDL | 17 | PQL | ug/Kg | UJ | FD |
| BENZO(A)PYRENE | 17 | U | 3 | MDL | 17 | PQL | ug/Kg | UJ | FD |
| BENZO(B)FLUORANTHENE | 17 | U | 3 | MDL | 17 | PQL | ug/Kg | UJ | FD |
| BENZO(K)FLUORANTHENE | 17 | U | 3 | MDL | 17 | PQL | ug/Kg | UJ | FD |
| CHRYSENE | 17 | U | 3 | MDL | 17 | PQL | ug/Kg | UJ | FD |
| FLUORANTHENE | 17 | U | 3 | MDL | 17 | PQL | ug/Kg | UJ | FD |
| PHENANTHRENE | 17 | U | 3 | MDL | 17 | PQL | ug/Kg | UJ | FD |
| PYRENE | 17 | U | 3 | MDL | 17 | PQL | ug/Kg | UJ | FD |

Sample ID: SL-715-SA5A-SB-6.0-7.0 **Collected:** 11/25/2013 11:50:00 **Analysis Type:** RES **Dilution:** 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|-------------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| 2-BUTOXY-ETHANOL | 180 | U | 180 | MDL | 180 | PQL | ug/Kg | UJ | C |
| 2-PHENOXY-ETHANOL | 180 | U | 180 | MDL | 180 | PQL | ug/Kg | UJ | C |
| Tetralin | 170 | U | 34 | MDL | 170 | PQL | ug/Kg | UJ | C |

Sample ID: SL-715-SA5A-SB-6.0-7.0 **Collected:** 11/25/2013 11:50:00 **Analysis Type:** RES-BASE/NEUTRAL **Dilution:** 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| BENZO(A)ANTHRACENE | 14 | J | 3 | MDL | 18 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 11 | J | 3 | MDL | 18 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

2/20/2014 11:08:53 AM

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Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 8270D

Matrix: SO

Sample ID: SL-715-SA5A-SB-6.0-7.0

Collected: 11/25/2013 11:50:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|----|---------|----|---------|-------|------------------|-------------|
| BENZO(B)FLUORANTHENE | 11 | J | 3 | MDL | 18 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 8 | J | 3 | MDL | 18 | PQL | ug/Kg | J | Z |
| CHRYSENE | 11 | J | 3 | MDL | 18 | PQL | ug/Kg | J | Z |
| FLUORANTHENE | 14 | J | 3 | MDL | 18 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 4 | J | 3 | MDL | 18 | PQL | ug/Kg | J | Z |
| PYRENE | 14 | J | 3 | MDL | 18 | PQL | ug/Kg | J | Z |

Method Category: SVOA

Method: 8270D SIM

Matrix: SO

Sample ID: SL-1015-SA5A-SB-0.0-0.5

Collected: 11/25/2013 10:02:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 2.8 | | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BENZO(A)ANTHRACENE | 13 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BENZO(A)PYRENE | 11 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BENZO(B)FLUORANTHENE | 16 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BENZO(E)PYRENE | 8.4 | J | 3.4 | MDL | 17 | PQL | ug/Kg | J | Z, FD |
| BENZO(G,H,I)PERYLENE | 5.9 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BENZO(K)FLUORANTHENE | 8.2 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| BIS(2-ETHYLHEXYL)PHTHALATE | 18 | J | 6.1 | MDL | 18 | PQL | ug/Kg | J | FD |
| CHRYSENE | 15 | | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| DIBENZO(A,H)ANTHRACENE | 1.8 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| Di-n-octylphthalate | 18 | U | 6.1 | MDL | 18 | PQL | ug/Kg | UJ | C |
| FLUORANTHENE | 28 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| INDENO(1,2,3-CD)PYRENE | 5.7 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| PHENANTHRENE | 12 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |
| PYRENE | 21 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | FD |

Sample ID: SL-584-SA5A-SB-0.0-0.5

Collected: 11/25/2013 8:50:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|--------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 0.41 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(A)ANTHRACENE | 1.4 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

2/20/2014 11:08:53 AM

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Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA
Method: 8270D SIM **Matrix:** SO

Sample ID: SL-584-SA5A-SB-0.0-0.5 Collected: 11/25/2013 8:50:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BENZO(A)PYRENE | 1.5 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 1.2 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 1.5 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 9.1 | J | 6.2 | MDL | 19 | PQL | ug/Kg | U | F |
| Di-n-octylphthalate | 19 | U | 6.2 | MDL | 19 | PQL | ug/Kg | UJ | C |
| INDENO(1,2,3-CD)PYRENE | 0.86 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| PHENANTHRENE | 1.6 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |

Sample ID: SL-631-SA5A-SB-0.0-0.5 Collected: 11/25/2013 2:20:00 Analysis Type: RES Dilution: 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|---------------------|------------|----------|-----|---------|----|---------|-------|------------------|-------------|
| 1-METHYLNAPHTHALENE | 13 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |

Sample ID: SL-631-SA5A-SB-0.0-0.5 Collected: 11/25/2013 2:20:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 10

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|-----|---------|-----|---------|-------|------------------|-------------|
| 2-METHYLNAPHTHALENE | 12 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |
| BENZO(A)ANTHRACENE | 9.4 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |
| BENZO(A)PYRENE | 9.2 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |
| BENZO(G,H,I)PERYLENE | 9.2 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |
| BENZO(K)FLUORANTHENE | 6.8 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |
| BIS(2-ETHYLHEXYL)PHTHALATE | 64 | J | 61 | MDL | 180 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 180 | U | 61 | MDL | 180 | PQL | ug/Kg | UJ | C |
| NAPHTHALENE | 7.0 | J | 6.8 | MDL | 17 | PQL | ug/Kg | J | Z |

Sample ID: SL-715-SA5A-SB-0.0-0.5 Collected: 11/25/2013 10:10:00 Analysis Type: RES-BASE/NEUTRAL Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 0.43 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z, Q, FD |
| BENZO(A)ANTHRACENE | 1.2 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, Q, FD |
| BENZO(A)PYRENE | 1.3 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, Q, FD |
| BENZO(B)FLUORANTHENE | 2.3 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q, FD |
| BENZO(E)PYRENE | 17 | U | 3.4 | MDL | 17 | PQL | ug/Kg | UJ | FD |
| BENZO(G,H,I)PERYLENE | 0.88 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, Q, FD |
| BENZO(K)FLUORANTHENE | 1.3 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, Q, FD |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Method Category: SVOA

Method: 8270D SIM

Matrix: SO

Sample ID: SL-715-SA5A-SB-0.0-0.5

Collected: 11/25/2013 10:10:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|----------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| BIS(2-ETHYLHEXYL)PHTHALATE | 8.1 | J | 6.1 | MDL | 18 | PQL | ug/Kg | UJ | FD, F |
| CHRYSENE | 2.2 | | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Q, FD |
| DIBENZO(A,H)ANTHRACENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| Di-n-octylphthalate | 18 | U | 6.1 | MDL | 18 | PQL | ug/Kg | UJ | C |
| FLUORANTHENE | 2.9 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q, FD |
| INDENO(1,2,3-CD)PYRENE | 1.7 | U | 0.68 | MDL | 1.7 | PQL | ug/Kg | UJ | FD |
| PHENANTHRENE | 1.4 | J | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Z, Q, Q, FD |
| PYRENE | 2.4 | | 0.68 | MDL | 1.7 | PQL | ug/Kg | J | Q, FD |

Sample ID: SL-715-SA5A-SB-6.0-7.0

Collected: 11/25/2013 11:50:00

Analysis Type: RES-BASE/NEUTRAL

Dilution: 1

| Analyte | Lab Result | Lab Qual | DL | DL Type | RL | RL Type | Units | Data Review Qual | Reason Code |
|------------------------|------------|----------|------|---------|-----|---------|-------|------------------|-------------|
| ANTHRACENE | 0.94 | J | 0.34 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| BENZO(E)PYRENE | 5.2 | J | 3.4 | MDL | 18 | PQL | ug/Kg | J | Z |
| DIBENZO(A,H)ANTHRACENE | 1.3 | J | 0.69 | MDL | 1.7 | PQL | ug/Kg | J | Z |
| Di-n-octylphthalate | 19 | U | 6.2 | MDL | 19 | PQL | ug/Kg | UJ | C |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Data Qualifier Summary

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PrepPH134

eQAPP Name: CDM_SSFL_140113_Lan

Reason Code Legend

| <i>Reason Code</i> | <i>Description</i> |
|--------------------|---|
| *XI | Exceeded Calibration Range |
| A | Professional Judgment |
| B | Method Blank Contamination |
| C | Continuing Calibration Verification Percent Difference Lower Estimation |
| C | Initial Calibration Percent Relative Standard Deviation |
| E | Laboratory Duplicate Precision |
| E | Matrix Spike Precision |
| F | Field Blank Contamination |
| FD | Field Duplicate Precision |
| L | Laboratory Control Spike Upper Estimation |
| Q | Laboratory Duplicate Precision |
| Q | Matrix Spike Lower Estimation |
| Q | Matrix Spike Lower Rejection |
| Q | Matrix Spike Precision |
| Q | Matrix Spike Upper Estimation |
| S | Surrogate/Tracer Recovery Upper Estimation |
| Z | Reporting Limit Trace Value |

* denotes a non-reportable result

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Enclosure I
EPA Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

PH134

Method Blank Outlier Report

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B

Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|------------------------|---|--|---|
| BLK3440B371048 | 12/12/2013 10:48:00 AM | 1,2,3,4,6,7,8-HPCDD 1,2,3,4,6,7,8-HPCDF 1,2,3,4,7,8,9-HPCDF 1,2,3,4,7,8-HxCDD 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDD 1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD 1,2,3,7,8,9-HxCDF 1,2,3,7,8-PECDD 1,2,3,7,8-PECDF 2,3,4,6,7,8-HxCDF 2,3,4,7,8-PECDF OCDD OCDF | 0.132 ng/Kg 0.163 ng/Kg 0.0441 ng/Kg 0.0900 ng/Kg 0.101 ng/Kg 0.0931 ng/Kg 0.0928 ng/Kg 0.0692 ng/Kg 0.0980 ng/Kg 0.153 ng/Kg 0.126 ng/Kg 0.0920 ng/Kg 0.163 ng/Kg 0.431 ng/Kg 0.239 ng/Kg | SL-1015-SA5A-SB-0.0-0.5 SL-584-SA5A-SB-0.0-0.5 SL-631-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|-------------------|-----------------|-----------------------|
| SL-1015-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.439 ng/Kg | 0.439U ng/Kg |
| SL-1015-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.577 ng/Kg | 0.577U ng/Kg |
| SL-584-SA5A-SB-0.0-0.5(RES) | 1,2,3,4,7,8-HxCDD | 0.309 ng/Kg | 0.309U ng/Kg |
| SL-584-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.228 ng/Kg | 0.228U ng/Kg |
| SL-584-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.311 ng/Kg | 0.311U ng/Kg |
| SL-584-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.266 ng/Kg | 0.266U ng/Kg |
| SL-631-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8,9-HxCDF | 0.481 ng/Kg | 0.481U ng/Kg |
| SL-631-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDD | 0.541 ng/Kg | 0.541U ng/Kg |
| SL-715-SA5A-SB-0.0-0.5(RES) | 1,2,3,7,8-PECDF | 0.497 ng/Kg | 0.497U ng/Kg |
| SL-715-SA5A-SB-0.0-0.5(RES) | 2,3,4,7,8-PECDF | 0.580 ng/Kg | 0.580U ng/Kg |
| SL-715-SA5A-SB-6.0-7.0(RES) | 1,2,3,7,8-PECDF | 0.545 ng/Kg | 0.545U ng/Kg |
| SL-715-SA5A-SB-6.0-7.0(RES) | 2,3,4,7,8-PECDF | 0.616 ng/Kg | 0.616U ng/Kg |

Method: 6010C

Matrix: SO

| Method Blank Sample ID | Analysis Date | Analyte | Result | Associated Samples |
|------------------------|------------------------|-----------------------------|--|---|
| P34337AB221054 | 12/10/2013 10:54:00 AM | CALCIUM MAGNESIUM TIN | 5.64 mg/Kg 1.91 mg/Kg 1.58 mg/Kg | SL-1015-SA5A-SB-0.0-0.5 SL-584-SA5A-SB-0.0-0.5 SL-631-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|---------|-----------------|-----------------------|
| SL-1015-SA5A-SB-0.0-0.5(RES) | TIN | 3.00 mg/Kg | 3.00U mg/Kg |
| SL-584-SA5A-SB-0.0-0.5(RES) | TIN | 2.94 mg/Kg | 2.94U mg/Kg |
| SL-631-SA5A-SB-0.0-0.5(RES) | TIN | 2.90 mg/Kg | 2.90U mg/Kg |
| SL-715-SA5A-SB-0.0-0.5(RES) | TIN | 3.10 mg/Kg | 3.10U mg/Kg |
| SL-715-SA5A-SB-6.0-7.0(RES) | TIN | 2.97 mg/Kg | 2.97U mg/Kg |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Field Blank Outlier Report

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|-------------------|----------------------------|---|
| FB-041613(REA2/TOT) | 4/16/2013 3:15:00 PM | MOLYBDENUM TIN | 0.0132 mg/L 0.0029 mg/L | SL-1015-SA5A-SB-0.0-0.5 SL-584-SA5A-SB-0.0-0.5 SL-631-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|------------------------------|------------|-----------------|-----------------------|
| SL-1015-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.429 mg/Kg | 0.429U mg/Kg |
| SL-584-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.321 mg/Kg | 0.321U mg/Kg |
| SL-631-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.379 mg/Kg | 0.379U mg/Kg |
| SL-715-SA5A-SB-0.0-0.5(RES) | MOLYBDENUM | 0.439 mg/Kg | 0.439U mg/Kg |
| SL-715-SA5A-SB-6.0-7.0(RES) | MOLYBDENUM | 0.322 mg/Kg | 0.322U mg/Kg |

Method: 8270D SIM
Matrix: SO

| Field Blank Sample ID | Collected Date | Analyte | Result | Associated Samples |
|-----------------------|----------------------|--|--------------------------------------|---|
| FB-041613(RES) | 4/16/2013 3:15:00 PM | 2-METHYLNAPHTHALENE BIS(2-ETHYLHEXYL)PHTHALATE Di-n-butylphthalate | 0.012 ug/L 0.25 ug/L 0.11 ug/L | SL-1015-SA5A-SB-0.0-0.5 SL-584-SA5A-SB-0.0-0.5 SL-631-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0 |

The following samples and their listed target analytes were qualified due to contamination reported in this blank

| Sample ID | Analyte | Reported Result | Modified Final Result |
|-----------------------------|----------------------------|-----------------|-----------------------|
| SL-584-SA5A-SB-0.0-0.5(RES) | BIS(2-ETHYLHEXYL)PHTHALATE | 9.1 ug/Kg | 19U ug/Kg |
| SL-715-SA5A-SB-0.0-0.5(RES) | BIS(2-ETHYLHEXYL)PHTHALATE | 8.1 ug/Kg | 18U ug/Kg |

Surrogate Outlier Report

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8082A

Matrix: SO

| <i>Sample ID (Analysis Type)</i> | <i>Surrogate</i> | <i>Sample % Recovery</i> | <i>% Recovery Limits</i> | <i>Affected Compounds</i> | <i>Flag</i> |
|--------------------------------------|--------------------|------------------------------|------------------------------|-------------------------------|-----------------|
| SL-1015-SA5A-SB-0.0-0.5 | DECACHLOROBIPHENYL | 190 | 45.00-120.00 | All Target Analytes | J (all detects) |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8015M

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------|----------|-----------|--------------|-----------------|-----------------------|---------------------------------------|
| SL-715-SA5A-SB-0.0-0.5MSD (SL-715-SA5A-SB-0.0-0.5) | EFH (C15-C20) | - | 129 | 49.00-123.00 | - | EFH (C15-C20) | J (all detects) |
| SL-715-SA5A-SB-0.0-0.5MS (SL-715-SA5A-SB-0.0-0.5) | EFH (C30-C40) | 48 | - | 49.00-123.00 | - | EFH (C30-C40) | J(all detects) UJ(all non-detects) |

Method: 1613B

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|-----------------------------|--------------|-----------|------------------------------|---------------------------|-----------------------------|--|
| SL-715-SA5A-SB-0.0-0.5MS SL-715-SA5A-SB-0.0-0.5MSD (SL-715-SA5A-SB-0.0-0.5) | 1,2,3,4,6,7,8-HPCCD OCDD | -32 -3103 | - 1390 | 40.00-135.00 40.00-135.00 | 45 (20.00) 105 (20.00) | 1,2,3,4,6,7,8-HPCCD OCDD | J(all detects) R(all non-detects) OCDD, No Qual, >4x |

Method: 8270D SIM

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|--|--|--|--|---|--|-----------------|
| SL-715-SA5A-SB-0.0-0.5MS SL-715-SA5A-SB-0.0-0.5MSD (SL-715-SA5A-SB-0.0-0.5) | ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)PYRENE BENZO(B)FLUORANTHENE BENZO(E)PYRENE BENZO(G,H,I)PERYLENE BENZO(K)FLUORANTHENE CHRYSENE FLUORANTHENE INDENO(1,2,3-CD)PYRENE PHENANTHRENE PYRENE | 160 333 284 342 229 - 242 318 680 147 361 523 | 136 375 337 441 254 146 249 366 599 160 243 490 | 52.00-126.00 44.00-143.00 44.00-140.00 26.00-142.00 70.00-130.00 33.00-141.00 54.00-142.00 29.00-148.00 40.00-148.00 17.00-136.00 29.00-142.00 26.00-143.00 | - - - - - - - - - - 39 (30.00) - | ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)PYRENE BENZO(B)FLUORANTHENE BENZO(E)PYRENE BENZO(G,H,I)PERYLENE BENZO(K)FLUORANTHENE CHRYSENE FLUORANTHENE INDENO(1,2,3-CD)PYRENE PHENANTHRENE PYRENE | J (all detects) |

Method: 8270D

Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|---|---------------------------------|----------|-----------|------------------------------|--------------------------|---------------------------------|--------------------------------------|
| SL-715-SA5A-SB-0.0-0.5MSD (SL-715-SA5A-SB-0.0-0.5) | 4-CHLOROANILINE BENZOIC ACID | - - | - - | 11.00-114.00 23.00-170.00 | 37 (30.00) 31 (30.00) | 4-CHLOROANILINE BENZOIC ACID | J (all detects) |
| SL-715-SA5A-SB-0.0-0.5MS SL-715-SA5A-SB-0.0-0.5MSD (SL-715-SA5A-SB-0.0-0.5) | BENZIDINE | 0 | 17 | 35.00-141.00 | 200 (30.00) | BENZIDINE | J(all detects) R(all non-detects) |

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6010C
Matrix: SO

| QC Sample ID (Associated Samples) | Compound | MS %R | MSD %R | %R Limits | RPD (Limits) | Affected Compounds | Flag |
|--|--|----------|-----------|------------------------------|-----------------|--|---|
| SL-715-SA5A-SB-0.0-0.5MS (TOT) SL-715-SA5A-SB-0.0-0.5MSD (TOT) (SL-1015-SA5A-SB-0.0-0.5 SL-584-SA5A-SB-0.0-0.5 SL-631-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0) | ALUMINUM CALCIUM MAGNESIUM MANGANESE POTASSIUM TITANIUM | 1327 | 1501 | 75.00-125.00 | - | ALUMINUM CALCIUM MAGNESIUM MANGANESE POTASSIUM TITANIUM | J(all detects) Al, Ca, Mg, Mn, Ti, No Qual, >4x |
| SL-715-SA5A-SB-0.0-0.5MS (TOT) SL-715-SA5A-SB-0.0-0.5MSD (TOT) (SL-1015-SA5A-SB-0.0-0.5 SL-584-SA5A-SB-0.0-0.5 SL-631-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0) | IRON | -227 | 390 | 75.00-125.00 | - | IRON | No Qual, >4x |
| SL-715-SA5A-SB-0.0-0.5MS (TOT) SL-715-SA5A-SB-0.0-0.5MSD (TOT) (SL-1015-SA5A-SB-0.0-0.5 SL-584-SA5A-SB-0.0-0.5 SL-631-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0) | ANTIMONY ZINC | 68 66 | 66 69 | 75.00-125.00 75.00-125.00 | - - | ANTIMONY ZINC | J(all detects) UJ(all non-detects) |

Lab Duplicate Outlier Report

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 7199

Matrix: SO

| QC Sample ID (Associated Sample ID) | Analyte | Sample RPD | eQAPP RPD | Flag |
|---|---------------------|---------------|--------------|------------------------------|
| SL-715-SA5A-SB-0.0-0.5DUP (TOT) (SL-1015-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0) | HEXAVALENT CHROMIUM | 53 | 20.00 | No Qual, OK by Difference |

Field Duplicate RPD Report

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 160.3M

Matrix: SO

| Analyte | Concentration (%) | | Sample RPD | eQAPP RPD | Flag |
|----------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-715-SA5A-SB-0.0-0.5 | SL-1015-SA5A-SB-0.0-0.5 | | | |
| MOISTURE | 2.0 | 2.5 | 22 | | No Qualifiers Applied |

Method: 1613B

Matrix: SO

| Analyte | Concentration (ng/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------------|------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-715-SA5A-SB-0.0-0.5 | SL-1015-SA5A-SB-0.0-0.5 | | | |
| 1,2,3,4,7,8-HxCDD | 1.46 | 1.75 | 18 | 50.00 | No Qualifiers Applied |
| 1,2,3,7,8,9-HxCDD | 3.15 | 4.12 | 27 | 50.00 | |
| 1,2,3,7,8,9-HxCDF | 0.585 | 0.951 | 48 | 50.00 | |
| 1,2,3,7,8-PEcDD | 0.914 | 1.02 | 11 | 50.00 | |
| 1,2,3,7,8-PEcDF | 0.497 | 0.439 | 12 | 50.00 | |
| 2,3,4,7,8-PEcDF | 0.580 | 0.577 | 1 | 50.00 | |
| 2,3,7,8-TCDD | 0.301 | 0.262 | 14 | 50.00 | |
| 2,3,7,8-TCDF | 0.314 | 0.231 | 30 | 50.00 | |
| 1,2,3,4,6,7,8-HPCDD | 273 | 547 | 67 | 50.00 | J(all detects) |
| 1,2,3,4,6,7,8-HPCDF | 35.5 | 99.9 | 95 | 50.00 | |
| 1,2,3,4,7,8,9-HPCDF | 4.62 | 13.1 | 96 | 50.00 | |
| 1,2,3,4,7,8-HxCDF | 1.55 | 2.88 | 60 | 50.00 | |
| 1,2,3,6,7,8-HxCDD | 8.18 | 17.0 | 70 | 50.00 | |
| 1,2,3,6,7,8-HxCDF | 1.42 | 2.82 | 66 | 50.00 | |
| 2,3,4,6,7,8-HxCDF | 1.98 | 4.00 | 68 | 50.00 | |
| OCDD | 10200 | 29900 | 98 | 50.00 | |
| OCDF | 91.9 | 245 | 91 | 50.00 | |

Method: 6010C

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|------------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-715-SA5A-SB-0.0-0.5 (TOT) | SL-1015-SA5A-SB-0.0-0.5 (TOT) | | | |
| ALUMINUM | 15800 | 17000 | 7 | 50.00 | No Qualifiers Applied |
| ARSENIC | 3.16 | 3.56 | 12 | 50.00 | |
| BARIUM | 88.9 | 80.6 | 10 | 50.00 | |
| BERYLLIUM | 0.619 | 0.661 | 7 | 50.00 | |
| CALCIUM | 2630 | 2390 | 10 | 50.00 | |
| CHROMIUM | 33.2 | 36.5 | 9 | 50.00 | |
| COBALT | 4.21 | 4.03 | 4 | 50.00 | |
| COPPER | 18.3 | 18.1 | 1 | 50.00 | |
| IRON | 19600 | 19800 | 1 | 50.00 | |
| LEAD | 7.49 | 7.18 | 4 | 50.00 | |
| LITHIUM | 23.4 | 23.7 | 1 | 50.00 | |
| MAGNESIUM | 4030 | 4040 | 0 | 50.00 | |
| MANGANESE | 292 | 244 | 18 | 50.00 | |
| MOLYBDENUM | 0.439 | 0.429 | 2 | 50.00 | |
| NICKEL | 10.3 | 9.37 | 9 | 50.00 | |
| PHOSPHORUS | 300 | 278 | 8 | 50.00 | |
| POTASSIUM | 3200 | 2630 | 20 | 50.00 | |
| SODIUM | 96.9 | 96.4 | 1 | 50.00 | |
| TIN | 3.10 | 3.00 | 3 | 50.00 | |
| TITANIUM | 1090 | 1070 | 2 | 50.00 | |
| VANADIUM | 32.8 | 32.0 | 2 | 50.00 | |
| ZINC | 116 | 132 | 13 | 50.00 | |
| Zirconium | 2.64 | 2.73 | 3 | 50.00 | |
| BORON | 2.03 | 10.1 U | 200 | 50.00 | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Field Duplicate RPD Report

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6020A

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|-----------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-715-SA5A-SB-0.0-0.5 (TOT) | SL-1015-SA5A-SB-0.0-0.5 (TOT) | | | |
| SELENIUM | 0.184 | 0.208 | 12 | 50.00 | No Qualifiers Applied |
| STRONTIUM | 19.8 | 17.2 | 14 | 50.00 | |
| THALLIUM | 0.229 | 0.241 | 5 | 50.00 | |
| SILVER | 13.6 | 3.03 | 127 | 50.00 | J(all detects) |

Method: 7199

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------------|------------------------------|-------------------------------|------------|-----------|----------------|
| | SL-715-SA5A-SB-0.0-0.5 (TOT) | SL-1015-SA5A-SB-0.0-0.5 (TOT) | | | |
| HEXAVALENT CHROMIUM | 1.1 | 3.1 | 95 | 50.00 | J(all detects) |

Method: 7471B

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------|------------------------------|-------------------------------|------------|-----------|-----------------------|
| | SL-715-SA5A-SB-0.0-0.5 (TOT) | SL-1015-SA5A-SB-0.0-0.5 (TOT) | | | |
| MERCURY | 0.0398 | 0.0276 | 36 | 50.00 | No Qualifiers Applied |

Method: 8015M

Matrix: SO

| Analyte | Concentration (mg/Kg) | | Sample RPD | eQAPP RPD | Flag |
|---------------|------------------------|-------------------------|------------|-----------|----------------|
| | SL-715-SA5A-SB-0.0-0.5 | SL-1015-SA5A-SB-0.0-0.5 | | | |
| EFH (C21-C30) | 12 | 32 | 91 | 50.00 | J(all detects) |
| EFH (C30-C40) | 32 | 180 | 140 | 50.00 | |

Method: 8270D SIM

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-715-SA5A-SB-0.0-0.5 | SL-1015-SA5A-SB-0.0-0.5 | | | |
| ANTHRACENE | 0.43 | 2.8 | 147 | 50.00 | J(all detects) UJ(all non-detects) |
| BENZO(A)ANTHRACENE | 1.2 | 13 | 166 | 50.00 | |
| BENZO(A)PYRENE | 1.3 | 11 | 158 | 50.00 | |
| BENZO(B)FLUORANTHENE | 2.3 | 16 | 150 | 50.00 | |
| BENZO(E)PYRENE | 17 U | 8.4 | 200 | 50.00 | |
| BENZO(G,H,I)PERYLENE | 0.88 | 5.9 | 148 | 50.00 | |
| BENZO(K)FLUORANTHENE | 1.3 | 8.2 | 145 | 50.00 | |
| BIS(2-ETHYLHEXYL)PHTHALATE | 8.1 | 18 | 76 | 50.00 | |
| CHRYSENE | 2.2 | 15 | 149 | 50.00 | |
| DIBENZO(A,H)ANTHRACENE | 1.7 U | 1.8 | 200 | 50.00 | |
| FLUORANTHENE | 2.9 | 28 | 162 | 50.00 | |
| INDENO(1,2,3-CD)PYRENE | 1.7 U | 5.7 | 200 | 50.00 | |
| PHENANTHRENE | 1.4 | 12 | 158 | 50.00 | |
| PYRENE | 2.4 | 21 | 159 | 50.00 | |

Project Name and Number: 1204-002-001-AL - SSFL Area IV Phase 3

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Field Duplicate RPD Report

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8270D

Matrix: SO

| Analyte | Concentration (ug/Kg) | | Sample RPD | eQAPP RPD | Flag |
|----------------------|------------------------|-------------------------|------------|-----------|---------------------------------------|
| | SL-715-SA5A-SB-0.0-0.5 | SL-1015-SA5A-SB-0.0-0.5 | | | |
| BENZO(A)ANTHRACENE | 17 U | 9 | 200 | 50.00 | J(all detects) UJ(all non-detects) |
| BENZO(A)PYRENE | 17 U | 13 | 200 | 50.00 | |
| BENZO(B)FLUORANTHENE | 17 U | 16 | 200 | 50.00 | |
| BENZO(K)FLUORANTHENE | 17 U | 9 | 200 | 50.00 | |
| CHRYSENE | 17 U | 13 | 200 | 50.00 | |
| FLUORANTHENE | 17 U | 22 | 200 | 50.00 | |
| PHENANTHRENE | 17 U | 7 | 200 | 50.00 | |
| PYRENE | 17 U | 21 | 200 | 50.00 | |

Method: 9045M

Matrix: SO

| Analyte | Concentration (pH unit) | | Sample RPD | eQAPP RPD | Flag |
|---------|-------------------------|-------------------------|------------|-----------|-----------------------|
| | SL-715-SA5A-SB-0.0-0.5 | SL-1015-SA5A-SB-0.0-0.5 | | | |
| PH | 7.04 | 6.93 | 2 | 50.00 | No Qualifiers Applied |

Reporting Limit Outliers

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1015-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8-HxCDD | JB | 1.75 | 5.11 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HXCDF | JB | 2.88 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 2.82 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 4.12 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.951 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 1.02 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.439 | 5.11 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 4.00 | 5.11 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JBQ | 0.577 | 5.11 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | J | 0.262 | 1.02 | PQL | ng/Kg | |
| | 2,3,7,8-TCDF | J | 0.231 | 1.02 | PQL | ng/Kg | |
| SL-584-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 1.16 | 5.12 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | JBQ | 0.309 | 5.12 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.804 | 5.12 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 1.25 | 5.12 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.466 | 5.12 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 0.637 | 5.12 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.624 | 5.12 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.228 | 5.12 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.311 | 5.12 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.547 | 5.12 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.266 | 5.12 | PQL | ng/Kg | |
| 2,3,7,8-TCDF | J | 0.121 | 1.02 | PQL | ng/Kg | | |
| SL-631-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 0.630 | 4.96 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | JB | 0.853 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 0.692 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDD | JB | 2.03 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 0.669 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 1.48 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JB | 0.481 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JBQ | 0.541 | 4.96 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.652 | 4.96 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 0.825 | 4.96 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 1.64 | 4.96 | PQL | ng/Kg | |
| 2,3,7,8-TCDD | J | 0.234 | 0.992 | PQL | ng/Kg | | |
| 2,3,7,8-TCDF | J | 0.831 | 0.992 | PQL | ng/Kg | | |
| SL-715-SA5A-SB-0.0-0.5 | 1,2,3,4,7,8,9-HPCDF | JB | 4.62 | 5.07 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | JB | 1.46 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HXCDF | JB | 1.55 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HXCDF | JB | 1.42 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 3.15 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HXCDF | JBQ | 0.585 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDD | JB | 0.914 | 5.07 | PQL | ng/Kg | |
| | 1,2,3,7,8-PECDF | JB | 0.497 | 5.07 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HXCDF | JB | 1.98 | 5.07 | PQL | ng/Kg | |
| | 2,3,4,7,8-PECDF | JB | 0.580 | 5.07 | PQL | ng/Kg | |
| | 2,3,7,8-TCDD | J | 0.301 | 1.01 | PQL | ng/Kg | |
| 2,3,7,8-TCDF | J | 0.314 | 1.01 | PQL | ng/Kg | | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 1613B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-715-SA5A-SB-6.0-7.0 | 1,2,3,4,7,8,9-HPCDF | JB | 2.95 | 5.11 | PQL | ng/Kg | J (all detects) |
| | 1,2,3,4,7,8-HxCDD | JB | 1.49 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,4,7,8-HxCDF | JB | 1.39 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,6,7,8-HxCDF | JB | 1.20 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDD | JB | 2.83 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8,9-HxCDF | JB | 0.562 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8-PCDD | JB | 0.950 | 5.11 | PQL | ng/Kg | |
| | 1,2,3,7,8-PCDF | JB | 0.545 | 5.11 | PQL | ng/Kg | |
| | 2,3,4,6,7,8-HxCDF | JB | 1.60 | 5.11 | PQL | ng/Kg | |
| | 2,3,4,7,8-PCDF | JB | 0.616 | 5.11 | PQL | ng/Kg | |
| 2,3,7,8-TCDD | J | 0.296 | 1.02 | PQL | ng/Kg | | |
| 2,3,7,8-TCDF | J | 0.417 | 1.02 | PQL | ng/Kg | | |

Method: 6010C

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1015-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.56 | 4.02 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.661 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.429 | 2.01 | PQL | mg/Kg | |
| | SODIUM | J | 96.4 | 101 | PQL | mg/Kg | |
| | TIN | J | 3.00 | 10.1 | PQL | mg/Kg | |
| Zirconium | J | 2.73 | 5.03 | PQL | mg/Kg | | |
| SL-584-SA5A-SB-0.0-0.5 | ARSENIC | J | 2.95 | 4.05 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.605 | 1.01 | PQL | mg/Kg | |
| | BORON | J | 1.60 | 10.1 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.321 | 2.03 | PQL | mg/Kg | |
| | SODIUM | J | 88.1 | 101 | PQL | mg/Kg | |
| | TIN | J | 2.94 | 10.1 | PQL | mg/Kg | |
| Zirconium | J | 3.14 | 5.07 | PQL | mg/Kg | | |
| SL-631-SA5A-SB-0.0-0.5 | BERYLLIUM | J | 0.643 | 1.01 | PQL | mg/Kg | J (all detects) |
| | MOLYBDENUM | J | 0.379 | 2.02 | PQL | mg/Kg | |
| | SODIUM | J | 91.3 | 101 | PQL | mg/Kg | |
| | TIN | J | 2.90 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 3.50 | 5.06 | PQL | mg/Kg | |
| SL-715-SA5A-SB-0.0-0.5 | ARSENIC | J | 3.16 | 4.08 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.619 | 1.02 | PQL | mg/Kg | |
| | BORON | J | 2.03 | 10.2 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.439 | 2.04 | PQL | mg/Kg | |
| | SODIUM | J | 96.9 | 102 | PQL | mg/Kg | |
| | TIN | J | 3.10 | 10.2 | PQL | mg/Kg | |
| | Zirconium | J | 2.64 | 5.10 | PQL | mg/Kg | |
| SL-715-SA5A-SB-6.0-7.0 | ARSENIC | J | 3.91 | 4.06 | PQL | mg/Kg | J (all detects) |
| | BERYLLIUM | J | 0.619 | 1.01 | PQL | mg/Kg | |
| | MOLYBDENUM | J | 0.322 | 2.03 | PQL | mg/Kg | |
| | TIN | J | 2.97 | 10.1 | PQL | mg/Kg | |
| | Zirconium | J | 2.73 | 5.07 | PQL | mg/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 6020A

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|--------------------|----------|-----------------|-----------------|------------|----------------|-----------------|
| SL-1015-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.208 | 0.402 | PQL | mg/Kg | J (all detects) |
| SL-584-SA5A-SB-0.0-0.5 | SELENIUM SILVER | J J | 0.123 0.0282 | 0.405 0.203 | PQL PQL | mg/Kg mg/Kg | J (all detects) |
| SL-631-SA5A-SB-0.0-0.5 | SELENIUM SILVER | J J | 0.164 0.0441 | 0.405 0.202 | PQL PQL | mg/Kg mg/Kg | J (all detects) |
| SL-715-SA5A-SB-0.0-0.5 | SELENIUM | J | 0.184 | 0.408 | PQL | mg/Kg | J (all detects) |
| SL-715-SA5A-SB-6.0-7.0 | SELENIUM | J | 0.107 | 0.406 | PQL | mg/Kg | J (all detects) |

Method: 7471B

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------|----------|--------|-----------------|---------|-------|-----------------|
| SL-584-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0108 | 0.0168 | PQL | mg/Kg | J (all detects) |
| SL-631-SA5A-SB-0.0-0.5 | MERCURY | J | 0.0164 | 0.0168 | PQL | mg/Kg | J (all detects) |

Method: 8015M

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|---------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-584-SA5A-SB-0.0-0.5 | EFH (C21-C30) | J | 4.7 | 5.2 | PQL | mg/Kg | J (all detects) |
| SL-631-SA5A-SB-0.0-0.5 | EFH (C15-C20) | J | 10 | 25 | PQL | mg/Kg | J (all detects) |
| SL-715-SA5A-SB-6.0-7.0 | EFH (C21-C30) | J | 5.0 | 5.1 | PQL | mg/Kg | J (all detects) |

Method: 8082A

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|--------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-631-SA5A-SB-0.0-0.5 | Aroclor 5460 | J | 14 | 34 | PQL | ug/Kg | J (all detects) |

Method: 8270D

Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1015-SA5A-SB-0.0-0.5 | BENZO(A)ANTHRACENE | J | 9 | 17 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)PYRENE | J | 13 | 17 | PQL | ug/Kg | |
| | BENZO(B)FLUORANTHENE | J | 16 | 17 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 9 | 17 | PQL | ug/Kg | |
| | CHRYSENE | J | 13 | 17 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 7 | 17 | PQL | ug/Kg | |

Reporting Limit Outliers

Lab Reporting Batch ID: PH134

Laboratory: LL

EDD Filename: PH134_v1

eQAPP Name: CDM_SSFL_140113_Lan

Method: 8270D
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|------------------------|----------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-715-SA5A-SB-6.0-7.0 | BENZO(A)ANTHRACENE | J | 14 | 18 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)PYRENE | J | 11 | 18 | PQL | ug/Kg | |
| | BENZO(B)FLUORANTHENE | J | 11 | 18 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 8 | 18 | PQL | ug/Kg | |
| | CHRYSENE | J | 11 | 18 | PQL | ug/Kg | |
| | FLUORANTHENE | J | 14 | 18 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 4 | 18 | PQL | ug/Kg | |
| | PYRENE | J | 14 | 18 | PQL | ug/Kg | |

Method: 8270D SIM
Matrix: SO

| SampleID | Analyte | Lab Qual | Result | Reporting Limit | RL Type | Units | Flag |
|-------------------------|----------------------------|----------|--------|-----------------|---------|-------|-----------------|
| SL-1015-SA5A-SB-0.0-0.5 | BENZO(E)PYRENE | J | 8.4 | 17 | PQL | ug/Kg | J (all detects) |
| SL-584-SA5A-SB-0.0-0.5 | ANTHRACENE | J | 0.41 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)ANTHRACENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 1.5 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 1.5 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 9.1 | 19 | PQL | ug/Kg | |
| | INDENO(1,2,3-CD)PYRENE | J | 0.86 | 1.7 | PQL | ug/Kg | |
| PHENANTHRENE | J | 1.6 | 1.7 | PQL | ug/Kg | | |
| SL-631-SA5A-SB-0.0-0.5 | 1-METHYLNAPHTHALENE | J | 13 | 17 | PQL | ug/Kg | J (all detects) |
| | 2-METHYLNAPHTHALENE | J | 12 | 17 | PQL | ug/Kg | |
| | BENZO(A)ANTHRACENE | J | 9.4 | 17 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 9.2 | 17 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 9.2 | 17 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 6.8 | 17 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 64 | 180 | PQL | ug/Kg | |
| NAPHTHALENE | J | 7.0 | 17 | PQL | ug/Kg | | |
| SL-715-SA5A-SB-0.0-0.5 | ANTHRACENE | J | 0.43 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(A)ANTHRACENE | J | 1.2 | 1.7 | PQL | ug/Kg | |
| | BENZO(A)PYRENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| | BENZO(G,H,I)PERYLENE | J | 0.88 | 1.7 | PQL | ug/Kg | |
| | BENZO(K)FLUORANTHENE | J | 1.3 | 1.7 | PQL | ug/Kg | |
| | BIS(2-ETHYLHEXYL)PHTHALATE | J | 8.1 | 18 | PQL | ug/Kg | |
| | PHENANTHRENE | J | 1.4 | 1.7 | PQL | ug/Kg | |
| SL-715-SA5A-SB-6.0-7.0 | ANTHRACENE | J | 0.94 | 1.7 | PQL | ug/Kg | J (all detects) |
| | BENZO(E)PYRENE | J | 5.2 | 18 | PQL | ug/Kg | |
| | DIBENZO(A,H)ANTHRACENE | J | 1.3 | 1.7 | PQL | ug/Kg | |

Enclosure II

EPA Level IV Data Validation Reports

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: November 25, 2013
LDC Report Date: February 10, 2014
Matrix: Soil
Parameters: Semivolatiles
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH134

Sample Identification

SL-715-SA5A-SB-0.0-0.5
SL-715-SA5A-SB-6.0-7.0
SL-1015-SA5A-SB-0.0-0.5
SL-715-SA5A-SB-0.0-0.5MS
SL-715-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 5 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270D for Semivolatiles.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard with the following exceptions:

| Sample | Compound | Finding | Criteria | Flag | A or P |
|--------------------------|---|--|--|---|--------|
| All samples in SDG PH134 | 2-butoxy-Ethanol 2-phenoxy-Ethanol 1,2,3,4-Tetrahydronaphthalene (Tetralin) | A one point calibration was performed. | A five point calibration is specified by the method. | J (all detects) UJ (all non-detects) | P |

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method.

Sample FB-041613 (from SDG PH032) was identified as a field blank. No semivolatile contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

| Spike ID (Associated Samples) | Compound | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|--|---------------------------------|---------------------|----------------------|----------------------|--|--------|
| SL-715-SA5A-SB-0.0-0.5MS/MSD (SL-715-SA5A-SB-0.0-0.5) | Benzoic acid 4-Chloroaniline | - - | - - | 31 (≤30) 37 (≤30) | J (all detects) J (all detects) | A |
| SL-715-SA5A-SB-0.0-0.5MS/MSD (SL-715-SA5A-SB-0.0-0.5) | 3,3'-Dichlorobenzidine | 0 (35-141) | 17 (35-141) | 200 (≤30) | J (all detects) R (all non-detects) | A |

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation

All compound quantitation were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH134 | All compounds reported below the RL. | J (all detects) | A |

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SL-715-SA5A-SB-0.0-0.5 and SL-1015-SA5A-SB-0.0-0.5 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

| Compound | Concentration (ug/Kg) | | RPD (Limits) | Flag | A or P |
|----------------------|------------------------|-------------------------|--------------|---|--------|
| | SL-715-SA5A-SB-0.0-0.5 | SL-1015-SA5A-SB-0.0-0.5 | | | |
| Benzo(a)anthracene | 17U | 9 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Benzo(a)pyrene | 17U | 13 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Benzo(b)fluoranthene | 17U | 16 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Benzo(k)fluoranthene | 17U | 9 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Chrysene | 17U | 13 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Fluoranthene | 17U | 22 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Phenanthrene | 17U | 7 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |

| Compound | Concentration (ug/Kg) | | RPD (Limits) | Flag | A or P |
|----------|------------------------|-------------------------|-----------------|---|--------|
| | SL-715-SA5A-SB-0.0-0.5 | SL-1015-SA5A-SB-0.0-0.5 | | | |
| Pyrene | 17U | 21 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |

**Santa Susana Field Laboratory
Semivolatiles - Data Qualification Summary - SDG PH134**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|---|--|---|--------|---|
| PH134 | SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0 SL-1015-SA5A-SB-0.0-0.5 | 2-butoxy-Ethanol 2-phenoxy-Ethanol 1,2,3,4-Tetrahydronaphthalene (Tetralin) | J (all detects) UJ (all non-detects) | P | Initial calibration (5-point calibration) (C) |
| PH134 | SL-715-SA5A-SB-0.0-0.5 | Benzoic acid 4-Chloroaniline | J (all detects) J (all detects) | A | Matrix spike/Matrix spike duplicate (RPD) (Q) |
| PH134 | SL-715-SA5A-SB-0.0-0.5 | 3,3'-Dichlorobenzidine | J (all detects) R (all non-detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q) |
| PH134 | SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0 SL-1015-SA5A-SB-0.0-0.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |
| PH134 | SL-715-SA5A-SB-0.0-0.5 SL-1015-SA5A-SB-0.0-0.5 | Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(k)fluoranthene Chrysene Fluoranthene Phenanthrene Pyrene | J (all detects) UJ (all non-detects) | A | Field duplicates (RPD) (FD) |

**Santa Susana Field Laboratory
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG PH134**

No Sample Data Qualified in this SDG

**Santa Susana Field Laboratory
Semivolatiles - Field Blank Data Qualification Summary - SDG PH134**

No Sample Data Qualified in this SDG

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270) ^D

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|------------------|-----------------------------------|
| I. | Technical holding times | A | Sampling dates: 11/25/13 |
| II. | GC/MS Instrument performance check | A | |
| III. | Initial calibration | SWA ^m | RSD ≤ 30% |
| IV. | Continuing calibration/ICV | ASW ^m | (CV/CCV ≤ 25%) |
| V. | Blanks | A | |
| VI. | Surrogate spikes | A | |
| VII. | Matrix spike/Matrix spike duplicates | SW | |
| VIII. | Laboratory control samples | A | LCS |
| IX. | Regional Quality Assurance and Quality Control | N | |
| X. | Internal standards | A | |
| XI. | Target compound identification | A | |
| XII. | Compound quantitation/RL/LOQ/LODs | A | |
| XIII. | Tentatively identified compounds (TICs) | N | |
| XIV. | System performance | A | |
| XV. | Overall assessment of data | A | |
| XVI. | Field duplicates | SW | FD = 1 + 3 |
| XVII. | Field blanks | ND | EB = FB = FB-041613 (SDG # PH032) |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: Soil

| | | | | | |
|----|---------------------------|----|----|----|-----------|
| 1 | SL-715-SA5A-SB-0.0-0.5 | 11 | 21 | 31 | SBLKLT338 |
| 2 | SL-715-SA5A-SB-6.0-7.0 | 12 | 22 | 32 | |
| 3 | SL-1015-SA5A-SB-0.0-0.5 | 13 | 23 | 33 | |
| 4 | SL-715-SA5A-SB-0.0-0.5MS | 14 | 24 | 34 | |
| 5 | SL-715-SA5A-SB-0.0-0.5MSD | 15 | 25 | 35 | |
| 6 | | 16 | 26 | 36 | |
| 7 | | 17 | 27 | 37 | |
| 8 | | 18 | 28 | 38 | |
| 9 | | 19 | 29 | 39 | |
| 10 | | 20 | 30 | 40 | |

Method: Semivolatiles (EPA SW 846 Method 8270D)

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|--------------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. GC/MS Instrument performance check | | | | |
| Were the DFTPP performance results reviewed and found to be within the specified criteria? | / | | | |
| Were all samples analyzed within the 12 hour clock criteria? | / | | | |
| III. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | / | | | no on 3 compounds |
| Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs? | / | | | |
| Was a curve fit used for evaluation? | | / | | |
| Did the initial calibration meet the curve fit acceptance criteria of > 0.990 ? | | | / | |
| Were all percent relative standard deviations (%RSD) $\leq 30\%$ and relative response factors (RRF) ≥ 0.05 ? | / | | | |
| IV. Continuing calibration | | | | |
| Was a continuing calibration standard analyzed at least once every 12 hours for each instrument? | / | | | |
| Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs? | / | | | |
| Were all percent differences (%D) $\leq 25\%$ and relative response factors (RRF) ≥ 0.05 ? | / | SM | | run - target analyte out |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was a method blank analyzed for each matrix and concentration? | / | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | | / | | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within QC limits? | / | | | |
| If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R? | | | / | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | | | / | |
| VII. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | / | | | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | / | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | | / | | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------|
| Was an LCS analyzed per extraction batch? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Were the performance evaluation (PE) samples within the acceptance limits? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| X. Internal standards | | | | |
| Were internal standard area counts within -50% or +100% of the associated calibration standard? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were retention times within + 30 seconds from the associated calibration standard? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XI. Target compound identification | | | | |
| Were relative retention times (RRT's) within + 0.06 RRT units of the standard? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Did compound spectra meet specified EPA "Functional Guidelines" criteria? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were chromatogram peaks verified and accounted for? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XII. Compound quantitation/RLs | | | | |
| Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XIII. Tentatively identified compounds (TICs) | | | | |
| Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Were relative intensities of the major ions within ± 20% between the sample and the reference spectra? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| XIV. System performance | | | | |
| System performance was found to be acceptable. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XV. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XVI. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Target compounds were detected in the field duplicates. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XVII. Field blanks | | | | |
| Field blanks were identified in this SDG. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Target compounds were detected in the field blanks. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

| | | | | |
|---------------------------------|------------------------------|---------------------------------|----------------------------------|---|
| A. Phenol | T. 4-Chloroaniline | MM. 4-Chlorophenyl-phenyl ether | FFF. Di-n-octylphthalate | YYY. 2,3,5-Trimethylnaphthalene |
| B. Bis (2-chloroethyl) ether | U. Hexachlorobutadiene | NN. Fluorene | GGG. Benzo(b)fluoranthene | ZZZ. Perylene |
| C. 2-Chlorophenol | V. 4-Chloro-3-methylphenol | OO. 4-Nitroaniline | HHH. Benzo(k)fluoranthene | AAAA. Dibenzothiophene |
| D. 1,3-Dichlorobenzene | W. 2-Methylnaphthalene | PP. 4,6-Dinitro-2-methylphenol | III. Benzo(a)pyrene | BBBB. Benzo(a)fluoranthene |
| E. 1,4-Dichlorobenzene | X. Hexachlorocyclopentadiene | QQ. N-Nitrosodiphenylamine | JJJ. Indeno(1,2,3-cd)pyrene | CCCC. Benzo(b)fluorene |
| F. 1,2-Dichlorobenzene | Y. 2,4,6-Trichlorophenol | RR. 4-Bromophenyl-phenylether | KKK. Dibenz(a,h)anthracene | DDDD. cis/trans-Decalin |
| G. 2-Methylphenol | Z. 2,4,5-Trichlorophenol | SS. Hexachlorobenzene | LLL. Benzo(g,h,i)perylene | EEEE. Biphenyl |
| H. 2,2'-Oxybis(1-chloropropane) | AA. 2-Chloronaphthalene | TT. Pentachlorophenol | MMM. Bis(2-Chloroisopropyl)ether | FFFF. Retene |
| I. 4-Methylphenol | BB. 2-Nitroaniline | UU. Phenanthrene | NNN. Aniline | GGGG. C30-Hopane |
| J. N-Nitroso-di-n-propylamine | CC. Dimethylphthalate | VV. Anthracene | OOO. N-Nitrosodimethylamine | HHHH. 1-Methylphenanthrene |
| K. Hexachloroethane | DD. Acenaphthylene | WW. Carbazole | PPP. Benzoic Acid | IIII. 1,4-Dioxane |
| L. Nitrobenzene | EE. 2,6-Dinitrotoluene | XX. Di-n-butylphthalate | QQQ. Benzyl alcohol | JJJJ. Acetophenone |
| M. Isophorone | FF. 3-Nitroaniline | YY. Fluoranthene | RRR. Pyridine | KKKK. Atrazine |
| N. 2-Nitrophenol | GG. Acenaphthene | ZZ. Pyrene | SSS. Benzidine | LLLL. Benzaldehyde |
| O. 2,4-Dimethylphenol | HH. 2,4-Dinitrophenol | AAA. Butylbenzylphthalate | TTT. 1-Methylnaphthalene | MMMM. Caprolactam |
| P. Bis(2-chloroethoxy)methane | II. 4-Nitrophenol | BBB. 3,3'-Dichlorobenzidine | UUU. Benzo(b)thiophene | NNNN. 2-butoxy-Ethanol |
| Q. 2,4-Dichlorophenol | JJ. Dibenzofuran | CCC. Benzo(a)anthracene | VVV. Benzonaphthothiophene | OOOO. 2-phenoxy-Ethanol |
| R. 1,2,4-Trichlorobenzene | KK. 2,4-Dinitrotoluene | DDD. Chrysene | WWW. Benzo(e)pyrene | PPPP. 1,2,3,4-Tetrahydro-naphthalene (Tetralin) |
| S. Naphthalene | LL. Diethylphthalate | EEE. Bis(2-ethylhexyl)phthalate | XXX. 2,6-Dimethylnaphthalene | QQQQ. 4-Aminobiphenyl |

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Method: GC/MS SVOCs (EPA 8270D)

| Analyte | Concentration (µg/kg) | | RPD (≤50) | Qualifiers (Parents Only) |
|---------|-----------------------|----|---------------|---------------------------|
| | 1 | 3 | | |
| CCC | 17U | 9 | 200 | J/UJ/A (Code: FD) |
| III | 17U | 13 | 200 | J/UJ/A (Code: FD) |
| GGG | 17U | 16 | 200 | J/UJ/A (Code: FD) |
| HHH | 17U | 9 | 200 | J/UJ/A (Code: FD) |
| DDD | 17U | 13 | 200 | J/UJ/A (Code: FD) |
| YY | 17U | 22 | 200 | J/UJ/A (Code: FD) |
| UU | 17U | 7 | 200 | J/UJ/A (Code: FD) |
| ZZ | 17U | 21 | 200 | J/UJ/A (Code: FD) |

LDC #: 31212D2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer BR
 2nd Reviewer [Signature]

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of Compound

C_x = Concentration of compound,

S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

X = Mean of the RRFs

| # | Standard ID | Calibration Date | Compound (IS) | Reported RRF (1 std) | Recalculated RRF (1 std) | Reported Average RRF (Initial) | Recalculated Average RRF (Initial) | Reported %RSD | Recalculated %RSD |
|---|-------------|------------------|----------------------------------|----------------------|--------------------------|--------------------------------|------------------------------------|---------------|-------------------|
| 1 | HP09572 | 12/4/2013 | Phenol (IS1) | 2.738 | 2.738 | 2.906 | 2.906 | 6 | 6 |
| | | | Naphthalene (IS2) | 0.987 | 0.987 | 1.071 | 1.071 | 11 | 11 |
| | | | Fluorene (IS3) | 1.324 | 1.324 | 1.426 | 1.426 | 5 | 5 |
| | | | Pentachlorophenol (IS4) | 0.146 | 0.146 | 0.152 | 0.152 | 8 | 7.1 |
| | | | bis(2-ethylhexyl)phthalate (IS5) | 0.620 | 0.620 | 0.604 | 0.604 | 5 | 5 |
| | | | Benzo(a)pyrene (IS6) | 1.232 | 1.232 | 1.214 | 1.2145 | 9 | 9 |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSM) ~~7p~~

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$$

Where:

ave. RRF = initial calibration average RRF

RRF = continuing calibration RRF

Ax = Area of compound

Cx = Concentration of compound

Ais = Area of associated internal standard

Cis = Concentration of internal standard

| # | Standard ID | Calibration Date | Compound (IS) | Average RRF (Initial RRF) | Reported (CC RRF) | Recalculated (CC RRF) | Reported %D | Recalculated %D |
|---|-------------|------------------|----------------------------------|---------------------------|-------------------|-----------------------|-------------|-----------------|
| 1 | el0221 | 12/09/13 | Phenol (IS1) | 2.906 | 2.870 | 2.870 | 1 | 1 |
| | | | Naphthalene (IS2) | 1.071 | 0.985 | 0.985 | 8 | 8 |
| | | | Fluorene (IS3) | 1.426 | 1.384 | 1.384 | 3 | 3 |
| | | | Pentachlorophenol (IS4) | 0.152 | 0.134 | 0.134 | 12 | 12 |
| | | | bis(2-ethylhexyl)phthalate (IS5) | 0.604 | 0.625 | 0.625 | 3 | 3 |
| | | | Benzo(a)pyrene (IS6) | 1.214 | 1.209 | 1.209 | 0 | 0 |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Surrogate Results Verification

Reviewer: BR
2nd reviewer: SM

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: $SF/SS * 100$

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|------------------------|------------------|-----------------|---------------------------|-------------------------------|--------------------|
| Nitrobenzene-d5 | 100 | 83.745 | 84 | 84 | 0 |
| 2-Fluorobiphenyl | ↓ | 82.883 | 83 | 83 | 0 |
| Terphenyl-d14 | ↓ | 94.869 | 95 | 95 | 0 |
| Phenol-d5 | 200 | 170.758 | 85 | 85 | 0 |
| 2-Fluorophenol | ↓ | 170.029 | 85 | 85 | 0 |
| 2,4,6-Tribromophenol | ↓ | 170.449 | 85 | 85 | 0 |
| 2-Chlorophenol-d4 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | |

Sample ID: _____

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|------------------------|------------------|-----------------|---------------------------|-------------------------------|--------------------|
| Nitrobenzene-d5 | | | | | |
| 2-Fluorobiphenyl | | | | | |
| Terphenyl-d14 | | | | | |
| Phenol-d5 | | | | | |
| 2-Fluorophenol | | | | | |
| 2,4,6-Tribromophenol | | | | | |
| 2-Chlorophenol-d4 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | |

Sample ID: _____

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|------------------------|------------------|-----------------|---------------------------|-------------------------------|--------------------|
| Nitrobenzene-d5 | | | | | |
| 2-Fluorobiphenyl | | | | | |
| Terphenyl-d14 | | | | | |
| Phenol-d5 | | | | | |
| 2-Fluorophenol | | | | | |
| 2,4,6-Tribromophenol | | | | | |
| 2-Chlorophenol-d4 | | | | | |
| 1,2-Dichlorobenzene-d4 | | | | | |

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

RPD = |MSC - MSC1| * 2 / (MSC + MSC1)

MSC = Matrix spike concentration

MSC1 = Matrix spike duplicate concentration

MS/MSD samples: 4/5

| Compound | Spike Added (ug/kg) | | Sample Concentration (ug/kg) | Spiked Sample Concentration (ug/kg) | | Matrix Spike | | Matrix Spike Duplicate | | MS/MSD | |
|----------------------------|---------------------|---------|------------------------------|-------------------------------------|---------|------------------|--------|------------------------|--------|----------|--------------|
| | MS | MSD | | MS | MSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | | Reported | Recalc | Reported | Recalc | Reported | Recalculated |
| Phenol | 1655.63 | 1655.63 | 0 | 1519.23 | 1431.47 | 92 | 92 | 86 | 84 | 6 | 6 |
| N-Nitroso-di-n-propylamine | | | | 1534.74 | 1571.08 | 93 | 93 | 95 | 95 | 2 | 2 |
| 4-Chloro-3-methylphenol | | | | 1511.34 | 1429.62 | 91 | 91 | 86 | 86 | 6 | 6 |
| Acenaphthene | | | | 1511.08 | 1415.97 | 91 | 91 | 85 | 85.5 | 6 | 6.5 |
| Pentachlorophenol | | | | 1291.01 | 1339.24 | 78 | 78 | 81 | 81 | 4 | 4 |
| Pyrene | | | | 1933.39 | 1682.12 | 111 | 111 | 101 | 102 | 9 | 9 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA)

Where: SSC = Spike concentration
 SA = Spike added

RPD = | LCSC - LCSDC | * 2 / (LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 338LJLCS

| Compound | Spike Added (ug/kg) | | Spike Concentration (ug/kg) | | LCS | | LCSD | | LCS/LCSD | |
|----------------------------|------------------------|------|--------------------------------|------|------------------|---------|------------------|---------|----------|--------------|
| | LCS | LCSD | LCS | LCSD | Percent Recovery | | Percent Recovery | | RPD | |
| | | | | | Reported | Recalc. | Reported | Recalc. | Reported | Recalculated |
| Phenol | 1666.67 | — | 1607.61 | — | 96 | 96 | Z | | | |
| N-Nitroso-di-n-propylamine | ↓ | ↓ | 1641.89 | ↓ | 99 | 99 | | | | |
| 4-Chloro-3-methylphenol | | | 1757.04 | | 105 | 105 | | | | |
| Acenaphthene | | | 1605.54 | | 96 | 96 | | | | |
| Pentachlorophenol | | | 1527.55 | | 92 | 92 | | | | |
| Pyrene | ↓ | ↓ | 1671.94 | ↓ | 100 | 100 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Santa Susana Field Laboratory
Collection Date: November 25, 2013
LDC Report Date: February 10, 2014
Matrix: Soil
Parameters: Semivolatiles
Validation Level: Level IV
Laboratory: Eurofins Lancaster Laboratories
Sample Delivery Group (SDG): PH134

Sample Identification

SL-584-SA5A-SB-0.0-0.5
SL-715-SA5A-SB-0.0-0.5
SL-715-SA5A-SB-6.0-7.0
SL-1015-SA5A-SB-0.0-0.5
SL-631-SA5A-SB-0.0-0.5
SL-715-SA5A-SB-0.0-0.5MS
SL-715-SA5A-SB-0.0-0.5MSD

Introduction

This data review covers 7 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270D using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows the Quality Assurance Project Plan for Santa Susana Field Laboratory (SSFL), RCRA Facility Investigation, Surficial Media Operable Unit (March 2009, Revision 4) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds with the following exceptions:

| Date | Compound | %D | Associated Samples | Flag | A or P |
|----------|---------------------|----|--------------------------|---|--------|
| 12/14/13 | Di-n-octylphthalate | 29 | All samples in SDG PH134 | J (all detects) UJ (all non-detects) | A |

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample EB2-112613 (from SDG PH135) was identified as an equipment blank. No semivolatile contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|------------|---------------|--|--|--------------------------|
| EB2-112613 | 11/26/13 | Di-n-butylphthalate Diethylphthalate Bis(2-ethylhexyl)phthalate 2-Methylnaphthalene | 0.20 ug/L 0.35 ug/L 0.079 ug/L 0.011 ug/L | All samples in SDG PH134 |

Sample FB-041613 (from SDG PH032) was identified as a field blank. No semivolatile contaminants were found with the following exceptions:

| Blank ID | Sampling Date | Compound | Concentration | Associated Samples |
|-----------|---------------|--|-------------------------------------|--------------------------|
| FB-041613 | 4/16/13 | 2-Methylnaphthalene Bis(2-ethylhexyl)phthalate Di-n-butylphthalate | 0.012 ug/L 1.0 ug/L 0.11 ug/L | All samples in SDG PH134 |

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

| Sample | Compound | Reported Concentration | Modified Final Concentration |
|------------------------|----------------------------|------------------------|------------------------------|
| SL-584-SA5A-SB-0.0-0.5 | Bis(2-ethylhexyl)phthalate | 9.1 ug/Kg | 19U ug/Kg |
| SL-715-SA5A-SB-0.0-0.5 | Bis(2-ethylhexyl)phthalate | 8.1 ug/Kg | 18U ug/Kg |

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

| Spike ID (Associated Samples) | Compound | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|--|------------------------|---------------------|----------------------|-----------------|-----------------|--------|
| SL-715-SA5A-SB-0.0-0.5MS/MSD (SL-715-SA5A-SB-0.0-0.5) | Phenanthrene | 361 (29-142) | 243 (29-142) | 39 (≤30) | J (all detects) | A |
| | Anthracene | 160 (52-126) | 136 (52-126) | - | J (all detects) | |
| | Fluoranthene | 680 (40-148) | 599 (40-148) | - | J (all detects) | |
| | Pyrene | 523 (26-143) | 490 (26-143) | - | J (all detects) | |
| | Benzo(a)anthracene | 333 (44-143) | 375 (44-143) | - | J (all detects) | |
| | Chrysene | 318 (29-148) | 366 (29-148) | - | J (all detects) | |
| | Benzo(b)fluoranthene | 342 (26-142) | 441 (26-142) | - | J (all detects) | |
| | Benzo(k)fluoranthene | 242 (54-142) | 249 (54-142) | - | J (all detects) | |
| | Benzo(e)pyrene | 229 (70-130) | 254 (70-130) | - | J (all detects) | |
| | Benzo(a)pyrene | 284 (44-140) | 337 (44-140) | - | J (all detects) | |
| | Indeno(1,2,3-cd)pyrene | 147 (17-136) | 160 (17-136) | - | J (all detects) | |
| | Benzo(g,h,i)perylene | - | 146 (33-140) | - | J (all detects) | |

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation

All compound quantitation were within validation criteria.

All compounds reported below the RL were qualified as follows:

| Sample | Finding | Flag | A or P |
|--------------------------|--------------------------------------|-----------------|--------|
| All samples in SDG PH134 | All compounds reported below the RL. | J (all detects) | A |

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

Samples SL-715-SA5A-SB-0.0-0.5 and SL-1015-SA5A-SB-0.0-0.5 were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

| Compound | Concentration (ug/Kg) | | RPD (Limits) | Flag | A or P |
|----------------------------|------------------------|-------------------------|-----------------|---|--------|
| | SL-715-SA5A-SB-0.0-0.5 | SL-1015-SA5A-SB-0.0-0.5 | | | |
| Anthracene | 0.43 | 2.8 | 147 (≤50) | J (all detects) | A |
| Benzo(a)anthracene | 1.2 | 13 | 166 (≤50) | J (all detects) | A |
| Benzo(a)pyrene | 1.3 | 11 | 158 (≤50) | J (all detects) | A |
| Benzo(b)fluoranthene | 2.3 | 16 | 150 (≤50) | J (all detects) | A |
| Benzo(g,h,i)perylene | 0.88 | 5.9 | 148 (≤50) | J (all detects) | A |
| Benzo(k)fluoranthene | 1.3 | 8.2 | 145 (≤50) | J (all detects) | A |
| Chrysene | 2.2 | 15 | 149 (≤50) | J (all detects) | A |
| Bis(2-ethylhexyl)phthalate | 8.1 | 18 | 76 (≤50) | J (all detects) | A |
| Fluoranthene | 2.9 | 28 | 162 (≤50) | J (all detects) | A |
| Phenanthrene | 1.4 | 12 | 158 (≤50) | J (all detects) | A |
| Pyrene | 2.4 | 21 | 159 (≤50) | J (all detects) | A |
| Benzo(e)pyrene | 17U | 8.4 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Dibenzo(a,h)anthracene | 1.7U | 1.8 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |
| Indeno(1,2,3-cd)pyrene | 1.7U | 5.7 | 200 (≤50) | J (all detects) UJ (all non-detects) | A |

**Santa Susana Field Laboratory
Semivolatiles - Data Qualification Summary - SDG PH134**

| SDG | Sample | Compound | Flag | A or P | Reason (Code) |
|-------|---|--|---|--------|---|
| PH134 | SL-584-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0 SL-1015-SA5A-SB-0.0-0.5 SL-631-SA5A-SB-0.0-0.5 | Di-n-octylphthalate | J (all detects) UJ (all non-detects) | A | Continuing calibration (%D) (C) |
| PH134 | SL-715-SA5A-SB-0.0-0.5 | Phenanthrene | J (all detects) | A | Matrix spike/Matrix spike duplicate (%R)(RPD) (Q) |
| PH134 | SL-715-SA5A-SB-0.0-0.5 | Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(e)pyrene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Benzo(g,h,i)perylene | J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) | A | Matrix spike/Matrix spike duplicate (%R) (Q) |
| PH134 | SL-584-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-0.0-0.5 SL-715-SA5A-SB-6.0-7.0 SL-1015-SA5A-SB-0.0-0.5 SL-631-SA5A-SB-0.0-0.5 | All compounds reported below the RL. | J (all detects) | A | Compound quantitation (Z) |
| PH134 | SL-715-SA5A-SB-0.0-0.5 SL-1015-SA5A-SB-0.0-0.5 | Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Bis(2-ethylhexyl)phthalate Fluoranthene Phenanthrene Pyrene | J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) | A | Field duplicates (RPD) (FD) |
| PH134 | SL-715-SA5A-SB-0.0-0.5 SL-1015-SA5A-SB-0.0-0.5 | Benzo(e)pyrene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene | J (all detects) UJ (all non-detects) | A | Field duplicates (RPD) (FD) |

**Santa Susana Field Laboratory
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG PH134**

No Sample Data Qualified in this SDG

Santa Susana Field Laboratory
Semivolatiles - Field Blank Data Qualification Summary - SDG PH134

| SDG | Sample | Compound | Modified Final Concentration | A or P | Code |
|-------|------------------------|----------------------------|------------------------------|--------|------|
| PH134 | SL-584-SA5A-SB-0.0-0.5 | Bis(2-ethylhexyl)phthalate | 19U ug/Kg | A | F |
| PH134 | SL-715-SA5A-SB-0.0-0.5 | Bis(2-ethylhexyl)phthalate | 18U ug/Kg | A | F |

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270C-SIM)
SVOCs

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

| | Validation Area | | Comments |
|-------|--|----|---|
| I. | Technical holding times | A | Sampling dates: 11/25/13 |
| II. | GC/MS instrument performance check | A | |
| III. | Initial calibration | A | RSD ≤ 30% |
| IV. | Continuing calibration/ICV | SW | 100% CCV ≤ 25% |
| V. | Blanks | A | |
| VI. | Surrogate spikes | A | |
| VII. | Matrix spike/Matrix spike duplicates | SW | |
| VIII. | Laboratory control samples | A | LCS ^{SR} |
| IX. | Regional Quality Assurance and Quality Control | N | |
| X. | Internal standards | A | |
| XI. | Target compound identification | A | |
| XII. | Compound quantitation/RL/LOQ/LODs | A | |
| XIII. | Tentatively identified compounds (TICs) | N | |
| XIV. | System performance | A | |
| XV. | Overall assessment of data | A | |
| XVI. | Field duplicates | SW | FD = 2 + 4 |
| XVII. | Field blanks | SW | EB = EB2-1126B (PH135) FB = FB-0414B (PH032) |

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples: 50:1

| | | | | | |
|----|---------------------------|----|----|----|----------|
| 1 | SL-584-SA5A-SB-0.0-0.5 | 11 | 21 | 31 | SBLK1338 |
| 2 | SL-715-SA5A-SB-0.0-0.5 | 12 | 22 | 32 | |
| 3 | SL-715-SA5A-SB-6.0-7.0 | 13 | 23 | 33 | |
| 4 | SL-1015-SA5A-SB-0.0-0.5 | 14 | 24 | 34 | |
| 5 | SL-631-SA5A-SB-0.0-0.5 | 15 | 25 | 35 | |
| 6 | SL-715-SA5A-SB-0.0-0.5MS | 16 | 26 | 36 | |
| 7 | SL-715-SA5A-SB-0.0-0.5MSD | 17 | 27 | 37 | |
| 8 | | 18 | 28 | 38 | |
| 9 | | 19 | 29 | 39 | |
| 10 | | 20 | 30 | 40 | |

Method: Semivolatiles (EPA SW 846 Method 8270D)

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| I. Technical holding times | | | | |
| All technical holding times were met. | / | | | |
| Cooler temperature criteria was met. | / | | | |
| II. GC/MS Instrument performance check | | | | |
| Were the DFTPP performance results reviewed and found to be within the specified criteria? | / | | | |
| Were all samples analyzed within the 12 hour clock criteria? | | | | |
| III. Initial calibration | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | / | | | |
| Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs? | / | | | |
| Was a curve fit used for evaluation? | | / | / | |
| Did the initial calibration meet the curve fit acceptance criteria of > 0.990 ? | | | / | |
| Were all percent relative standard deviations (%RSD) $\leq 30\%$ and relative response factors (RRF) > 0.05 ? | / | | | |
| IV. Continuing calibration | | | | |
| Was a continuing calibration standard analyzed at least once every 12 hours for each instrument? | / | | | |
| Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs? | / | | | |
| Were all percent differences (%D) $\leq 25\%$ and relative response factors (RRF) ≥ 0.05 ? | | / | | |
| V. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | / | | | |
| Was a method blank analyzed for each matrix and concentration? | / | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | | / | | |
| VI. Surrogate spikes | | | | |
| Were all surrogate %R within QC limits? | / | | | |
| If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R? | | | / | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | | | / | |
| VII. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. | / | | | |
| Was a MS/MSD analyzed every 20 samples of each matrix? | / | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? | | / | | |
| VIII. Laboratory control samples | | | | |
| Was an LCS analyzed for this SDG? | / | | | |

| Validation Area | Yes | No | NA | Findings/Comments |
|--|-----|----|----|-------------------|
| Was an LCS analyzed per extraction batch? | / | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits? | / | | | |
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | / | | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | / | |
| X. Internal standards | | | | |
| Were internal standard area counts within -50% or +100% of the associated calibration standard? | / | | | |
| Were retention times within + 30 seconds from the associated calibration standard? | / | | | |
| XI. Target compound identification | | | | |
| Were relative retention times (RRT's) within + 0.06 RRT units of the standard? | / | | | |
| Did compound spectra meet specified EPA "Functional Guidelines" criteria? | / | | | |
| Were chromatogram peaks verified and accounted for? | / | | | |
| XII. Compound quantitation/RLs | | | | |
| Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound? | / | | | |
| Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | / | | | |
| XIII. Tentatively identified compounds (TICs) | | | | |
| Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum? | | | / | |
| Were relative intensities of the major ions within ± 20% between the sample and the reference spectra? | | | / | |
| Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)? | | / | | |
| XIV. System performance | | | | |
| System performance was found to be acceptable. | / | | | |
| XV. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | / | | | |
| XVI. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | / | | | |
| Target compounds were detected in the field duplicates. | / | | | |
| XVII. Field blanks | | | | |
| Field blanks were identified in this SDG. | / | | | |
| Target compounds were detected in the field blanks. | / | | | |

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

| | | | | |
|---------------------------------|------------------------------|---------------------------------|----------------------------------|---------------------------------|
| A. Phenol | T. 4-Chloroaniline | MM. 4-Chlorophenyl-phenyl ether | FFF. Di-n-octylphthalate | YYY. 2,3,5-Trimethylnaphthalene |
| B. Bis (2-chloroethyl) ether | U. Hexachlorobutadiene | NN. Fluorene | GGG. Benzo(b)fluoranthene | ZZZ. Perylene |
| C. 2-Chlorophenol | V. 4-Chloro-3-methylphenol | OO. 4-Nitroaniline | HHH. Benzo(k)fluoranthene | AAAA. Dibenzothiophene |
| D. 1,3-Dichlorobenzene | W. 2-Methylnaphthalene | PP. 4,6-Dinitro-2-methylphenol | III. Benzo(a)pyrene | BBBB. Benzo(a)fluoranthene |
| E. 1,4-Dichlorobenzene | X. Hexachlorocyclopentadiene | QQ. N-Nitrosodiphenylamine | JJJ. Indeno(1,2,3-cd)pyrene | CCCC. Benzo(b)fluorene |
| F. 1,2-Dichlorobenzene | Y. 2,4,6-Trichlorophenol | RR. 4-Bromophenyl-phenylether | KKK. Dibenz(a,h)anthracene | DDDD. cis/trans-Decalin |
| G. 2-Methylphenol | Z. 2,4,5-Trichlorophenol | SS. Hexachlorobenzene | LLL. Benzo(g,h,i)perylene | EEEE. Biphenyl |
| H. 2,2'-Oxybis(1-chloropropane) | AA. 2-Chloronaphthalene | TT. Pentachlorophenol | MMM. Bis(2-Chloroisopropyl)ether | FFFF. Retene |
| I. 4-Methylphenol | BB. 2-Nitroaniline | UU. Phenanthrene | NNN. Aniline | GGGG. C30-Hopane |
| J. N-Nitroso-di-n-propylamine | CC. Dimethylphthalate | VV. Anthracene | OOO. N-Nitrosodimethylamine | HHHH. 1-Methylphenanthrene |
| K. Hexachloroethane | DD. Acenaphthylene | WW. Carbazole | PPP. Benzoic Acid | IIII. 1,4-Dioxane |
| L. Nitrobenzene | EE. 2,6-Dinitrotoluene | XX. Di-n-butylphthalate | QQQ. Benzyl alcohol | JJJJ. Acetophenone |
| M. Isophorone | FF. 3-Nitroaniline | YY. Fluoranthene | RRR. Pyridine | KKKK. Atrazine |
| N. 2-Nitrophenol | GG. Acenaphthene | ZZ. Pyrene | SSS. Benzidine | LLLL. Benzaldehyde |
| O. 2,4-Dimethylphenol | HH. 2,4-Dinitrophenol | AAA. Butylbenzylphthalate | TTT. 1-Methylnaphthalene | MMMM. Caprolactam |
| P. Bis(2-chloroethoxy)methane | II. 4-Nitrophenol | BBB. 3,3'-Dichlorobenzidine | UUU. Benzo(b)thiophene | NNNN. |
| Q. 2,4-Dichlorophenol | JJ. Dibenzofuran | CCC. Benzo(a)anthracene | VVV. Benzonaphthothiophene | OOOO. |
| R. 1,2,4-Trichlorobenzene | KK. 2,4-Dinitrotoluene | DDD. Chrysene | WWW. Benzo(e)pyrene | PPPP. |
| S. Naphthalene | LL. Diethylphthalate | EEE. Bis(2-ethylhexyl)phthalate | XXX. 2,6-Dimethylnaphthalene | QQQQ. |

VALIDATION FINDINGS WORKSHEET

Field Blanks

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

N N/A Were field blanks identified in this SDG?
N N/A Were target compounds detected in the field blanks?

FB - ~~0~~ FB-071613 (SDG # PH032)

Blank units: ug/L Associated sample units: ug/kg

Sampling date: 4/16/13

Code: F

Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: All

| Compound | Blank ID | Sample Identification | | | | | | | |
|----------|----------|-----------------------|--|---------|---------|--|--|--|--|
| | | 5X/10X | | 1 | 2 | | | | |
| | FB | | | | | | | | |
| W | 0.012 | 0.06 | | | | | | | |
| EEE | 1.0 | 10 | | 9.1/19u | 8.1/18u | | | | |
| XX | 0.11 | 1.1 | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Blank units: ug/L Associated sample units: ug/kg

EB = EB2-~~0~~ 2613 (SDG # PH135)

Sampling date: 11/26/13

Code: F

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: All (ND + 75X)

| Compound | Blank ID | Sample Identification | | | | | | | |
|----------|----------|-----------------------|--|--|--|--|--|--|--|
| | | 5X/10X | | | | | | | |
| | EB | | | | | | | | |
| XX | 0.20 | 2 | | | | | | | |
| LL | 0.35 | 3.5 | | | | | | | |
| EEE | 0.079 | 0.79 | | | | | | | |
| W | 0.011 | 0.055 | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
 Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Method: GC/MS SVOC (EPA 8270D-SIM)

| Analyte | Concentration (µg/kg) | | RPD (≤50%) | Qualifiers (Parents Only) |
|---------|-----------------------|-----|---------------|---------------------------|
| | 2 | 4 | | |
| VV | 0.43 | 2.8 | 147 | J det/A |
| CCC | 1.2 | 13 | 166 | J det/A |
| III | 1.3 | 11 | 158 | J det/A |
| GGG | 2.3 | 16 | 150 | J det/A |
| LLL | 0.88 | 5.9 | 148 | J det/A |
| HHH | 1.3 | 8.2 | 145 | J det/A |
| DDD | 2.2 | 15 | 149 | J det/A |
| EEE | 8.1 | 18 | 76 | J det/A |
| YY | 2.9 | 28 | 162 | J det/A |
| UU | 1.4 | 12 | 158 | J det/A |
| ZZ | 2.4 | 21 | 159 | J det/A |
| WWW | 17U | 8.4 | 200 | J/UJ/A |
| KKK | 1.7U | 1.8 | 200 | J/UJ/A |
| JJJ | 1.7U | 5.7 | 200 | J/UJ/A |

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$

average RRF = sum of the RRFs/number of standards

$\%RSD = 100 * (S/X)$

A_x = Area of Compound

C_x = Concentration of compound,

S = Standard deviation of the RRFs,

A_{is} = Area of associated internal standard

C_{is} = Concentration of internal standard

X = Mean of the RRFs

| # | Standard ID | Calibration Date | Compound (IS) | Reported RRF (1 std) | Recalculated RRF (1 std) | Reported Average RRF (Initial) | Recalculated Average RRF (Initial) | Reported %RSD | Recalculated %RSD |
|---|-------------|------------------|------------------------------|----------------------|--------------------------|--------------------------------|------------------------------------|---------------|-------------------|
| 1 | HP10976 | 12/3/2013 | N-Nitrosodimethylamine (IS1) | 1.188 | 1.188 | 1.169 | 1.169 | 3 | 3 |
| | | | Naphthalene (IS2) | 1.027 | 1.027 | 1.024 | 1.025 | 2 | 2 |
| | | | Fluorene (IS3) | 1.265 | 1.265 | 1.259 | 1.258 | 2 | 2 |
| | | | Anthracene (IS4) | 1.080 | 1.080 | 1.080 | 1.080 | 4 | 4 |
| | | | Chrysene (IS5) | 1.113 | 1.113 | 1.100 | 1.100 | 1 | 1 |
| | | | Benzo(a)pyrene (IS6) | 1.129 | 1.129 | 1.106 | 1.106 | 3 | 3 |

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

METHOD: GC/MS SVOA (EPA SW 846 Method 8270DSIM)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$
 $\text{RRF} = (\text{Ax})(\text{Cis}) / (\text{Ais})(\text{Cx})$

Where:

ave. RRF = initial calibration average RRF

RRF = continuing calibration RRF

Ax = Area of compound

Cx = Concentration of compound

Ais = Area of associated internal standard

Cis = Concentration of internal standard

| # | Standard ID | Calibration Date | Compound (IS) | Average RRF (Initial RRF) | Reported (CC RRF) | Recalculated (CC RRF) | Reported %D | Recalculated %D |
|---|-------------|------------------|------------------------------|---------------------------|-------------------|-----------------------|-------------|-----------------|
| 1 | IL10401 | 12/14/13 | N-Nitrosodimethylamine (IS1) | 1.169 | 1.232 | 1.232 | 5 | 5 |
| | | | Naphthalene (IS2) | 1.024 | 1.030 | 1.030 | 1 | 1 |
| | | | Fluorene (IS3) | 1.259 | 1.276 | 1.276 | 1 | 1 |
| | | | Anthracene (IS4) | 1.080 | 1.086 | 1.086 | 1 | 1 |
| | | | Chrysene (IS5) | 1.100 | 1.180 | 1.180 | 7 | 7 |
| | | | Benzo(a)pyrene (IS6) | 1.106 | 1.144 | 1.144 | 3 | 3 |

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.