SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-603-SA6-SB~ 4.5' Date/Time 12/10/12 @ 0845

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTCH

Analysis

	Parameters	Method	Analyte?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyte?
Enviro	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Antimony	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5Y 7/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-604	Subarea: 6	Date Started: 12/10/12	Date Completed: 12/10/12
Client: DOE	Project Name/#: ~~SSFL-05258-63370.1203.002.229.02234.SSPH3~~ SM 12/12		Total Depth: 0.8
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: 14 mrem / 75 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	14/11				TOP 4" ASPHALT
0.0							
PB 12/10/12 ~~0.5~~		0.0	10/66	SL-604-SA6-SB-0.0-0.5	0925	ML	SANDY SILT (ML) - DARK YELLOWISH BROWN (10YR3/6), 80% SILT, LOW PLASTICITY, 20% SAND, PF, FTO MED, SA TO SA, TRACE CLAY, STIFF TO VERY STIFF, MOIST, NO ODOR.
0.5							END OF BORING @ ~~0.8'~~ 0.5 BGS. PB 12/10/12

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID:	Subarea:	Date Started:	Date Completed:
DG-604	6	12/10/12	12/10/12

Client: DOE	Project Name/#: ~~SSFL 65258.63376.1203.002.223.02291.SSPH3~~ PB	Total Depth: 4.3
Company Name: CDM SMITH	Drill Contractor/Driller: STRATAGEM	
GPS collected? (Yes) or No	Drill Method: DPT	Depth Drilled into Bedrock: 2.8
Radiological Background: Hmmm/75cpm	Borehole diameter: 2.25"	
PID Background: 0.0	Depth to GW: N/A	Sampling Method: DPT
Radiological Equipment Used:	PG Review & No.: [illegible] 6200	
✓ MicroR ✓ Alpha/Beta ✓ Pancake		Geologist: MARK PERRY

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	[illegible]				TOP 4" ASPHACT
1.0		0.0	10/66			ML	SANDY SILT - DARK YELLOWISH BROWN (10YR 3/6) 80% SILT, LOW PLASTICITY, 20% SAND, PG; F TO MGN, SR TO SR, TRACE CLAY, STIFF TO VERY STIFF, MOIST, NO ODOR. GRADATIONAL CONTACT WITH UNDERLYING SS BELOW 1.25-1.5' BGS
		0.0	10/54				
2.0		0.0	10/72			SP	WEATHERED SANDSTONE - SAND (SP), APPROX 60% OF MATRIX, PALE BROWN (10YR 7/3), PG; F-MGN, 5% SILT, NON PLASTIC, NO CEMENTATION. APPROX 40% OF MATRIX COMPRISED OF THIN INTERBEDS OF SILTY SAND, OLIVE BROWN (2.5Y 4/3), WEAK CEMENTATION. MOIST, NO ODOR.
3.0		0.0	10/60	SL-604-SA6-SR-3.5-4.5'	0940		
4.0		0.0	10/114	SL-604-SA6-SB-4.0'	0945		
		0.0	10/120				
5.0							REFUSAL @ 4.3', 4.2, 4.2'

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-604-SAB-SB-0.0-0.5 Date/Time 12/10/12 @ 0925

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
VOA	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel	(N/A)	
Other		

Is Staining Present Yes (No)

Color 10YR 3/6

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-604-SA6-SB-35-45 Date/Time 12/10/12 @ 0940

Matrix (circle one): (Soil) Sediment Water

Start Depth 35

End Depth 45

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICH

Analysis

	Parameters	Method	Analyte?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyte?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5Y 7/4 pale yellow

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 62360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-604-SA6-4.0' Date/Time 12/10/12 @ 0945

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 4.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX PETERS

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Energetics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
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				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
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				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5Y 7/4

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 63600

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-605	6	11/14/2012 →	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 1.8' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: ~~HA~~	Depth Drilled into Bedrock: NA
Radiological Background: 15 µR, 100 cpm	Borehole diameter: 2.75"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: Slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	0.5 / 0.5	0.0	15/76	SL-605 SA6-SB-0.0-0.5	1500	ML	SILT: yellowish brown (10YR 5/4); 95%. silt, no plasticity, soft-firm (hard to slam) (unconsolidated soft-clumps + in situ-firm); 5% sand, pg.f; roots + a couple weeds; dry, no odor.
		0.0	15178				
1		0.0	15178				
							+ same as above, except; 90% silt; 10% sand.
2							
3							
4							
5							

Trisha Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Steve Mercer

Sample ID SL-605-SAU-SB-0.0-0.5 **Date/Time** 11/14/2012 1500

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (DPT) (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-605	Subarea: 6	Date Started: 12/11/12	Date Completed: 12/11/12
Client: DOE	Project Name/#: ~~SGFL-65258-63376.1200.002.223.02231.SSPH3~~ PB		Total Depth: 5.0
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? (Yes) or No	Drill Method: DPT		Depth Drilled into Bedrock: N/A
Radiological Background: 13 mR/hr / 6400 cpm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	13/12			ML SM	~~SANDY SILT~~ (TOP 12") SILTY SAND - OLIVE BROWN (10YR 3/3), 60% SAND, FG, FGR, 40% SILT, LOW PLASTICITY, MEDIUM STIFF, MOIST, NO ODOR.
1.0		0.0	12/16			MH	SANDY SILT. YELLOWISH BROWN (10YR 5/4), 70% SILT, MODERATE PLASTICITY, 25% SAND, F.GR, FR. C. GR.) 5% CLAY, STIFF TO VERY STIFF, MOIST, NO ODOR.
2.0		0.0	12/10				
3.0		0.0	12/12				
4.0		0.0	12/18	SL-605-SA6-SB 4.0-5.0	1100		
5.0		0.0	12/10	SL-605-SA6-SB-4.5'	1105		END OF BORING @ 5.0'. BGS.

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-605-SA6-SB-4.0-5.0 Date/Time 12/11/12 @ 1100

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Different	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-605-SA6-SB-4.5' Date/Time 12/11/12 @ 1105

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LURCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** (0)
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
D6-606	6	11/15/2012 - Thurs.	→

Client: DOE	Project Name/#: SSFL-65258-83376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	0.8', 1.1' bgs
GPS collected? Yes or No	Drill Method: HA	Depth Drilled into Bedrock: NA
Radiological Background: 13 µR/69cpm	Borehole diameter: 2.75"	
PID Background: 0.0ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							SANDY SILT MH 11/26/12
1	0.5 0.5 HA	0.0 0.0 0.0	13/60 13/60 14/78	SL-606-SA6-SB-0.0-0.5	1110	ML	~~SILT WITH SAND~~: yellowish brown (10YR 5/4), 65% silt, nonplastic, firm (hard clumps) roots, porous holes (burrows?); 35% sand, pg, f-m, mostly f; T. gravel (sandstone) fragments, a-sa, ϕ= 0.5"-0.75"; dry, no odor. Gravelly (ss) pieces mostly at surface, upper 6" bgs.) Piece of glass (new - doesn't appear aged)
2							
3							Hit REFUSAL (bedrock) at No 5' sample collected. No GW encountered.
4							
5							

Mike Hoffman #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	HA=hand auger
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-606-SA6-SB-0.0-0.5 **Date/Time** 11/15/2012 1110

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Fluoride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
1,4 Dioxane	EPA 8270 SIM	
Dioxins	EPA 1613	X
PCBs/PCTs	EPA 8082	X
Perchlorate	EPA 314.0/331	
Perchlorate Confirmation	EPA 6850/6860	
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	
Herbicides	EPA 8151	
Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 10

3. Fill Description (circle all that apply)

Asphalt	Metal	Plastic
Concrete	Wood	(Glass)
Igneous/Metamorphic Gravel		N/A
Other		

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments ~~Glass found at 5ft~~ 11.15.12

NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID:	Subarea:	Date Started:	Date Completed:
D6-607	6	12/14/12	12/14/12

Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.229.62234.GSPH3~~ AB	Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A	
GPS collected? ~~Yes~~ or No	Drill Method: N	Depth Drilled into Bedrock: N/A
Radiological Background: 14 uR/hr / 18 cpm	Borehole diameter: 2.75"	
PID Background: 0.0	Depth to GW: N/A	Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: MARK PETRIS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	M/B6	D-607-SA6-SB-06-05	0900	SP-SM	SAND WITH SILT. DARK YELLOWISH BROWN (10 YR 3/4), 85% SAND, PR, F-GR, 15% SILT, NON-PLASTIC, TRACE ROOTS, LOOSE, MOIST, NO ODOR.
0.5		0.0	10/54				END OF BORING @ 0.5' BGS

Mike Mattson #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

Nicki Johnson #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-607-SAGSB-0.0-0.5 Date/Time 12/11/12 @ 0900

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK.

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Energetics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

Location ID: DS-607	Subarea: 6	Date Started: 12/14/12	Date Completed: 12/14/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376-1203.002.223.02234.SSPH3~~		Total Depth: 6.0
Company Name: CDM SMITH	Drill Contractor/Driller: STRONG ARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 2.0
Radiological Background: 14 mrem/68cpm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	14/86			SP-SM	SAND WITH SILT, DARK YELLOWISH BROWN (10YR 3/4), 85% SAND, PG, F.GR., 15% SILT, NON-PLASTIC, TRACE ROOTS/ORGANICS 0-0.5', LOOSE TO MEDIUM DENSE, MOIST, NO ODOR
		0.0	10/54				
1.0		0.0	11/48				
2.0		0.0	11/60				
3.0		0.0	11/42				
4.0		0.0	11/66	SC-607-SAC-SB-4.0-5.0	0915	SP	WEATHERED BEDROCK-SAND, YELLOW (2.5Y 7/6), 95% SAND, PG, F.GR, 5% SILT, NON-PLASTIC, NO TO WEAK CEMENTATION, DRY TO MOIST, NO ODOR
5.0		0.0	11/72	SC-607-SAS-SB 4.5	0920		
6.0		0.0	11/66				REFUSAL @ 6.0', ~~PROBE TO 5.0' (2x)~~ 6.3, 6.3'

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SC-607-SA6-SB-4.0-5.0 Date/Time 12/19/11 @ 0915

Matrix (circle one): Soil (circled) Sediment Water

Start Depth 4.0

End Depth 5.0

Depth Units (circle one): Inches Feet (circled)

Check if Composite ☐

Collection Method (circle one): DPT (circled) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX WUTCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Enceros	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				(SP)	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5Y 6/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-607-SA6-SB-4.5 Date/Time 12/14/12 @ 0920

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUECH

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Low	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
High	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				(SP)	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5Y 7/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID:	Subarea:	Date Started:	Date Completed:
06 608	6	12/10/12	12/10/12

Client: DOE	Project Name/#: ~~SOFL-05256-63376.1203.002.223.00231.SSPH3~~ PB	Total Depth: 0.5'
Company Name: CDM SMITH	Drill Contractor/Driller: N/A	
GPS collected? (Yes) or No	Drill Method: N/A	Depth Drilled into Bedrock: N/A
Radiological Background: 13 uR/hr / 75 cpm	Borehole diameter: 2.75"	
PID Background: 0.0	Depth to GW: N/A	Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [illegible] 6360	Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5	0.0 0.0	13/102 13/78	SC-608-SAG-SB-0.0-0.5	1225	SM	SILTY SAND (SM) - DARK YELLOWISH BROWN (10YR 3/4), 60% SAND, PG, F-GR, 40% SLT, LOW PLASTICITY, MOIST, LOOSE, MOIST, TRACE ROOTS, NO ODOR.
							END OF BORING @ 0.5'

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-608-SA6-SB-0.0-0.5 Date/Time 12/10/12 @ 1225

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CURCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biota	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH * 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH * 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes No
2. Percentage Fill (%) 0
3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color 10 YR 3/4

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature [signature] PG Registration # 6360

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DS 608	6	12/10/11	12/10/11

Client: DOE	Project Name/#: ~~SSFL-03238-03378.1203.002.220.02284.GCPH3~~ PB	Total Depth: 2.4'
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM	
GPS collected? Yes or No	Drill Method: DPT	Depth Drilled into Bedrock: 1.4'
Radiological Background: Brown 175 cpm	Borehole diameter: 2.25"	
PID Background: 0.0	Depth to GW: N/A	Sampling Method: DPT.
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [illegible] 6300	Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	13/102			SM	SILTY SAND-DARK YELLOWISH BROWN (10YR3/4), 60% SAND, FG, SGN, 40% SILT, LOW PLASTICITY, TRACE ROOTS, LOOSE, MOIST, NO ODOR
		0.0	15/74				
1.0		6.0	10/48				
						SP	WEATHERED SANDSTONE- YELLOW (2.5Y 7/6), 95% SAND, FG, FROM SN, 5% SILT, NON-PLASTIC, MOIST.
2.0		0.0	10/60				
		0.0	10/72				
3.0							REFUSAL @ 2.3', 2.4', 2.4'. NO DEEP SAMPLE DUE TO SHALLOW REFUSAL

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

4/3/13

Location ID:	Subarea: C	Date Started:	Date Completed:
DG-609	9 6	11/14/2012 - Wed.	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 2.2, 2.3'
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: HA	Depth Drilled into Bedrock: NA
Radiological Background: 16uR, 79cpm	Borehole diameter: 2.75"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	0.5/0.5	0.0	16/85	SL-609-SA6-SB-0.0-0.5	0935	ML	SILT WITH SAND: brown (10YR 5/4), 75% silt, non-plastic, soft, 25% sand, pg, f, T. m; T. roots; dry, no odor.
	HA	0.0	14/108				
1		0.0	15/78				
2		0.0	14/84				SANDY SILT: dark yellowish brown (10YR 4/6), 70% silt, non-plastic, soft to firm clumps; 30% sand, pg f-m, T. c, mostly m, sa-sr; dry, no odor.
	NR						Hit refusal (bedrock - weak cemented, pale brown ss) at 2.3' bgs. NO 5' sample collected. NO GW encountered.
3							
4							
5							

Mike Hoffman #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-609-SA6-SB-0.0-0.5 **Date/Time** 11/14/2012 0935

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Naolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nicholas Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: 06-609	Subarea: 6	Date Started: 12/11/12	Date Completed: 12/11/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.SSPH3~~ PB		Total Depth: 2.9'
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 0.3
Radiological Background: 13 mrem / 82 cpm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 63360		Geologist: MARK PETES

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	13/98			SM	SILTY SAND - DARK YELLOWISH BROWN (10YR 3/4), 60% SAND, PG, F GR, 40% SILT, LOW PLASTICITY, TRACE ROOTS, STIFF, MOIST.
1.0		0.0	10/54				
2.0		0.0	10/60	SL-609-SA6-SB-2.0-3.0	0940	SP-SM	SAND WITH SILT - DARK YELLOWISH BROWN (10YR 4/6), 90% SAND, PG, F.GR, 10% SILT, NON PLASTIC, MEDIUM DENSE, DRY TO MOIST, NO ODOR.
				SL-609-	0945		
3.0		0.0	10/60	SA6-SB-2.5'		SP	WEATHERED SANDSTONE ~~(2.5Y 6~~ 6/4) LIGHT YELLOWISH BROWN (2.5Y 6/4), SAND, PG, F TO M GR, MOIST
							REFUSAL @ 2.9',

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SF-609-SAG-SB-2.0-3.0' Date/Time 12/11/12 @ 0940

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.0

End Depth 3.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX KLICH

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Basic	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH * 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH * 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes No
2. Percentage Fill (%) 0
3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color 10YR 4/6

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-609-SA6-SR-2.5 Date/Time 12/11/12 @ 0915

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.5

End Depth 2.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICH

Analysis

	Parameter	Method	Analyte?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyte?
Biology	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 9360

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-610	6	11/14/2012 - Wed.	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 2.1, 2.3 'bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: slide hammer / HA	Depth Drilled into Bedrock: NA
Radiological Background: 15 uR, 113 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	0.5/0.5	0.0	15/106	SL-610-SAU-SB-0.0-0.5 MS	0800	ML	SILT WITH SAND: yellowish brown (10YR 5/4); 80% silt, no plasticity, soft-firm; 20% sand, pg, f, T.m; T. rootlets, wood (weeds); dry; no odor.
	HA						
1		0.0	15/90	SL-1010-SAU-SB-0.0-0.5	0815		+ SAA; except trace Ss, slighty moist
2		0.0	15/137				
	NR						Hit refusal 2.3' bgs. No 5' sample collected. No GW encountered.
3							
4							
5							

Nicole Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	SAA: same as above
dk: dark	m: medium	sa: subangular	wg: well graded	Ss: Sandstone
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-610-SA6-SB-0.0-0.5 MS **Date/Time** 11/13/2012 (14) 0800
TR 11.14.12

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) (Hand Auger/Slide Hammer) Trenching Sediment
SM 11/14/12

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacohyn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0

3. Fill Description (circle all that apply)

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel		(N/A)
Other _____		

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-1010-SA6-SB-0.0-0.5 **Date/Time** 11/14/2012 0815

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N (FD) FB RB

Parent Sample ID SL-610-SA6-SB-0.0-0.5 MS

Field Geologist Nacolynn Begay 11.13.12

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-610	Subarea: 6	Date Started: 12/11/11	Date Completed: 12/11/11
Client: DOE	Project Name/#: ~~SSFL-05258-63376.1203.002.223.02231.SSPH3~~ PB		Total Depth: 39'
Company Name: CDM SMITH	Drill Contractor/Driller: STRONG ARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 3.1'
Radiological Background: 13mm / 95 CPM	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	13/97			SM	SILTY SAND (SM) - BROWN (10YR 3/3), 60% SAND, PG, FGR, 40% SILT, LOW PLASTICITY, TRACE ROOTS, MOIST, NO ODOR, MEDIUM DENSE.
1.0		0.0	10/66			SP-SM	SAND WITH SILT - BROWNISH YELLOW 10YR 6/6 90% SAND, FGR, 10% SILT, NON-PLASTIC, PG (MP 12/11 MEDIUM DENSE, MOIST. NO TO WEAK CEMENTATION, POSSIBLE WEATHERED BEDROCK
2.0		0.0	10/66				
				SC-610-SA6-SB-3.0-4.0	1020		
3.0		0.0	10/54				
		0.0	10/72	SC-610 SA6-SB 3.5	1025		
4.0							REFUSAL @ 3.9'; 4.6'; 4.0'

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-GW-SA6-SB-3.0-4.0' Date/Time 12/11/12@1020

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.0

End Depth 4.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MARK LUCK

Analysis

	Parameters	Method	Analyze?
Analytes	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Analytes	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Biology	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel		N/A
Other _____		

Is Staining Present Yes (No)

Color 10YR 6/6

Odor

1. **Odor Strength (circle one)**: (None) Slight Strong
2. **Odor Description (circle one)**: Organic Petroleum Chemical (N/A) Other _____

Moisture Condition (circle one): Dry (Moist) Wet

PG Signature _____ **PG Registration #** 63260

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-610-SA6-SB-3.5' Date/Time 12/11/12 @ 1025

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.5'

End Depth 3.5'

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5 Y 6/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

Location ID: DE 611	Subarea: 6	Date Started: 12/12/12	Date Completed: 12/12/12
Client: DOE	Project Name/#: ~~SSFL-05258-63376.1203.002.223.02284.SSPH3~~ PB		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: 0.4
Radiological Background: 13mrem / 84cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PEBS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	11/99 80 on 12/[illegible] 10/4 [illegible]	SL-641 SAG-SB 0.0-0.5'	0845	SM	DYB (10YR 3/4) SILTY SAND 0.0-0.1'
0.5		0.0				SP	WEATHERED SANDSTONE: YELLOWISH BROWN 10YR 5/8, SAND, FTOM OR, PG, SR TO SA, NO TO WEAK CEMENTATION, MOIST, NO ODOR.

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-611-SA6-SB-0.0-0.5 Date/Time 12/12/12 @ 0845

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTON

Analysis

	Parameters	Method	Analyze?
Inorganic	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Organic	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Inorganic	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/8

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

Location ID: DG 611	Subarea: 6	Date Started: 12/12/12	Date Completed: 12/12/12
Client: DOE	Project Name/#: ~~GSFL-65258-63376.1203.002.223.02231.SSPH3~~ PB		Total Depth: 4.5
Company Name: CDM SMITH	Drill Contractor/Driller: STRONG ARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 4.4
Radiological Background: Barren 184 cm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETA

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	15/16			SM	DYB (10YR 3/4 SILTY SAND 0.0-0.1'
		0.0	10/48				WEATHERED SANDSTONE - YELLOWISH BROWN (10YR 5/8) GRADING TO OLIVE YELLOW (2.5Y 6/6), SAND, PG, F TO M GR, SR TO SA, TRACE SILT, NO (MODERATE) TO WEAR CEMENTATION, MOIST, NO ODOR.
1.0		0.0	10/78				
2.0		0.0	10/66				EXCEPT AS NOTED; 3.8-4.5' GRADING TO GRAYISH BROWN (2.5Y 5/2) SILTY SANDSTONE WITH WEAR TO STRONG CEMENTATION
3.0		0.0	10/89	SL-611-SAG-SB-3.0-4.0'	0910		
4.0		0.0	10/66	SL-611-SAG-SB 3.5'	0915		
		0.0	10/42				
5.0							REFUSAL @ 4.5' (3Y)

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-611-SA6-SB-3.0-4.0' Date/Time 12/12/2010 0910

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.0

End Depth 4.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CLICK

Analysis

	Parameters	Method	Analysis?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Soil	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	Y
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5Y 6/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-611-SA6-SB-3.5' **Date/Time** 12/12/12 0915

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.5

End Depth 3.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAY CUICH.

Analysis

	Parameter	Method	Analyze?
Inorganics	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
Organics	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
Inorganics	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
Organics	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Organics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	Y
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Inorganics	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5Y 6/6

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

Location ID: DG-612	Subarea: 6	Date Started: 12/6/12	Date Completed: 12/6/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.229.02234.SSPH3~~ SM 1412		Total Depth: 2.8
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: 0.2
Radiological Background: 14 mer / 68 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER/SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	14/54	SL-612-SAG-SB-0.0-9.5	1010	ML	SANDY SILT - DARK BROWN (10YR 3/3) - 60% SILT, LOW TO MODERATE PLASTICITY, 40% SAND, PG, FGR., TRACE ROOTS/ORGANICS, LOOSE, MOIST, NO ODOR.
	0.5/0.5	0.0	14/68				
1.0		0.0	13/66			SM	SILTY SAND - DARK YELLOWISH BROWN (10YR 3/4), 70% SAND, PG, FGR, 30% SILT, LOW PLASTICITY, LOOSE, MOIST, NO ODOR.
2.0	0.5/0.5	0.0	13/66	SL-612-SAG-SB-2.0-3.0	1030		
	0.5/0.5	0.0	13/54	SL-612-SAG-SB-2.5	1035	SP	WEATHERED SANDSTONE (F-M SAND) 2.6-2.8'
3.0							REFUSAL @ 2.8', 3.0', 3.0'

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-612-SA6-SB-0.0-0.5 Date/Time 12/6/12 @ 1010

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUECH

Analysis

	Parameter	Method	Analysis?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analysis?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 62300

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-612-SA6-SB-2.0-3.0 Date/Time 12/6/12 @ 1030

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.0

End Depth 3.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	Y
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-612-SA6-SB-2.5 Date/Time 12/6/12 @ 1035

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.5

End Depth 2.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUECH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Organics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Metals	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

Location ID: DE 613	Subarea: 6	Date Started: 12/12/12	Date Completed: 12/12/12
Client: DOE	Project Name/#: ~~SSFL-65258-63370.1209.002.223.02231.SSPH3~~ 83		Total Depth: 0.5'
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: 12 nen / 87 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/77	SL-613-SA6-SB-0.0-0.5	0945	SM	SILTY SAND (SM) - DARK YELLOWISH BROWN (10YR 3/4), 70% SAND, PG, F.GR, 30% SILT, LOW PLASTICITY, TRACE ROOTS, LOOSE, MOIST, NO ODOR.
0.5		0.0	10/60				
							END OF BORING @ 0.5' BGS.

Mike Jeffrson #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID:	Subarea:	Date Started:	Date Completed:
DB 613	6	12/12/12	12/12/12

Client: DOE	Project Name/#: ~~SSFL-05256-63378.1203.002.223.02234.SSPH3~~ PB	Total Depth: 1.8
Company Name: CDM SMITH	Drill Contractor/Driller: STONE ARM	
GPS collected? Yes or No	Drill Method: DPT	Depth Drilled into Bedrock: 0.2
Radiological Background: 12 mrem/87cm	Borehole diameter: 2.25"	
PID Background: 0.0	Depth to GW: N/A	Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/77			SM	SILTY SAND (SM) DARK YELLOWISH BROWN (10YR 3/4), 70% SAND, FG, F-GR, 30% SLT, LOW PLASTICITY, MOIST, LOOSE, NO ODOR.
		0.0	10/60				
1.0		0.0	10/60				
		0.0	10/57				WEATHERED SANDSTONE - FROM SAND, NO ODOR.
2.0							REFUSAL @ 1.8' (3X) NOT SAMPLED DUE TO SHALLOW REFUSAL

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-613-SA6-SB-0.0-0.5 Date/Time 12/12/12 @ 0945

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biota	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

Location ID: DG-614	Subarea: 6	Date Started: 12/12/12	Date Completed: 12/12/12
Client: DOE	Project Name/#: ~~SSFL-65268-69370.1203.002.223.02231.SSPHS~~ PB		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: 12 mrem/86 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [illegible] 6260		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	12/99 12/94	SG-614-SA6-SB-0.0-0.5FS	0800	SM	SILTY SAND - DARK YELLOWISH BROWN (10YR 3/6), 55% SAND FG, F.GR, 45% SLT, LOW PLASTICITY, TRACE ROOTS, LOOSE, MOIST, NO ODOR.
				SG-614-SA6-SB-0.0-0.5'	0810		END OF BORING @ 0.5' BGS

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-614-SA6-SB-0.0-0.5MS Date/Time 12/12/12 @ 0800

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LOCH

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6760

Additional Comments N/A

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-614	Subarea: 6	Date Started: 12/12/12	Date Completed: 12/12/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.SSPH3~~ PB		Total Depth: 2.4
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? (Yes) or No	Drill Method: DPT		Depth Drilled into Bedrock: 1.4
Radiological Background: 12cpm/86cpm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [illegible] 6760		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0	(Ne 5.0	0.0	12/09 12/54			SM	SILTY SAND - DARK YELLOWISH BROWN (10YR 3/6), 55% SAND, FG, F.GR, 45% SILT, LOW PLASTICITY, LOOSE, MOIST, NO ODOR
2.0	0.8	0.0	11/60 11/72 11/84			SP	WEATHERED SANDSTONE - BROWNISH YELLOW (10YR 6/6) GRADING TO OLIVE YELLOW (2.5Y 6/6), 95% SAND, FG, F TO M GR, SUBROSA, 5% SILT, NON-PLASTIC, DRY TO MOIST, NO ODOR.
3.0							REFUSAL @ 2.4', 2.3', 2.3' NO SAMPLE DUE TO SHALLOW REFUSAL.

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-614-SA6-SB-0.0-0.5 (corrected 1014) Date/Time 12/12/12 0810

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N (FD) FB RB

Parent Sample ID SL-614-SA6-SB-0.0-0.5 MS

Field Geologist MARK PETERS

Sampler MAX LUTCH

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Fluoride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
1,4 Dioxane	EPA 8270 SIM	
Dioxins	EPA 1613	X
PCBs/PCTs	EPA 8082	X
Perchlorate	EPA 314.0/331	
Perchlorate Confirmation	EPA 6850/6860	
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	
Herbicides	EPA 8151	
Pesticides	EPA 8081	

Parameters	Method	Analyze?
VOCs	EPA 8260	
1,4 Dioxane	EPA 8260 SIM	
TPH-GRO	EPA 8015	
TPH-EFH	EPA 8015	X
Glycols	EPA 8015	
Alcohols	EPA 8015	
Terphenyls	EPA 8015	
Nitrates	EPA 300.0/9056	
Energetics	EPA 8330	
Cyanide	EPA 9012	
Formaldehyde	EPA 8315	
NDMA	EPA 1625	
Organotin	NOAA Status and Trends, Krone et al.	
Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/2

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6260

Additional Comments _____

NA – Not Applicable

Location ID: DG 615	Subarea: 6	Date Started: 12/12/12	Date Completed: 12/12/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02234.SSPH8~~ PB		Total Depth: 0.5'
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: 12 mrem/74 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A.		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/84	SL-615 SAG-SS-0.0-0.1	1105	SM	DARK YELLOWISH ~~BROWN~~ BROWN SILTY SAND, DARK ~~YELLOWISH~~ BROWN (10YR 3/2), 60% SAND, PG, F.GR, 35% SILT, LOW PLASTICITY, 5% ROOTS/ORGANICS, LOOSE TO MEDIUM DENSE, MOIST, NO ODOR.
0.5		0.0	12/54				
							END OF BORING @ 0.5' BGS

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID: DG 615	Subarea: 6	Date Started: 12/12/12	Date Completed: 12/12/12
Client: DOE	Project Name/#: ~~SSFL-05258-03376.1203.002.223.02231.SSPH3~~ PB		Total Depth: 5.0
Company Name: CDM SMITH	Drill Contractor/Driller: Strongman		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 4.0
Radiological Background: 12 mrem/74 cpm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: Mark Peters

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/80			SM	SILTY SAND (SM), DARK BROWN (10YR 3/3) 60% SAND, PG, FGR, 35% SILT, NON PLASTIC, 5% ROOTS ORGANICS 0-0.5', MEDIUM DENSE, MOIST, NO ODOR.
		0.0	12/54				
1.0		0.0	12/74				GRADING TO YELLOWISH BROWN (10YR 5/4), 20% SILT / 80% SAND 1-4' BGS.
2.0		0.0	12/80				
3.0		0.0	12/56				
				SL-615 SA6-SB-4.0-5.0	1125		
4.2		0.0	12/74				
				SL-615 SA6-SB-4.5	1130	SP	WEATHERED SANDSTONE - ~~LIGHT OL~~ LIGHT OLIVE BROWN (2.5Y 5/6), 95% SAND, PG, FTOM GR., SR TO SA, 5% SILT, NON-PLASTIC, NO TO WEAK CEMENTATION, MOIST, NO ODOR.
		0.0	12/82				
5.0							END OF BORING @ 5.0' (3X)

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Stephen Myers

Sample ID SC-615-SA6-SB-0.0-0.5 Date/Time 12/11/10 1105

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CUTCH

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	Y
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Surface	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	Y
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0

3. Fill Description (circle all that apply)

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel	(N/A)	
Other		

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 2735

Additional Comments

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-615-SA6-SB-4.0-5.0' Date/Time 12/12/12 @ 1125

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CUICH

Analysis

	Parameter	Method	Analyze?
Inorganics	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Inorganics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				(SP)	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5Y 5/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-615-SA6-SB-4.5' Date/Time 12/12/12 0 1130

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAY CUTCH

Analysis

	Parameter	Method	Analyze?
Metals	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Volatiles	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	Y
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH * 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH * 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes No
2. Percentage Fill (%) 0
3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color 2.5Y 5/6

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID: DG-616	Subarea: 6	Date Started: 12/12/12	Date Completed: 12/12/12
Client: DOE	Project Name/#: ~~SSFL-65258-03976.4203.002.223.02231.SSPH3~~ PB		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: 12nnu/93cm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	12/72	SL-616-SA6-SB-	1400	SM	SILTY SAND DARK BROWN (10YR 3/3), 70% SAND, PG, F.GR, 30% SILT, LOW PLASTICITY, TRACE ROOTS, MOIST, LOOSE TO MEDIUM DENSE, NO ODOR.
0.5		0.0	12/65	0.0-0.5			
							END OF BORING @ 0.5' BGS

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

Location ID:	Subarea:	Date Started:	Date Completed:
OG-616	6	12/12/12	12/12/12

Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.SSPH3~~ 88	Total Depth: 5.0'
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM	
GPS collected? Yes or No	Drill Method: DPT	Depth Drilled into Bedrock: 2.0'
Radiological Background: 12 mR/93 cm	Borehole diameter: 2.25"	
PID Background: 0.0	Depth to GW: N/A	Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/12			SM	SILTY SAND, DARK BROWN (10YR 3/3), 70% SAND, FG, F-SA, 30% SILT, NON PLASTIC, SILTY, MEDIUM DENSE, NO ODOR. (MOIST)
		0.0	11/65				
1.0		0.0	10/54				BECOMES DARK YELLOWISH BROWN, 20% SILT FROM 1.5'-3' BGS.
2.0		0.0	10/60				
3.0		0.0	10/72				
				SL-616-SA6-58-4.0-5.0'	1415		WEATHERED SAND STONE. YELLOWISH BROWN (10YR 5/8) 95% SAND, FG, F TO MED, SR. TO SA, 5% SILT, NON-PLASTIC, NO TO WEAK CEMENTATION, DRY TO MOIST.
4.0		0.0	10/60				
				SL-616-SA6-58-4.5'	1420		
5.0		0.0	10/50				
							END OF BORING @ 5.0' BGS (3x)

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-616-SA6-SB-0.0-0.5 Date/Time 12/12/11@ 1400

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUIN

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biocides	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Nikki Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-616-SA6-SB-4.0-5.0' Date/Time 12/12/12 @ 1415

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CUTCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biota	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/8

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Nicole E. Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-616-SA6-SB-4.5' Date/Time 12/12/12 @ 1420

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUECH

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tributyltin	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/8

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

Location ID: DG-617	Subarea: 6	Date Started: 12/18/12	Date Completed: 12/18/12
Client: DOE	Project Name/#: ~~SSFL-05258-03376.1203.002.225.02231.SSPH3~~ PB		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: 12 nm 67cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PERRY

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0 / 0.0	N/102 / N/54	SL-617-SA6-SB-0.0-0.5	1310	SM	SILTY SAND - DARK YELLOWISH BROWN (10YR 3/4), 80% SAND, PG, F.Gr., 20% SILT, NON-PLASTIC, TRACE ROOTS, LOOSE, MOIST, NO ODOR.
0.5							END OF BORING @ 0.5' BGS.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Santa Susana Field Laboratory/94489

Location ID:	Subarea:	Date Started:	Date Completed:
06-617	6	12/18/11	12/18/11

Client: DOE	Project Name/#: ~~SSFL-05256-05376.4203.002.223.02231.SSPH3~~ RB	Total Depth: 5.0'
Company Name: CDM SMITH	Drill Contractor/Driller: STRATA	
GPS collected? Yes or No	Drill Method: DPT	Depth Drilled into Bedrock: 3.0'
Radiological Background: Rn/Gamma	Borehole diameter: 2.25"	
PID Background: 0.0	Depth to GW: N/A	Sampling Method:
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: MM/KG

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0		0.0	12/10			SP	SILTY SAND OF DARK YELLOWISH BROWN (10YR 3/4), 80% SAND, PG, F-GR. 20% SILT, NON-PLASTIC, TRACE ROOTS, D.C. 0.5', LOOSE, MOIST, NO ODOR.
2.0		0.0	10/54				
		0.0	10/10				
3.0		0.0	10/8				
		0.0	10/60			SM	WEATHERED BEDROCK - SILTY SAND, YELLOWISH BROWN (10YR 5/4), 80% SAND, PG, F. GR., 20% SILT, NON-PLASTIC, NO REACTION TO HCl. MASSIVE. (MICA) CEMENTATION, DRY TO MOIST, NO ODOR.
4.0		0.0	10/60	SC-617-SB6-38-4.0-5.0	1320		
		0.0	10/60	SC-617-SB638-4.0-5.0	1325		
5.0							
							PHASE TO 5.0' BGS (3x)

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-617-SA6-SB-0.0-0.5' **Date/Time** 12/18/12 @ 1340

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICH

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Fluoride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
1,4 Dioxane	EPA 8270 SIM	
Dioxins	EPA 1613	X
PCBs/PCTs	EPA 8082	X
Perchlorate	EPA 314.0/331	
Perchlorate Confirmation	EPA 6850/6860	
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	
Herbicides	EPA 8151	
Pesticides	EPA 8081	

VOCs	EPA 8260	
1,4 Dioxane	EPA 8260 SIM	
TPH-GRO	EPA 8015	
TPH-EFH	EPA 8015	X
Glycols	EPA 8015	
Alcohols	EPA 8015	
Terphenyls	EPA 8015	
Nitrates	EPA 300.0/9056	
Energetics	EPA 8330	
Cyanide	EPA 9012	
Formaldehyde	EPA 8315	
NDMA	EPA 1625	
Organotin	NOAA Status and Trends, Krone et al.	
Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Julie Hoffman **PG Registration #** 9735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By MM

Sample ID SC-617-SA6SB-4.0-5.0 Date/Time 12/18/12 1320

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CULEN

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Organics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Metals	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mila [illegible] **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-617-SA6-SS-45 Date/Time 12/18/17 @ 1325

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETRUS

Sampler MAX LUTCH

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Aromatics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Other	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

Location ID: DG-618	Subarea: 6	Date Started: 12/6/12	Date Completed: 12/6/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.SSPH3~~ SM 1241a		Total Depth: 1.1
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: 0.6
Radiological Background: 14mrem/47cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER / SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PERRY

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	14/72	SL-618-SA6-SB-0.0-0.5MS	0825	ML	SANDY SILT (ML) DARK YELLOWISH BROWN (10YR3/4) 70% SILT, LOW PLASTICITY, 30% SAND, VF, FGR, TR. CGR, SR TO SA, MEDIUM STIFF, MOIST, NO ODOR.
	0.5/0.5	0.0	14/60	SL-1018-SA6-SB-0.0-0.5	0830	SP	SAND - DARK YELLOWISH BROWN (10YR3/6), 95% SAND, F TO MGR, SR TO SA, 5% SILT, NON-PLASTIC, NO CEMENTATION, MOIST, NO ODOR. POSSIBLE NON-CATHERED BEDROCK.
		0.0	14/60				REFUSAL @ 1.1', 0.6', 0.7'
							NO DEEP SAMPLE DUE TO SHALLOW REFUSAL

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-618-SA6-SB-0.0-0.5MS Date/Time 12/6/12 @ 0825

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID 1018 (on 12/6) SC-~~618~~ SA6-SB-00-015 Date/Time 12/6/12 @ 0830

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N (FD) FB RB

Parent Sample ID SC-618-SA6-SB-0.0-0.5

Field Geologist MARK PETERS

Sampler MAX LUTH

Analysis

	Parameter	Method	Analyze?
Inorganics	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Organics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Other	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: OG-619	Subarea: 6	Date Started: 12/6/12	Date Completed: 12/6/12
Client: DOE	Project Name/#: ~~SSFL-05268-03370.1203.002.223.02234.SSPH3~~ SM 12412		Total Depth: 1.0
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: 0.5
Radiological Background: 14mrem/68cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER/SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0 0.0	15/68 14/90	SL-619-SA6-S3 0.0-0.5'	0945 0745	SM	SILTY SAND - DARK BROWN (10YR 3/3). 80% SAND, PG, F.GR., 20% SILT, NON-PLASTIC, TRACE ORGANICS, LOOSE, MOIST, NO ODOR.
	0.5/0.5	0.0	14/84			SP	SAND - DARK YELLOWISH BROWN (10YR 4/6). PG, FTOM GR., TR. COARSE GR., SR TO SA, TRACE SR TO SA FINE GRAVEL, TRACE SILT, NO TO WEAK CEMENTATION, MOIST, NO ODOR. POSSIBLE WEATHERED BEDROCK.
							REFUSAL @ 1.0' BGS (3X). NO DEEP SAMPLE DUE TO SHALLOW REFUSAL

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-B19-SA6-SB-0.0-0.5 Date/Time 12/6/12 @ ~~0945~~ 0745 (mr 12/6)

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	Y
		EPA 6020	Y
		EPA 7471 (Soil)	Y
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	Y
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	Y
	PCBs/PCTs	EPA 8082	Y
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	Y
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0

3. Fill Description (circle all that apply)

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel	(N/A)	
Other		

Is Staining Present Yes (No)

Color 10 YR 3/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID:	Subarea:	Date Started:	Date Completed:
DG-620	6	12/6/12	~~12/6/12~~ 12/6/12

Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.SSFH3~~ SM 12412	Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A	
GPS collected? Yes or No	Drill Method: HAND AUGER	Depth Drilled into Bedrock: 0.1
Radiological Background: Mmr/79 cpm	Borehole diameter: 2.75"	
PID Background: 0.0	Depth to GW: N/A	Sampling Method: HAND AUGER/SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360	Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	14/80	SL-620-SAG-SB-0.0-0.5	0940	SM	SILTY SAND ~~(SM)~~ VERY DARK BROWN (10YR 2/2), 75% SAND, PG, F. GR, 25% SILT, NON-PLASTIC, TRACE ROOTS/
		0.0	14/24			SP	ORGANICS, LOOSE, MOIST, NO ODOR
							WEATHERED SANDSTONE (F-M SAND) 0.4-0.5', NO ODOR.
1.0							REFUSAL @ 0.5', ~~(SM)~~ 0.5, 1.0' (MP 12/6)

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-620-SA6-SB-0.0-0.5 Date/Time 12/6/12 @ 0940

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Butyltins	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** G

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 2/2

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 10360

Additional Comments _____

NA – Not Applicable

Location ID: DG-G21	Subarea: 6	Date Started: 12/12/12	Date Completed: 12/12/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.4203.002.223.02231.SSPH3~~ PB		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: 12 mrem/8 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5 (2)	0.0	12/41	SL-G21 SAG-SB-	1315	SM	SILTY SAND - DARK YELLOWISH BROWN (10YR 3/4), 70% SAND, PG, F. GR. 30% SILT, LOW PLASTICITY, TRACE ROOTS, MEDIUM DENSE, MOIST, NO ODOR
0.5		0.0	12/60	0.0-0.5'			END OF BORING @ 0.5' BGS.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID: DG-621	Subarea: 6	Date Started: 12/12/12	Date Completed: 12/12/12
Client: DOE	Project Name/#: ~~SSFL-05258-63376.1203.002.223.02231.SSPH3~~ PB		Total Depth: 3.6'
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 2.1'
Radiological Background: 12 mrem/8 cm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/91			SM	SILTY SAND - DARK YELLOWISH BROWN (10YR 3/4), 70% SAND, PG, F.GR, 30% SILT, LOW PLASTICITY, MEDIUM DENSE. MOIST, NO ODOR.
		0.0	12/60				
1.0		0.0	12/42				
2.0		0.0	12/66	SL-621-SA6-SB 2.5-3.5	1330	SP	SAND - YELLOWISH BROWN (10YR 5/6), 95% SAND, PG, FTOM GR, SR TO SA, 5% SILT, NON-PLASTIC, NO TO WEAK CEMENTATION, DRY TO MOIST, NO ODOR, WEATHERED SANDSTONE.
3.0		0.0	12/60	SL-621 SA6-SB 3.0	1335		
		0.0	12/72				
4.0							REFUSAL @ 3.6', 3.7', 3.6'

Viola Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-621-SA6-SB-0.0-0.5 Date/Time 12/12/12 @ 1315

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CUICH

Analysis

	Parameter	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Soil	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X small aliquot
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** (N/A)
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-601-SA6-SB-2.5-3.5 Date/Time 12/12/12 @ 1330

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.5

End Depth 3.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CUICA

Analysis

	Parameter	Method	Analysis?
Basic	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analysis?
Basic	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	~~X~~ (Approved)
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Special	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-621-SA6-SB-310' Date/Time 12/12/12 @ 1335

Matrix (circle one): (Soil) Sediment Water

Start Depth 310

End Depth 310

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CUTCH

Analysis

	Parameter	Method	Analyte(s)
Basic	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyte(s)
Basic	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID: D6-622	Subarea: 6	Date Started: 12/19/12	Date Completed: 12/19/12
Client: DOE	Project Name/#: ~~SSFL-05258-03376.4208.002.223.02231.SSPH3~~ SM 12S12		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: Brown/Stem	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/41	SL-622-SA6-SB-010-0.5MS	0755	ML	SANDY SILT - DARK BROWN (10YR 3/3), 60% SILT, LOW PLASTICITY, 40% SAND, PG, F. GR, TRACE ROOTS, MEDIUM STIFF, MOIST, NO ODOR.
0.5		0.0	12/54				
				SL-1022-SA6-SB-010-0.5	0800		END OF BORING @ 0.5' BGS.

[signature]

7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Santa Susana Field Laboratory/94489

Location ID: DG-622	Subarea: 6	Date Started: 12/19/12	Date Completed: 12/19/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.SSPH3~~ Sm 12S12		Total Depth: 4.7
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 4.1
Radiological Background: 13 mm/50 cpm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/91			ML	SANDY SILT - DARK BROWN (10YR 3/3), 60% SILT, LOW PLASTICITY, 40% SAND, PG, F-GR, TRACE ROOTS, MEDIUM STIFF, MOIST, NO ODOR.
		0.0	12/54				
1.0		0.0	10/48			SP-SM	WEATHERED BEDROCK - YELLOWISH-BROWN (10YR 5/8), 90% SAND, F TO M GR, SR TO SA, 10% SILT, NON-PLASTIC, NO TO WEAK CEMENTATION, MOIST.
2.0		0.0	10/42				
3.0		0.0	10/48				
				SL-622-SA6-SB-3.5-4.5	0815		
4.0		0.0	10/66				
		0.0	10/54	SL-622 SA6-SB-4.0	0820		
5.0							REFUSAL @ 4.7', 4.7', 4.8'

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-622-SA6-SB-00-0.5MS Date/Time 12/18/12 @ 0755

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MATT CLOCK

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7385

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-1022-SA6-SB-0.0-0.5 Date/Time 12/18/12 @ 0800

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID SL-622-SA6 SB-0.0-0.5 MS

Field Geologist MARK PETERS

Sampler MAX CLUCK

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-622-SA6-SB-3.5-4.5 **Date/Time** 12/14/12 @ 0815

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CLICK

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Fluoride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
1,4 Dioxane	EPA 8270 SIM	
Dioxins	EPA 1613	X
PCBs/PCTs	EPA 8082	X
Perchlorate	EPA 314.0/331	
Perchlorate Confirmation	EPA 6850/6860	
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	
Herbicides	EPA 8151	
Pesticides	EPA 8081	

VOCs	EPA 8260	
1,4 Dioxane	EPA 8260 SIM	
TPH-GRO	EPA 8015	
TPH-EFH	EPA 8015	X
Glycols	EPA 8015	
Alcohols	EPA 8015	
Terphenyls	EPA 8015	
Nitrates	EPA 300.0/9056	
Energetics	EPA 8330	
Cyanide	EPA 9012	
Formaldehyde	EPA 8315	
NDMA	EPA 1625	
Organotin	NOAA Status and Trends, Krone et al.	
Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/8

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-622-SA6-SB-4.0 **Date/Time** 12/19/12 @ 0820

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 4.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICH

Analysis

	Parameter	Method	Analysis?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analysis?
	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	Y
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** (0)
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

Location ID: DG-623	Subarea: 6	Date Started: 12/19/12	Date Completed: 12/19/12
Client: DOE	Project Name/#: ~~SGFL-65258-63376.1203.002.223.02231.SSPH3~~ SM 12512		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: 12mm/90cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PEGEN

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/68	SL-623-SA6-SB-0.0-0.5	0921	SM	SILTY SAND - DARK BROWN (10YR 3/3), 70% SAND, PE. FBR, 30% SILT, TR ROOTS, MEDIUM STIFF, MOIST, NO ODOR. LOW PLASTICITY (MP 12/16)
		0.0	10/54				
0.5							END OF BORING @ 0.5' BGS

Nick Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

Location ID: D6-623	Subarea: 6	Date Started: 12/19/12	Date Completed: 12/19/12
Client: DOE	Project Name/#: ~~SSPL-05258-03376.4200.002.223.02231.SSPH3~~ SM 12512		Total Depth: 2.5
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 1.5
Radiological Background: 12 mrem/90 cpm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/68			SM	SILTY SAND - DARK BROWN (10YR 3/3), 70% SAND, PG, F. GR, 30% SILT, LOW PLASTICITY, TRACE ROOTS, MEDIUM STIFF, MOIST
		0.0	10/54				
1.0		0.0	10/54				
						SP	WEATHERED BE @ 1.0 SAND, YELLOWISH-BROWN (10YR 5/8), 95% SAND, F TO M GR, PG, SR TO SA, 5% SILT, NON-PLASTIC, NO TO WEAK CEMENTATION, DRY TO MOIST, NO ODOR.
2.0		0.0	10/48				
		0.0	10/42				
							REFUSAL @ 2.5' (3x)
3.0							NOT SAMPLED DUE TO SHALLOW REFUSAL.

Linda Hoffman # 7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-623-SB16-SB-0.0-0.5' Date/Time 12/19/12 @ 0920

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUECK

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Nikki Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-G24	Subarea: 6	Date Started: 12/19/12	Date Completed: 12/19/12
Client: DOE	Project Name/#: ~~SSFL-65258-03376.1203.002.223.02231.SSPH3~~ SM 1a5 1a		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: 12mrem/5kcm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/78	SL-G24-SAG-SB-01-05	0850	ML	SANDY SILT DARK BROWN (10YR 3/3), 60% SILT, LOW PLASTICITY, 40% SAND, PS, P.GR., T. ROOTS, MEDIUM STIFF, MOIST, NO ODOR.
0.5		0.0	10/66				
							END OF BORING @ 0.5' BGS

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID: D6-624	Subarea: 6	Date Started: 12/19/12	Date Completed: 12/19/12
Client: DOE	Project Name/#: ~~SSFL-65258-63076.4203.002.223.02234.SSPH3~~ SM 12/19/12		Total Depth: 5.0
Company Name: CDM SMITH	Drill Contractor/Driller: STRONG ARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: N/A
Radiological Background: 12 mrem/56 cpm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETRUS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/78			ML	SANDY SILT - DARK BROWN (10YR 3/3), 60% SILT, LOW PLASTICITY, 40% SAND, PG, F.GR, T. ROOTS 0.0-0.5', MEDIUM STIFF, NO ODOR.
		0.0	10/60				
1.0		0.0	10/42			SM	~~0.5-5.0' SAME AS ABOVE EXCEPT~~ Cmp 12/18 DARK YELLOWISH BROWN (10YR 3/6), SILTY SAND 70% SAND, PG, F.GR, 30% SILT, LOW PLASTICITY, VERY STIFF, DRY TO MOIST, NO ODOR.
2.0		0.0	10/60				
3.0		0.0	10/54				
4.0		0.0	10/66	SL-624-SA6-SB-4.0-5.0	0855		
		0.0	10/48	SL-624-SA6-SB-4.5	0900		
5.0							END OF BORING @ 5.0' BGS (3x)

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-624-SA6-SB-0.0-0.5 Date/Time 12/10/12 0850

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAY LUICK

Analysis

	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes No
2. Percentage Fill (%) 0
3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color 10 YR 3/3

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SC-~~SA6-SB~~ 624 (Grab) -SA6-SB-4.0-5.0 Date/Time 12/19/12 @ 0855

Matrix (circle one): Soil (circled) Sediment Water

Start Depth 4.0

End Depth 5.0

Depth Units (circle one): Inches Feet (circled)

Check If Composite ☐

Collection Method (circle one): DPT (circled) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Excavation	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/6

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By ✓

Sample ID SL-624-SA6-SB-4.5 Date/Time 12/19/12 @ 0900

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTCH

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Gasoline	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
Diesel	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: D6-625	Subarea: 6	Date Started: 12/19/12	Date Completed: 12/19/12
Client: DOE	Project Name/#: ~~SSFL-65250-63376.1203.002.223.02231.SSPH3~~ Stn 10512		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: Mover/88 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	14/60	SL-625-SA6-SB-0.0-0.5	0950	SM	SILTY SAND (SM) - DARK BROWN (10YR 2/3), 60% SAND, PG, F-GR, 40% SILT, LOW PLASTICITY, TRACE ROOTS, ~~MEDIUM STIFF~~ MEDIUM DENSE, MOIST, NO ODOR.
0.5		0.0	10/60				
							END OF BORING @ 0.5' BGS

Nika Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID: DG-625	Subarea: 6	Date Started: 12/19/12	Date Completed: 12/19/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.CSPH3.~~ SM Tasla		Total Depth: 2.6
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 2.1
Radiological Background: 14mm/88 cm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETRIS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	14/69			SM	SILTY SAND - DARK BROWN (10YR 3/3), 60% SAND, PG, F. GR, 40% SILT, LOW PLASTICITY, T. ROOTS, MED. DENSE, MOIST, NO ODOR.
		0.0	10/60				
1.0		0.0	10/30			SP	WEATHERED BEDROCK - SAND, YELLOWISH BROWN (10YR 5/8) MOTTLED WITH PALE BROWN (10YR 7/3), PG, F TO M GR, T. C. GR, SR TO SA, TRACE SILT, NO TO MODERATE CEMENTATION, DRY TO MOIST, NO ODOR.
2.0		0.0	10/42				
		0.0	10/60				
3.0							REFUSAL @ 2.6' (3x) NOT SAMPLED DUE TO SHALLOW REFUSAL.

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-625-SA6-SB-0.0-0.5 Date/Time 12/19/12 @ 0950

Matrix (circle one): Soil (circled) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches Feet (circled)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (circled) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Enzymes	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-626	Subarea: 6	Date Started: 12/4/12	Date Completed: 12/4/12
Client: DOE	Project Name/#: ~~SSFL-05256-03376.1203.002.223.02231.SSFH3~~ SM 1242		Total Depth: 1.6
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: 1.6
Radiological Background: 18 mm / 115 cm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							SAND WITH SILT
	0.5/0.5	0.0	17/75	SC-626-SAG-SB-	0750	SP-SM	WEATHERED SANDSTONE // DARK YELLOWISH BROWN (10YR3-4)
	0.5/0.5	0.0	15/60	0.0-0.5		SP-SM	0-0.1' GRADING TO YELLOWISH BROWN (10YR5/6), 85% SAND, PG, F TO M GR, SA TO SR, 15% SILT, NON PLASTIC, LOOSE, MOIST, NO ODOR
1.0		0.0	15/72				0.5-1.0' SAME AS ABOVE
		0.0	17/66				
2.0							PROBE REFUSAL @ 1.6', 1.0', 1.0'

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SC-~~556~~ 626 (mr 12/4) SA6-SB-0.0-0.5 Date/Time 12/4/12 @ 0750

Matrix (circle one): Soil (circled) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches Feet (circled)

Check if Composite ☐

Collection Method (circle one) (mr 12/4): DPT Slide Hammer (circled) Hand Auger/Slide Hammer (circled) Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/6

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

Location ID: DG 627	Subarea: 6	Date Started: 12/4/12	Date Completed: 12/4/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1200.002.223.02231.SSPH6~~ SM 12/4/12		Total Depth: 2.0
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: N/A
Radiological Background: 15 mrem/8/cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	15/82	SL-627 SAG-SB-0.0-0.5	0830	SP-SM	SAND WITH SILT - DARK YELLOWISH BROWN (10YR 3/4) 90% SAND, PG, F TO M GR., SA. TO SA, 10% SILT, NON-PLASTIC, MORKY LOOSE, MOIST, NO ODOR. 95% SAND (TMP 12/4)
1.0	0.5/0.5	0.0	14/36			SP	SAND. DARK YELLOWISH BROWN (10YR 4/4) PG, F TO MGR, SUBROUNDED TO SUBANGULAR, TRACE SILT, 5% FINE GRAVEL. AND ROUNDED WEATHERED SANDSTONE NODULES, LOOSE, MOIST, NO ODOR
2.0	0.5/0.5	0.0	14/42	SL-627-SAG-SB-1.0-2.0	0855		1.5-2.0' SAME AS ABOVE
				SL-627 SAG-SB 1.5	900		REFUSAL @ 2.0' (3x)

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-627-SA6-SB-0.0-0.5 Date/Time 12/4/12 @ 0830

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-627-SA6-SB-1.0-2.0 Date/Time 12/4/17 @ 0855

Matrix (circle one): (Soil) Sediment Water

Start Depth 1.0

End Depth 2.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETENS

Sampler MAX ULRICH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	~~NO~~ (w/ PAH)
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Energetics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-627-SA6-SB-1.5 Date/Time 12/4/12 @ 0900

Matrix (circle one): (Soil) Sediment Water

Start Depth 1.5

End Depth 1.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Enclaves	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	Y
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

Location ID: DG-628	Subarea: 6	Date Started: 12/4/12	Date Completed: 12/4/12
Client: DOE	Project Name/#: ~~SSFL.65258.63376.4203.002.220.02231.SSPH3~~ SM 12/4/12		Total Depth: 5.0'
Company Name: CDM SMITH	Drill Contractor/Driller:		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: 2.2'
Radiological Background: 14 mrem / 75 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER/SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0	0.5/0.5 0.5/0.5	0.0 0.0 0.0	14/67 14/66 14/60	SL-628-SA6-SB-0.0-0.5'	1100	SP	(MP 12/4) ~~SUBATHERED SAND, TOTAL~~ SAND (~~10YR 5/6~~ MP 12/4) YELLOWISH BROWN (10YR 5/6), PG, FROM GR, SR TO SA, TRACE SILT, NO CEMENTATION, MOIST, NO ODOR.
2.0	0.5/0.5	0.0	14/50			SM	SILTY SAND (CM) ~~SAND WITH SILT~~ BROWN (10YR 4/3), 80% SAND, PG, FGR., 20% SILT, NON-PLASTIC, TRACE ROOTS, MOIST.
3.0	0.5/0.5	0.0	14/60			SP-SM	SAND WITH SILT ~~(PG)~~ YELLOWISH BROWN (10YR 5/6) ~~SAND WITH~~ 90% SAND, FGR, PG, 10% SILT, NON-PLASTIC, LOOSE MOIST, WEATHERED SANDSTONE
4.0	0.5/0.5	0.0	14/60	SL-628-SA6-SB-4.0-5.0'	1120		SAA 3.0-4.0
5.0	0.5/0.5	0.0	14/66	SL-628-SA6-SB-4.5'	1125		(MP 12/4) GRADING TO LIGHT OLIVE BROWN (2.5Y 5/3) NOTE WEAK CEMENTATION 4.0-5.0'
							END OF BORING @ 5.0' (3Y)

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-628-SA6-SB-0.0-0.5 Date/Time 12/4/12 @ 1100

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CUTCHIN

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP (circled)	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes No

Color 10YR 5/6

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-628-SA6-SB-4.0-5.0' **Date/Time** 12/4/12 @ 1120

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)
2. Percentage Fill (%) 0
3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5Y 5/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-628-SA6-SS-4.5 Date/Time 12/4/12 @ 1125

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CUICH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes No
2. Percentage Fill (%) _____
3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color 2.5Y 5/3

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-629	Subarea: 6	Date Started: 12/4/12	Date Completed: 12/4/12
Client: DOE	Project Name/#: ~~SSFL-05258-03376.1203.002.223.02231.SSPH3~~ SM 12412		Total Depth: 3.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: N/A
Radiological Background: 14mm 46cm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER / SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	14/58	SL-629-SAG-SB-0.0-0.5	1330	SM	SILTY SAND - DARK BROWN (10YR 3/3), 60% SAND, PG, F. GR., 35% SILT, LOW PLASTICITY, 5% ROOTS/ ORGANIC MATTER, LOOSE, MOISS, NO ODOR.
		0.0	14/66				
1.0	0.5/0.5	0.0	14/60				GRADING TO DARK YELLOW BROWN (10YR 4/4), MORE ORGANICS @ 0.6'-0.7'
2.0	0.5/0.5	0.0	14/60				SAA 1.5-2.0'
3.0	0.5/0.5	0.0	14/66	SL-629-SAG-SB-2.5-3.5	1405		SAA 2.5-3.0'
		0.0	14/66				
				SL-629-SAG-SB-3.0	1410		REFUSAL @ 3.5' BGS

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	saa = same as above
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-629-SA6-SB-0.0-0.5 Date/Time 12/4/12 @ 1330

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 63360

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-629-SA6-SB-2.5-3.5 Date/Time 12/4/12 @ 1405

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.5

End Depth 3.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK REYES

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Gregory R. Mein **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-629-SA6-SB-3.0' Date/Time 12/4/12 @ 1410

Matrix (circle one): Soil (circled) Sediment Water

Start Depth 3.0

End Depth 3.0

Depth Units (circle one): Inches Feet (circled)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer Hand Auger/Slide Hammer (circled) Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	~~X~~ no
		EPA 6020	~~X~~ no (Cmplex)
		EPA 7471 (Soil)	X no
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 6
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/4

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID:	Subarea:	Date Started:	Date Completed:
DB-630	6	12/4/12	12/4/12

Client: DOE	Project Name/#: ~~SSFL 65258 63376.1203.002.223.02291.SGPHS~~ SM 12/4/12	Total Depth: 2.0'
Company Name: CDM SMITH	Drill Contractor/Driller: N/A	
GPS collected? (Yes) or No	Drill Method: HAND AUGER	Depth Drilled into Bedrock: 1.5'
Radiological Background: 14mrem/166cm	Borehole diameter: 2.75"	
PID Background: 0.0	Depth to GW: N/A	Sampling Method:
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360	HAND AUGER / SLIDE HAMMER
		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.9	0.0	M/R	SL-630	1425	SM	SILTY SAND - DARK BROWN (10YR 3/3) 60% SAND, FG, F GR, 35% SILT, LOW PLASTICITY, 5% ROOTS / ORGANIC MATTER, LOOSE, DRY, NO ODOR.
	0.5	0.0	M/R	SA6-SO 0.0-0.5			
1.0	0.5/0.5	0.0	M/R			SP-SM	SAND WITH SILT - DARK OLIVE BROWN (2.5 Y 4/4) - 90% SAND, FG, F N M GR, TR C GR, TRACE FINE GRAVEL, SAND, 5% SILT, NON-PLASTIC, LOOSE, MOIST, NO ODOR, APPEARS TO BE WEATHERED SANDSTONE.
2.0	0.5/0.5						REFUSAL @ 2.0', 1.5'/1.0'

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-630-SA6-SB-0.0-0.5 Date/Time 12/4/12 @ 1425

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CULICH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** (0)
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6260

Additional Comments _____

NA – Not Applicable

Location ID: DG ~~629~~ 631 (Cmpl 14)	Subarea: 6	Date Started: 12/4/12	Date Completed: 12/4/12
Client: DOE	Project Name/#: ~~SSFL-05250-00076.1203.002.225.02201.SOPH3~~ SM 12412		Total Depth: 1.0
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: 0.3
Radiological Background: 14mrem, 78CPM	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER/SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	14/66	SL-~~629~~ 631 (Cmpl 14) SA6-SB-0.0-0.5	1020	SM	SILTY SAND - VERY DARK BROWN (10YR 2/2) - ~~[illegible]~~ 70% SAND, PG, F BR, 25% SILT, LOW PLASTICITY, 5% ROOTS/ORGANICS, LOOSE, MOIST, NO ODOR.
		0.0	14/66				
1.0	0.5/0.5	0.0	14/60				WEAT HERED SANDSTONE - SAND, ~~[illegible]~~ (MPI 14) OLIVE YELLOW (2.5Y 6/6), PG, F TO M GR, SR TO SA, TRACE SILT, NO TO WEAK CEMENTATION, DRY TO MOIST, NO ODOR
							REFUSAL @ 1.0', 1.0', 1.5'

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-GSI (mw 1419) ~~620~~-SA6-SS-0.0-0.5 Date/Time 12/4/12 @ 1020

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	Y
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Energetics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	Y
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR ~~3/1~~ 2/2 (moist)

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

Location ID: DG ~~630~~ 632 (MP 6/11)	Subarea: 6	Date Started: 12/4/12	Date Completed: 12/4/12
Client: DOE	Project Name/#: ~~SSFL-05258-63376.1203.002.223.02231.SSPH3~~ SM 12412		Total Depth: 1.4
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: N/A
Radiological Background: 14 mrem / 60 cm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER/SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0 0.0	14/14 14/66	SL-~~630~~ 632 (MP 12/11)-SB-0.0-0.5	0955	SP	SAND-DARK YELLOWISH BROWN (10YR 3/4). 95% SAND, PG, F TO M GR, SA TO SA, 5% SILT, NON-PLASTIC LOOSE, MOIST, NO ODOR.
	0.5/0.5	0.0	14/60			SP	~~SAND~~ (MP) SAND (DARK YELLOWISH) BROWN (10YR 3/6) 90% SAND, PG, F TO M GR., SA TO SA, 5% SILT, NON-PLASTIC, 5% FINE SA TO SA GRAVEL AND SA WEATHERED SS NODULES.

REFUSAL @ 1.4', 0.8', 1.5'
NOT SAMPLED DEEP DUE TO SHALLOW REFUSAL

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SC-~~630~~ G32 (corrected) -SA6-SB-0.0-0.5

Date/Time 12/4/12 @ 0955

Matrix (circle one): Soil (circled) | Sediment | Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches | Feet (circled)

Check If Composite ☐

Collection Method (circle one): DPT | Slide Hammer (circled) | Hand Auger/Slide Hammer | Trenching | Sediment

QC Type (circle one): N (circled) | FD | FB | RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 3/4

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

Location ID: DG 633	Subarea: 6	Date Started: 12/5/12	Date Completed: 12/5/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.220.02231.SSPHS~~ SM 12412		Total Depth: 3.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER.		Depth Drilled into Bedrock: 3.5
Radiological Background: Mean / Mean	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER/SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 63600		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	14/83	SL-633 SA6-SB-0.0-0.5	1050	SP	SAND - DARK GRAYISH BROWN (10YR 4/2), PG, F TO MED, SR TO SA, LOOSE, MOIST, NO ODOR. POSSIBLE WEATHERED BEDROCK.
1.0	0.5/0.5	0.0	14/66				0.5-1.0 SAME AS ABOVE EXCEPT TRACE COARSE GRAINED SAND, TRACE FINE GRAVEL.
		0.0	14/61				
2.0	0.5/0.5	0.0	14/76	SL-633-SA6-SB-2.5-3.5"	1050	SP-SM	SAND WITH SILT - VERY DARK GRAYISH BROWN (10YR 3/2), PG, F GR, TR C GR, 5% GRAVEL, SR TO SA, 10% SILT, NON-PLASTIC, TRACE ORGANICS, DRY TO MOIST, NO ODOR. 85% SAND (MIXED)
3.0	0.5/0.5	0.0	14/66	SL-633-SA6-SB-3.0	1055		2.5-3.0 SAME AS ABOVE WITH WEAKLY CEMENTED SANDSTONE NODULES (TRACE).
		0.0	14/72				
							AUGER REFUSAL @ 3.5'

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-633-SA6-SB-0.0-0.5 Date/Time 12/5/12 @ 1030

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETENS

Sampler MAX LUSCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Volatiles	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Special	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/2

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

(Organic) Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-633-SA6-SB-2.5-3.5' Date/Time 12/5/12 @ 1050

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.5

End Depth 3.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biocides	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	Y
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** (0)
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/2

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-633-SA6-SB-3.0 Date/Time 12/5/12 @ 1055

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.0

End Depth 3.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAY LUICH

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Biocides	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/2

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG 634	Subarea: 6	Date Started: 12/5/12	Date Completed: 12/5/12
Client: DOE	Project Name/#: ~~SSFL-05258-03376.1200.002.223.02231.SSPH3~~ SM 10412		Total Depth: 3.1
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: 0
Radiological Background: 14 mrem/77 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER/SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0	0.5/0.5 0.5/0.5	0.0 0.0 0.0	14/83 14/66 14/96	SL-634-SA6-SB-0.0-0.5	1345	SP	SAND - DARK GRAYISH BROWN (10YR 4/2), 95% SAND, PG, F TO M GR, TR C GR, SR TO SA, TR ORGANICS, LOOSE, 5% SILT, NON-PLASTIC (MA 12/5) MOIST, NO ODOR.
2.0	0.5/0.5	0.0	14/78	SL-634-SA6-SB ~~2.5-3.5~~ 2.0-3.0 PB 12/6/12	1400	SP-SM	SAND WITH SILT - BROWN (10YR 4/3), 90% SAND, PG, F GR, 10% SILT, NON-PLASTIC, LOOSE, MOIST, NO ODOR.
3.0	0.5/0.5	0.0	14/90	SL-634-SA6-SB-~~3.0~~ 2.5 PB 12/6/12	1405	SW	SAND WITH GRAVEL - BROWN (10YR 4/3) 90% SAND, WG, F TO C GRAINED, SR TO SA, 10% FINE GRAVEL, SR TO SA, LOOSE, DRY TO MOIST, NO ODOR.
							REFUSAL @ 3.1' (3x)

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-634-SA6-SB-0.0-0.5 Date/Time 12/5/12 @ ~~1400~~ 1345

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CLICH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Volatiles	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
Semivolatiles	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Inorganics	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (NO)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/2

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SC-634-SA6-SB-2.0-3.0 Date/Time 12/5/12 @ ~~1345~~ ~~1405~~ 1400 SM12512

Matrix (circle one): Soil (circled) Sediment Water

Start Depth 2.0

End Depth 3.0

Depth Units (circle one): Inches Feet (circled)

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer Hand Auger/Slide Hammer (circled) Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Enceres	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** (0)
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-634-SA6-SB-2.5 Date/Time 12/5/12 @ 1405

Matrix (circle one): Soil (circled) Sediment Water

Start Depth 2.5

End Depth 2.5

Depth Units (circle one): Inches Feet (circled)

Check If Composite ☐

Collection Method (circle one): DPT ~~Slide Hammer~~ Hand Auger/Slide Hammer (circled) Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X NO
		EPA 6020	X NO (major)
		EPA 7471 (Soil)	X NO
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: D6-635	Subarea: 6	Date Started: 12/5/12	Date Completed: 12/5/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.SSPH3~~ SM 1a41a		Total Depth: 2.2
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: N/A
Radiological Background: 14 mrem/59cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER/SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	14/79	SL-635-SA6-SB-D0-0.5	1420	SP SM	SAND WITH SILT. DARK BROWN (10YR 3/3) 85% SAND, PG, FGR, 10% SILT, NON-PLASTIC, 5% ROOTS/ORGANICS, LOOSE, MOIST, NO ODOR.
	0.5/0.5	0.0	14/84				
1.0		0.0	14/60			SP SM	SAND WITH SILT. DARK YELLOWISH BROWN (10YR 3/4), 90% SAND FGR, 10% SILT, NON-PLASTIC, LOOSE, MOIST, NO ODOR
2.0	0.5/0.5	0.0	14/70				
		0.0	14/66				
							REFUSAL @ 2.2' (3x) NO DEEP SAMPLE DUE TO SHALLOW REFUSAL

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

EDM Smith

FSDS Checked By

Sample ID SC-635-SA6-SS-010-015 Date/Time 12/5/12 @ 1420

Matrix (circle one): (Soil) Sediment Water

Start Depth 010

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CURCH

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphemyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tributyl	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6760

Additional Comments NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-636	Subarea: 6	Date Started: 12/5/12	Date Completed: 12/5/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376-1202-002-223-02231-SSPH3~~ SM 10410		Total Depth: 3.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? (Yes) or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: N/A
Radiological Background: 14 mrem/59 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	14/91	SL-636-SA6-SB-0.0-0.5	1240	ML	SANDY SILT ~~(FINE)~~ VERY DARK BROWN (10YR 2/2), 60% SILT, LOW PLASTICITY, 35% SAND, FG, F. GR, 5% ROOTS/ ORGANICS.
1.0	0.5/0.5	0.0	14/60				
2.0	0.5/0.5	0.0	14/60	SL-636-SA6-SB-2.5-3.5'	1315		GRADING TO TRACE ORGANICS 1.5-2'
3.0	0.5/0.5	0.0	14/60	SL-636-SA6-SB-3.0'	1320		
		0.0	14/60				
4.0							REFUSAL @ 3.5' BGS (3x)

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-636-SA6-SB-0.0-0.5 Date/Time 12/5/12 @ 1240

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CLICK

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Speciation	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 2/2

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-636-SA6-SB-2.5-3.5' Date/Time 12/5/12 @ 1315

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.5

End Depth 3.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CUICK

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Biocides	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Antifoul	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 2/2

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Greegory Olsen **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-636-SA6-SB-3.0 Date/Time 12/5/12 @ 1320

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.0

End Depth 3.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biocides	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Antifoul	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes No
2. Percentage Fill (%) 0
3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color 10YR 2/2

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-637	6	9 NOV. 12 - FRI.	→

Client: DOE	Project Name/#: SSFL-65258-63376,1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 15uR, 83cpm	Borehole diameter: 2.25"	
PID Background: ~~1.0~~ 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	PG Review & No.:	Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 0.0	19/87 15/72	SL-637-SAG-SB-0.0-0.5	1035	ML	SILT WITH SAND: brown (10YR 4/3), 80% silt, non-plastic, soft, 20% sand, pg, f; rootx, twigs, no odor, dry.
							Total depth of borehole to 0.5 ft bgs. No GW encountered.

Nate Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Santa Susana Field Laboratory/94489

Location ID: DG-637	Subarea: 12/11/12 ~~6~~ 3	Date Started: 12-11-12	Date Completed: →
Client: DOE	Project Name/#: ~~SSFL-05250-03370.1209.002.223.02231.SSPH3~~ PB		Total Depth: 2.3, 2.0
Company Name: CDM SMITH	Drill Contractor/Driller:		
GPS collected? Yes or No	Drill Method: Hand Auger		Depth Drilled into Bedrock:
Radiological Background: 13 75	Borehole diameter: 4"		
PID Background: 0.0	Depth to GW: —		Sampling Method: Hand Auger
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: J. Harseth

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	13/82	~~SL~~ ~~S~~ 12-11-12		SM	SILTY SAND: Dark brown (7.5YR 3/2); 70% Sand, F-M gr., SR; 30% Silt, low plasticity; moist, Med. dense, NO odor.
							0.75
1		0.0	12/66			SM	SILTY SAND: Dark yellowish brown (10YR 4/4); 75% Sand, F-M gr., SR; 25% Silt, Low Plasticity; moist, Med. dense, NO odor.
2		0.0	12/84				SILTY SAND: Dark yellowish brown (10YR 4/6); 60% Sand, F-gr., SA; 40% silt, low plasticity; moist, dense, NO odor. (SAND STONE)
							2
							Refusal @ 2.3 @ 2.0
3							NO GW.
4							

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-637-SA6-SB-0.0-0.5 **Date/Time** 11/09/2012 1035

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Beggs

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) Ø

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nikki Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DE-638	6	11/15/2012 - Thurs.	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.8, ~~1.0~~ 1.1' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: HA	Depth Drilled into Bedrock: NA
Radiological Background: 14/100	Borehole diameter: 2.75"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	0.5	0.0	14/98	SL-638-SA6-SB-0.0-0.5	1420	CL	CLAY WITH SAND: brown 5/3; 80% clay, low plasticity, firm; 20% sand, pg, f-m, mosty f; FILL debris: red brick fragments, wire, ceramic tile & asphalt; roots, dry, no odor, also, trace Ss fragments.
	0.5						
	HA	0.0	14/98				
1							
							11/15/12
2							Refusal at 1.1' bgs soil not staying in auger bucket. A lot large debis (FILL).
3							
4							
5							

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Steve Mercer

Sample ID SL-638-SA6-SB-0.0-0.5 Date/Time 11/15/2012 1420

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nicolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 100

3. Fill Description (circle all that apply)

(Asphalt) (Metal) - wire (Plastic)

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

(Other) ceramic tile, wire, red brick fragments

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-639	6	11/16/2012 - FRI	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.6' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: ~~HA~~ 11.16.12	Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 2.75"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							SAND
	NR	0.0		SL-639 SA6-SB-0.0-0.5	0930	SP SM	~~SILT~~ WITH SILT: light yellowish brown 11.16.12 (10YR 6/4), 90% sand, pg, mostly f, m, t-c; 10% silt, non plastic, soft; dry no odor, Ss fragments
							collected surface only. No deeper sample required. Total depth of borehole is 0.6' bgs. No GW encountered.

sample in jar w/ Ss trowel

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:			
amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-639-SA6-SB-0.0-0.5 **Date/Time** 11/16/2012 0930

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 6/4

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID: DG-640	Subarea: 6	Date Started: 11/15/12 - Thurs	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 1.9', 1.1' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: HA		Depth Drilled into Bedrock: NA
Radiological Background: 16 μR, 91 cpm	Borehole diameter: 2.75"		
PID Background: 0.0 ppm	Depth to GW: NA		Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	16/89	SL-640-SA6-SB-0.0-0.5	1337	SM	11.15.12 ~~SANDY SILTY~~ Very dark grayish brown SILTY SAND (10YR 3/2) 70% sand, pg, f-m, 30% silt, non-plastic, soft, roots, dry no odor. Mostly f.
	HA	0.0	16/66				
1		0.0	16,72			SP-SM	As above, except; brown (10YR 4/3); ~~80~~ 90% sand; ~~20~~ 11.15.12 % silt. T.C.T. sandstone (Ss) fragments. 10 SAND WITH SILT
		0.0	16/90				
2							Hit REFUSAL (bedrock) at 1.9' bgs. No 5' sample collected. No GW collected.
3							
4							
5							

1

1.9

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	HA: hand auger
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Steve Mercer

Sample ID SL-640-SA6-SB-0.0-0.5 **Date/Time** 11/15/2012 1337

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) Ø

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 3/2

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-641	Subarea: 6	Date Started: 9 NOV. 2012 - FRI!	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS collected? Yes or No		Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 15uR, 70cpm		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		PG Review & No.:	Geologist: N. Beggay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 / 0.0	15/86 / 15/66	SL-641-SA6-SB-0.0-0.5	0905	ML	SANDY SILT: yellowish brown (10YR 5/4); 70%-silt, non-plastic, soft-firm; 30% sand, pg, f-m, mostly f, T.C, sa-sr, dry, no odor. roots SAND STONE - CHATSWORTH FM. - Bedrock: very pale brown (10YR 7/3), mostly f-m grained, T.C, sa-sr, very weak cementation, micaceous (biotite) Total depth of borehole to 0.5 ft. bgs. No GW encountered.

Nicole Hoffman #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-641-SAE-SB-0.0-0.5 **Date/Time** 11/09/2012 0905

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nicole Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-642	6	11.9.12 - FRI.	11.9.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: slide cement	Depth Drilled into Bedrock: NA
Radiological Background: 15uR, 81cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	PG Review & No.:	Geologist: N. Beggay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5 / 0.5	0.0 / 0.0	15/79 / 15/72	SL-642-SA6-SB-0.0-0.5	0957	ML	SILT WITH SAND: brown (10YR 5/3); 80% silt, non plastic, firm; 20% sand, pg, f; no oder; dry; root tests.
							Total depth of borehole to 0.5' bgs. NO GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-642-SA6-SB-0.0-0.5 Date/Time 11/09/2012 ~~1430~~ 0957 11.9.12 NS

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-643	6	9NOV.12 - FRI.	9 NOV. 12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 15μR, 97cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5 / 0.5	0.0 / 0.0	15/166 / 15/72	SL-643 SA6-SB-0.0-0.5	0838	ML	SILT WITH SAND - yellowish brown (10YR 5/4); 80% silt, non-plastic, soft-firm, 20% sand, pg, f; roots/twigs; dry, no odor.
							Total depth of borehole to 0.5' bgs. No GW encountered. surface only collected - in drainage.

Mike Mikkelsen #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-643-SA6-SB-0.0-0.5 **Date/Time** 11/09/2012 0838

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nicole Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-644	Subarea: 6	Date Started: 9 NOV. 12 - FRI.	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: slide hammer		Depth Drilled into Bedrock: NA
Radiological Background: 15 µR, 83 cpm	Borehole diameter: 2.25"		
PID Background: 0.0 ppm	Depth to GW: NA		Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 / 0.0	15/89 / 15/90	SL-644-SAG-SB-0.0-0.5	0930	ML	SILT WITH SAND: yellowish brown (10YR 5/4); 80% silt, non-plastic, firm-soft, 20% sand, pg, f; roots, weeds, dry, no odor.
							Total depth of borehole to 0.5' bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID ~~DG~~ SL-644-SAV-SB-0.0-0.5 **Date/Time** 11/09/2012 0930
MS 11.9.12

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Noelynn Bayog

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-~~6~~ 11.16.12 645	Subarea: 6	Date Started: 11/16/2012 - FRI!	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.6, 0.4' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS:	Drill Method: HA		Depth Drilled into Bedrock: NA
Radiological Background: 14/94	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: NA		Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	0.5 / 0.3 HA	0.0	14/99 14/60	SL-645-SA6-SB-0.0-0.5	0755	SM	SILTY SAND: Yellowish brown (10YR 5/4); ~60% sand, pg, f-m; ~~70%~~ 11.16.12 40% silt, non plastic, soft; sandstone in dirt, fragments; roots; dry, no odor.
1							Hit refusal at 0.6' bgs. No 5' sample collected. No GW encountered.
2							
3							
4							
5							

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:			
amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-645-SA6-SB-0.0-0.5 **Date/Time** 11/16/2012 0755

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) Ø

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-646	6	11/16/12 - FRI	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 1.3, 0.7
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: HA	Depth Drilled into Bedrock: NA
Radiological Background: 15191	Borehole diameter: 2.75"	
PID Background: 0.0ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1	0.5 0.5 HA	0.0	15173 15166 14160	SL-646-SA6-SB-0.0-0.5	0825	~~TP~~ MH SP SM	SILTY SAND: brown (10YR 5/4); 60% sand, pg f-m, mostly f, 40% silt, non-plastic, soft, dry, no odor, with roots. ss fragments. + As above, except; 70% sand; 30% silt.
2							Hit ~~TP~~ 11.16.12 refusal at 1.3' bgs. No 5' sample. No GW collected.
3							
4							
5							

Nicole Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-046-SAU-SB-0.0-0.5 **Date/Time** 11/16/2012 0825

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT ~~Slide Hammer~~ Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler ~~Nat~~ MB Steve Mercer
11.15.12

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

SM SM 11/16/12

SP-SM SM 11/16/12

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nicole Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-647	6	11/9/2012 - FRL!	11/9/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 14uR, 80 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							w/SAND mit 11/26/12
0.5	0.5 / 0.5	0.0 / 1.0	14/76 / 14/72	SL-647-SA16-SB-0.0-0.5	0728	CL	CLAY: yellow brown (10YR 5/4); 85% clay, med. plasticity (when wet); firm; 15% sand; pg, f; rootsy matting; dry, no odor — 0.5
							Total depth of borehole to 0.5' bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-~~649~~ 647 - SA6-SB-0.0-0.5 (MS 11.9.12) **Date/Time** 11/09/2012 0728

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nicolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	~~X~~ 5 m 11/1/12
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-647	Subarea: 6	Date Started: 11/26/2012	Date Completed: →
Client: DOE	Project Name/#: ~~GSFL-65258-63376.1203.002.223.02231.SSPH3~~ SM 12412		Total Depth: 4.4', 4.5', 4.5'
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 1.0' ~~bgs~~ SM 11/26/12
Radiological Background: 13/67	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: NA		Sampling Method: MACRO CORE
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	13/61			SM 11/26/12 ~~SM~~ SP	~~SILTY~~ SAND: Dark Yellowish Brown (10YR 3/4) 95% Sand, pg, ~~f-m gr.~~ SM 11/26/12 f-m gr. (mostly f); 5% Silt, ~~low~~ no plasticity, stiff (with pockets of v. stiff); Trace clay, ~~low~~ non-plastic, stiff (with pockets of v. stiff) moist, no odor, fine roots
1			10/42				
2			10/48				
					2.5'		
3			10/60			SP-SM SM 11/26/12	
4	1/1		10/66	SL-647-SA6-SB-3.5-4.5	1415	SP-SM	Weathered Sandstone: SAND WITH SILT: Yellow (2.5Y 7/6) 85% Sand, pg, f-gr.; 15% Silt, non plastic, ~~medium~~ SM 11/26/12 ~~soft, moist, no odor~~, soft; moist, no odor
			10/72	SL-647-SA6-SB-4.0	1420		@ 3.9': Becomes interbedded with small nuggets of Silty Sand with 5% Clay, low plasticity. @ 4.1'-4.2': Color changes to Dark Yellowish Brown (10YR 3/4)
5							

Refusal @ 4.5' bgs
No GW Encountered
Surface already Sampled on 11/26/12.

Vinka Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Steven Mercer

Sample ID SL-647-SA6-SB-3.5-4.5 Date/Time 11/26/2012 1415

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler VIDAL CORTES

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tributyltin	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5 Y 7/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 -- Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-647-SA6-SB-4-0 Date/Time 11/26/2012 1420

Matrix (circle one): (Soil) Sediment Water

Start Depth 4-0

End Depth 4-0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler VIDAL CORTES

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tributyltin	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA -- Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** (0)
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5Y 7/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID: DG-648	Subarea: 6	Date Started: 11.9.12 - Fri.	Date Completed: 11.9.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: slide hammer		Depth Drilled into Bedrock: NA
Radiological Background: 14uR, 69cpm	Borehole diameter: 2.25"		
PID Background: 0.0 ppm	Depth to GW: NA		Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials w/SAND MH 11/26/12
0.5	0.5 / 0.5	0.0 / 0.0	14/77 / 14/60	SL-648-SA6-SB-0.0-0.5	0805	CL	CLAY: brown (10YR 5/3); 85% clay, med. plasticity, firm; 15% sand, pg, f; dry, no odor; rootlets, mottling (wt.). T.C, grain sand, ~~sp (as a~~ (as above) sa-sr. 0.5
							Total depth of borehole to 0.5' bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-648-SA6-SB-0.0-0.5 Date/Time 11/08/2012 0805
SM 11/9/12

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nicole Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-648	Subarea: 6	Date Started: 11/26/2012	Date Completed: →
Client: DOE	Project Name/#: ~~GSPL-05258-03376.1203.002.223.02231.SSPH3~~ SM 12412		Total Depth: 7.6', 7.5', 7.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 1.0' ~~bgs~~ SM 11/26/12
Radiological Background: 13/84	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: NA		Sampling Method: MACRO CORE
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	13/79			~~SM~~ SM 11/26/12 ML	~~SILT~~ SANDY SILT: Dark Brown (10YR 3/3) 60% Silt, non-plastic, soft; 40% Sand, mostly fine, tr. m-c, pg; moist, no odor, roots
1			10/66		1'	SM	SILTY SAND: Dark Yellowish Brown (Grades from 10YR 3/6 TO 10YR 4/6) 60% Sand, pg, f-m gr. (mostly fine), ~~tr. c~~ SM 11/26/12; 40% Silt, non plastic, medium to stiff; Trace Gravel, pg, f-grained, sa; moist, no odor, pieces of sandstone found throughout the zone from 1'-3', roots
2			10/72				
3			10/78				
4			10/66				
5			10/78		5'	SM	SILTY SAND: Dark Yellow Brown (10YR 4/4) 75% Sand, pg, f grained; 25% Silt, non plastic, soft; Tr. Clay, non plastic, soft; moist, no odor, small chunks of Sandstone
6			10/66		6.5'		
7	1/1		10/60	SL-648-SA6-SB-6.5-7.5	1500	SP-SM	SANDSTONE SAND WITH SILT: Olive Yellow (2.5Y 6/8) 90% Sand; pg, ~~f gr.~~ SM 11/26/12 f grained; 10% Silt, non-plastic, soft; moist, no odor, Small Chunks with 5% Clay, non plastic, soft
			10/96	SL-648-SA6-SB-7.0	1505		
8							Refusal @ 7.6' bgs No GW Encountered Surface already sampled on 11/9/12

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By MSL

Sample ID SL-648-SA6-SB-6.5-7.5 **Date/Time** 11/26/2012 ~~1300~~ 1500

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.5

End Depth 7.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler VIDAL CORTES

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	✓
		EPA 6020	✓
		EPA 7471 (Soil)	✓
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	✓
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	✓
	PCBs/PCTs	EPA 8082	✓
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	✓
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	✓
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** N/A 0
3. **Fill Description (circle all that apply)**

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel	(N/A)	
Other _____		

Is Staining Present Yes (No)

Color 10 yr 4/6

Odor

1. **Odor Strength (circle one)**: (None) Slight Strong
2. **Odor Description (circle one)**: Organic Petroleum Chemical (N/A) Other _____

Moisture Condition (circle one): Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By MSL

Sample ID SL-648-SA6-SB-7.0 **Date/Time** 11/26/2012 ~~1325~~ 1505

Matrix (circle one): (Soil) Sediment Water

Start Depth 7.0

End Depth 7.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler VIDAL CORTES

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	✓
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** N/A 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 4/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID: DG-649	Subarea: 6	Date Started: 11.8.12 - Thurs	Date Completed: 11.8.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS:		Drill Method: slide hammer	Depth Drilled Into Bedrock: NA
Radiological Background: 15 μR, 92 cpm		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							SANDY SILT MH 11/26/12
	0.5/0.5	0.0	15/104	SL-649-SA6-SB-0.0-0.5	1037	ML	~~SILTY SAND~~: brown (10YR 5/3); 70% silt, no plasticity, firm; 30% sand, pg, f-m, T-c, sa-sr; dry - slt. moist, no odor (its raining); rootlets; T. asphalt. (FILL)
0.5		0.0	15/60				0.5
							Total depth of borehole to 0.5' bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace
c: coarse	lt: light	rnd: rounded	v: very
dk: dark	m: medium	sa: subangular	wg: well graded
f: fine	mod: moderate	sr: subrounded	ϕ: diameter

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-649-SA6-SB-0.0-0.5 **Date/Time** 11/08/2012 1037

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 100

3. Fill Description (circle all that apply)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nicole Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: 06-649	Subarea: 6	Date Started: 12/14/12	Date Completed: 12/14/12
Client: DOE	Project Name/#: ~~SSFL-65258-03376.1203.002.223.02231.SSPH3~~ PB		Total Depth: 1.6
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 1.1
Radiological Background: Brown / 59 cpm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/98			SM	SILTY SAND (SM) - DARK YELLOWISH BROWN 10YR 6/6, 80% SAND, FS, FG, 20% SILT, LOW PLASTICITY, TRACE MOIST, NO ODOR
1.0		0.0	30/54			SP	WEATHERED SANDSTONE - SAND, BROWNISH YELLOW (10YR 6/6), FS, FTOM SM, SP, TOSA 5% SILT, NON-PLASTIC, NO TO WEAK CEMENTATION, MOIST, NO ODOR
2.0							REFUSAL @ 1.6', 1.4', 1.4' NOT SAMPLED DUE TO SHALLOW REFUSAL

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID:	Subarea:	Date Started:	Date Completed:
DE-650	6	11.8.12 - Thurs.	11/08/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 15 uR, 65 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name:	Sample Time	USCS	Description of Materials
0.5	0.5 / 0.5	0.0 0.0	15/96 15/78	SL-650-SA6-SB-00-0.5	1100	ML	SILT WITH SAND: brown (10YR 5/3), 80%. silt, no plasticity; soft-firm; 20%. sand, pg, f-m, mostly f, T. c, sa-sr; no odor, dry; T. leafs, twigs. — 0.5 Total depth of borehole to 0.5' bgs. No groundwater encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-650-SA6-SB-0.0-0.5 Date/Time 11/08/2012 1100

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Julia Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-650	Subarea: 6	Date Started: 11/27/12	Date Completed: 11/27/12
Client: DOE	Project Name/#: ~~SSFL-05258-63376.1203.002.223.02231.SSPH3~~ SM 12412		Total Depth: 5.0'
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: NA
Radiological Background: 14 mrem / 62 cpm	Borehole diameter: 2.25		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	14/90			SP	SAND WITH SILT - DARK YELLOWISH BROWN (10 YR 4/4), 90% SAND, POORLY GRADED FINE, ~~FG~~ MP 11/27 TRACE COARSE, SUBROUNDED TO SUBANGULAR 10% SILT, NO PLASTICITY, ~~STIFF~~ MEDIUM DENSE (MP) 11/27 DRY TO MOIST, NO ODOR
1.0		0.0	11/60				
2.0		0.0	11/84	SC-650-SA6-SB-2.0-3.0'	1415		
3.0		0.0	11/79	SA6-650-SA6-SB-2.5'	1420	SS	WEATHERED SANDSTONE - YELLOW (2.5Y 8/6,) 80% SAND, FINE TO MEDIUM GRAINED, SUBROUNDED TO SUBANGULAR, 20% SILT, NO PLASTICITY, MEDIUM DENSE, LOW CEMENTATION, DRY TO MOIST, NO ODOR. EXCEPT AS NOTED, 4.8-5.0' SEAM OF SANDY SILT (ML) PALE BROWN (2.5Y 7/4), 60% SILT, LOW PLASTICITY, TRACE CLAY, 40% SAND, FINE, ~~FG~~ MP 11/27 VERY STIFF, DRY TO MOIST
4.0		0.0	11/60				
5.0		0.0	11/48				REFUSAL @ 5.0' (3X)

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID 650 (on 11/27) SC-~~65~~ SA6-SB-2.0-3.0 Date/Time 11/27/12 @ 1415

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.0

End Depth 3.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTCK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Radiological	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes No
2. Percentage Fill (%) 0
3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color 10 YR 4/4

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SC-~~651~~ 650 (11/27) SA6-SB-~~6~~ (Cmp 11/1) 2.5'

Date/Time 11/27/12 @ 1420

Matrix (circle one): Soil (circled) Sediment Water

Start Depth 2.5

End Depth 2.5

Depth Units (circle one): Inches Feet (circled)

Check if Composite ☐

Collection Method (circle one): DPT (circled) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present: Yes (No)
2. Percentage Fill (%): 0
3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 4/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Willie Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-651	Subarea: 6	Date Started: 11/27/12	Date Completed: 11/27/12
Client: DOE	Project Name/#: ~~SSFL-05250-03976.1203.002.223.02231.SSPR3~~ SM 12412		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller:		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: Brown/8'EAM	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMME
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 0.0	13/84 10/60	SL-651-SA6-SB-0.0-0.5	1300	SP	SAND WITH SILT - BROWN (10 YR 4/3), 90% SAND, POORLY GRADED, FINE, 10% SILT, NO PLASTICITY, TRACE FINE GRAVEL, LOOSE, DRY TO MOIST, NO ODOR.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Ortiz

Sample ID SL-651-SA6-SB-0.0-0.5 Date/Time 11/27/12 1300

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X (MA 11/27)
	Pesticides	EPA 8081	X (MA 11/27)

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one):

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP (circled)	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel (N/A)		
Other _____		

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. **Odor Strength (circle one)**
   None (circled) Slight Strong
2. **Odor Description (circle one)**
   Organic Petroleum Chemical
   N/A (circled) Other _____

Moisture Condition (circle one)
Dry (Moist) (circled) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID: DG 651	Subarea: 6	Date Started: 11/27/12	Date Completed: 11/27/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3.5
Company Name: CDM SMITH		Drill Contractor/Driller: STRONGARM	
GPS collected? (Yes) or No		Drill Method: DPT	Depth Drilled into Bedrock: 3.0'
Radiological Background: 13 nen / 81 can		Borehole diameter: 2.25"	
PID Background: 0.0		Depth to GW: N/A	Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		PG Review & No.:	Geologist: MARK PERRY

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
						SP	SAND WITH SILT- BROWN (10YR 4/3), 90% SAND, POORLY GRADED, FINE, 10% SILT, NO PLASTICITY, TRACE FINE GRAVEL, LOOSE, NO ODOR.
1.0		0.0	11/54			SP	SAND WITH SILT YELLOW (10YR 6/8), 95% SAND, POORLY GRADED, FINE TO MEDIUM GRAINED, FINE TO MEDIUM, 5% SILT, NO PLASTICITY, MEDIUM DENSE, LOW CEMENTATION, DRY TO MOIST, NO ODOR: EXCEPT AS NOTED. 2" SEAM OF SAND WITH SILT, SAME AS 0.0 0.5', FROM 1.0 TO 1.1'
2.0		0.0	11/48				
3.0		0.0	11/66				
		0.0	11/60				
		0.0	11/54				
							REFUSAL @ 3.4', 3.4', 3.5'
							NO SAMPLE BECAUSE SS STANDOFF 0.5' BGS.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID: DG-652	Subarea: 6	Date Started: 11/08/2012 - Thurs.	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-83376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS collected? Yes or No		Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 15 µR, 93 cpm		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 / 0.0	15/102 / 15/66	~~SD-652-SA6-SB-0.0-0.5~~ SM11512	~~1230~~ SM11512	ML	SILT WITH SAND: brown (10YR 5/3); 80% silt, no plasticity, firm; 20% sand, pg, f, T.m; mostly dry, no odor (only top moist due to rain fall); rootlets + twigs. 0.5
				Couldn't collect all analytes so disgard sample + resample later			

Mike Hoffman #7733

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

Location ID: DG 652	Subarea: 6	Date Started: 11/27/12	Date Completed: 11/27/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.SSPH6~~ SM 12412		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: Strongarm		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: 15 mrem / 90 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5'	0.5/0.5	0.0 0.0	15/104 10/84	SL-652-SA6-SB-0.0-0.5'	1455	SP	SAND WITH SILT - DARK YELLOWISH BROWN (10YR3/4); 90% SAND, FGR, PG, 10% SILT, NO PLASTICITY, LOOSE, ~~NO~~ MPH/D, DRY TO MOIST, NO ODOR. TRACE F GRAVEL, (MPH/D)
							~~END OF BORING @ 0.5' BGS~~ MP

Nick Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

Location ID: DG 652	Subarea: 6	Date Started: 11/27/12	Date Completed: 11/27/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 4.8'
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 0.3'
Radiological Background: 15 mrem 190 cpm	Borehole diameter: 2.25"		
PID Background: 0 ID	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0		0.0	10/36			SP-SM	SAND WITH SILT - DARK YELLOWISH BROWN (10YR 3/4) 90% SAND, PG, F GR. 10% SILT, NO PLASTICITY, LOOSE TO MEDIUM DENSE, TRACE F GRAVEL, DRY TO MOIST, NO ODOR.
2.0		0.0	10/92			SP-SM	SAND WITH SILT - YELLOWISH BROWN (10YR 5/6), 80% SAND, PG, F GR, 20% SILT, NO PLASTICITY, MEDIUM DENSE; DRY TO MOIST, NO ODOR.
3.0		0.0	10/34	SL-652-SA6-56-3.5-4.5'	1510		
4.0		0.0	10/84	SL-652 SA6-56-4.5'	1520		
5.0		0.0	10/102			SS	SANDSTONE. WEATHERED, 90% SAND, FINE TO MEDIUM GRAINED, 10% THIN SILT INTERBEDS.
							REFUSAL @ 4.8';

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SC-652-SA6-SB-0.0-0.5 Date/Time 11/27/12 1455

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICH

Analysis

	Parameters	Method	Analyze?
Analytes	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Analytes	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** (0)
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Shelly Mayo

Sample ID SC-652-SA6-SB-3.5-4.5 Date/Time 11/27/12 @ 1510

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Biocides	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tributyltin	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** ( )
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/6

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-652-SA6-SB-4.0' Date/Time 11/27/12 @ 1520

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 4.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analysis?
Standard	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Standard	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
Additional	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/6

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-653	Subarea: 6	Date Started: 12-10-12	Date Completed: 12-10-12
Client: DOE	Project Name/#: ~~SSFL-55258-63376.1203.002.229.0223I.SSPH3~~ PB		Total Depth: 1' 0.7
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: Hand Augers		Depth Drilled into Bedrock: 0.5
Radiological Background: 14 µR/h / 87 cpm	Borehole diameter: 4"		
PID Background: 0.0	Depth to GW:		Sampling Method: Hand Augers
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: J. Hansel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5	0.0	13/71	SL-653-SA6-SB-00-0.5	1010	CL	CLAY WITH SAND: Dark brown (10YR 3/3), 90% clay, low plasticity; 10% Sand, F. gr., PG, SA; Moist, Med. St. ft, No odor.
1		0.0	12/54				
		0.0	11/66			CL	Clay Stone Grades to CLAY: Yellowish brown (10YR 5/4), 100% clay, low plasticity, Mod. St, No odor.
2							Refusal @ 1' & 0.7' NO GW.
3							

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-653-SA6-SB-00-0.5 Date/Time 12-10-2012 / 1010

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist John Halsey

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biota	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Biota	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-654A	6	12-10-12	12-10-12

Client: DOE	Project Name/#: ~~GSPL-05258-60376.4203.002.223.02234.GSPH2~~ PB	Total Depth: 3' 2.4
Company Name: CDM SMITH	Drill Contractor/Driller: N/A	
GPS collected? Yes or No	Drill Method: Hand Auger	Depth Drilled into Bedrock: N/A
Radiological Background: 12 ~~6~~ 62	Borehole diameter: 4"	
PID Background: 0.0	Depth to GW: —	Sampling Method: Hand Auger
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360	Geologist: Halseth

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5	0.0	12/66	SL-654A-SR6-SB-0.0-0.5	0815	SM	CLAYEY SAND: Dark brown (10YR 3/3); 55% Sand, f-m gr., PG, SR; 45% Clay, low plasticity; Moist, Med. dense, no odor.
		0.0	12/62				
1		0.0	10/66			CL	CLAY WITH SAND: Dark brown (10YR 3/3); 75% clay, low plasticity; 20% Sand, f. gr., PG, SR; 5% Gravel, F, PG, SR; Moist, med stiff, no odor. No gravel @ 1.5
2		0.0	11/60			SM	~~No Gravel @ 2'~~ @ 12 10-2012 SILTY SAND: Dark yellowish brown (10YR 4/4); 70% Sand, f-m gr, PG, SR; 30% Silt, low plasticity; Med. dense, Moist, no odor. 2.25 2.5
		0.0	12/64			SM	SILTY SAND: Light Yellowish brown (10YR 6/4); 60% Sand, F gr., PG, SR; 40% Silt, low plasticity 2.4
3	1			SL-654A-SR6-2.5-3.0	0850		Refusal @ 2.4' GW not encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER 12/10/2012

Sample ID SL-654A-SA6-SB-0.0-0.5 **Date/Time** 12-10-2012 / 0815

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) (Hand Auger/Slide Hammer) Trenching Sediment

SM 12/10/12

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

12-10-12

Field Geologist ~~Halseth~~ John Halseth

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Aqueous	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SC-654/A-SA6-SB-2.0-3.0 **Date/Time** 12-10-2012 / 0850

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.0

End Depth 3.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist John Halseth

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
Inorganics	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Organics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Other	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH * 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH * 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes No
2. Percentage Fill (%) 0
3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color 10 YR 4/4

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments _____

N/A

NA – Not Applicable

Location ID: DG-6543	Subarea: 6	Date Started: 12-10-2012	Date Completed: 12-10 2012
Client: DOE	Project Name/#: ~~SSFL-05258-63376.1203.002.223.02231.SSPH3~~ FB		Total Depth: 1.3, 0.7
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: Hand Auger		Depth Drilled into Bedrock: 1.3
Radiological Background: 12 MR/64cpm	Borehole diameter: 4"		
PID Background: 0.0	Depth to GW: —		Sampling Method: Hand Auger
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6320		Geologist: J. Heuseth

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/64	SL-6543-SA6-SB-0.0-0.5	0905	CL	SANDY CLAY: Dark brown (10YR 3/3); 55% clay, low plasticity; 45% Sand, F gr, PG; SA; Moist, mod. Stiff; No odor.
		0.0	11/60				
1		0.0	12/54				
						SC	CLAYEY SAND. Brown (10YR 4/3); 55% Sand, F-M gr, PG, SR; 40% Clay, low plasticity; 5% Gravel, F, PG, SA; Moist, Med dense, No odor. Rec Brick
2							Refusal @ 1.3 & 0.7
							No GW.
3							

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-654B-SA6-SB-0.0-0.5 **Date/Time** 12/10/2012 | 0905

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist John Hulsey

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyte?
Inorganics	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyte?
Organics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Radiochemistry	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				(CL)	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID:	Subarea:	Date Started:	Date Completed:
DG-654C	6	12-10-12	12-10-12

Client: DOE Project Name/#: ~~GSPL-05250-09876.1203.002.223.02231.SSPH3~~ PB		Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: N/A	1.8, 1.5
GPS collected? Yes or No	Drill Method: Hand Auger	Depth Drilled into Bedrock:
Radiological Background: 12/18 | 96 cpm	Borehole diameter: 4"	—
PID Background: 0.0	Depth to GW: —	Sampling Method:
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [illegible] 6300	Hand Auger
		Geologist: J. Halseth

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	12/74	SL-654C-SA6-SB-0.0	0930		CLAY WITH SAND: very Dark brown (10YR3/2) 75% clay low plasticity, 20% Sand, F-M gr. PG, SA; 5% Gravel, F, PG, SA; moist, Med stiff; no odor. fragments of Red brick
		0.0	12/70	0.3		CL	
1		0.0	13/78			SM	SILTY SAND: light brownish yellow (2.5Y 6/4); 60% Sand, F-M gr. PG, SR; 30% Silt, no plasticity; 10% Gravel F, PG, SR; moist, Med dense, no odor.
							1.5
2		0.0	13/96		12-10-12		~~SILTY~~ CLAYEY SAND: light yellowish brown (2.5Y 6/4) 60% Sand, F-M gr., PG, SR; 30% ~~Silt~~ clay, low Plasticity 10% Gravel, F, PG, SR; moist, Med dense, no odor. 12-10-12
							Refusal @ 1.8 BL.S No GW
3							

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-654C-SB6-SB-0.0-0.5 **Date/Time** 12-10-12 | 0930

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist John Hassell

Sampler Steve Mercer

Analysis

	Parameter	Method	Analysis?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analysis?
Biocide	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Antifoul	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) No

2. **Percentage Fill (%)** 10

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other Red brick

Is Staining Present Yes (No)

Color 10 YR 3/2

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

Location ID: 5 DG-65 ~~NB~~ 11.6.12	Subarea: 6	Date Started: ~~11.5.12~~ - Tues.	Date Completed: ~~11.5.12~~ 11.6.12	11.6.12
Client: DOE ~~11.6.12~~	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs	
Company Name: CDM SMITH	Drill Contractor/Driller: NA			
GPS collected? Yes or No	Drill Method: slide hammer		Depth Drilled into Bedrock: NA	
Radiological Background: 14 µR, 81 cpm	Borehole diameter: 2.25"			
PID Background: 0.0 ppm	Depth to GW: NA		Sampling Method: slide hammer	
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: NB	

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							SILT W/SAND mtt 11/26/12
	0.5	0.0	14/88	SL-65~~7~~ 5 ~~NB 11.6.12~~		ML	~~SANDY SILT~~: yellowish brown (10YR 5/4); 75% silt, no plasticity, soft (unconsolidated) - firm; 20% sand, pg, f, T.m; 5% gravel, pg, igneous - sedimentry (ss formation), f, r, sa, max. ϕ = 1"; dry, no odor, rootlets, FILL.
	0.5			SA6-SB-	0842		
0.5		0.0	14/60	0.0-0.5			
							Total depth of borehole to 0.5' bgs. No GW encountered.
1.0							

Nila Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	r: rounded
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-655-SA6-SB-1.0-0.5 Date/Time 11/06/2012 0842

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nicolynn Begay

Sampler Steve Mercer

VOID SM 11/9/12

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

Sample not submitted due to test pit sample. Stopped & Held

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) No

2. **Percentage Fill (%)** 100

3. **Fill Description (circle all that apply)**

Asphalt	Metal	Plastic
Concrete	Wood	Glass
(Igneous/Metamorphic Gravel)		N/A
Other		

Is Staining Present Yes (No)

Color 10 YR 5/4

Odor

1. **Odor Strength (circle one)**
   (None) Slight Strong

2. **Odor Description (circle one)**
   Organic Petroleum Chemical
   (N/A) Other

Moisture Condition (circle one)
(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-SM 11/5/12 658	Subarea: 6	Date Started: 11/08/2012 - Thurs	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63378.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: slide hammer		Depth Drilled into Bedrock: NA
Radiological Background: 13/102	Borehole diameter: 2.25"		
PID Background: 0.0 ppm	Depth to GW: NA		Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	13/77	SL-658 SAG-SB-1.0-0.5	1337	ML	SANDY SILT: yellowish brown (10YR 5/4); 70% silt, non-plastic, firm; 30% sand, pg, f-m, T. C; dry, no odor; T. gravel, pg, f, rnd, -sr (lignems), max ϕ= 1" diameter. 0.5
		0.0	13/100				TD = 0.5' bgs. No GW, but it's raining.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-658-SA6-SB-0.0-0.5 **Date/Time** 11/08/2012 1337

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 10

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID:	Subarea:	Date Started:	Date Completed:
DG-658	6	11/26/12 →	→

Client: DOE	Project Name/#: ~~SSFL-05258-62376.4203.003.223.03231.GSPH3~~ SM 6411a	Total Depth: 4.7', 4.7', 4.8' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM	
GPS collected? Yes or No	Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12/74	Borehole diameter: 2.25"	
PID Background: 0.0	Depth to GW: NA	Sampling Method: MACRO CORE
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	12/72	SURFACE SAMPLED ON 11/8/12		SM/SP	SAND: Brownish Yellow (10YR 6/6) 75% Sand, pg, f-c gr. (mostly f-m), sa-sr; 10% Gravel, f-c gr. (max ϕ = 1.0"), pg; 5% Silt, non plastic, soft; Trace clay, low plasticity, soft; moist, no odor, Gravel is fill.
1		0.0	10/36			SP/SM	
2		0.0	10/42			SM	SAND WITH SILT: Brown (10YR 4/3); 90% Sand, pg, f-m gr. (mostly f); 10% Silt, very stiff, no plasticity; Tr. Clay, low plasticity, very stiff, moist, no odor
3		0.0	10/60	SL-658-SA6-SB-4.5	0920	SM	SILTY SAND: Dark Yellowish Brown (10YR 4/4), pg, f-c gr. (mostly f), sa-sr; 25% Silt, non plastic, medium; Tr. Clay, low plasticity, medium; moist, no odor
4	1/1	0.0	10/54	SL-658-SA6-SB-4.0-5.0	0915		
		0.0	10/66				
5							Refusal @ 4.8' bgs No GW Encountered Surface Already Sampled on 11/8/12

Mike Hoffman #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-658-SA6-SB-4.0-5.0 **Date/Time** 11/26/12 0915

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler VIDAL CORTES

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 4/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Julie Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortez

Sample ID SL-65B-SA6-SB-4.5 **Date/Time** 11/26/12 0920 ~~0915~~ 11/26/12

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N FD FB RB

Parent Sample ID N/A

Field Geologist STEVEN MERCER

Sampler VIDAL CORTEZ

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	✓
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Nicole Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-659	6	11.6.12 - Tues.	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	0.5' bgs
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock:
Radiological Background: 13uR, 67cpm	Borehole diameter: 2.25"	NA
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method:
Radiological Equipment Used:	PG Review & No.:	slide hammer
✓ MicroR ✓ Alpha/Beta ✓ Pancake		Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							In road.
0.5	0.5/0.5	0.0 / 0.0	13/79 → 11/96	SL-659 SA6-SB- 0.0-0.5	1450	CL	GRAVEL ROAD BASE (igneous) ~~SANDSTONE~~ 11.6.12 CLAY WITH SAND: Yellowish brown (10YR 5/4), med. plasticity, firm, 75% clay, 15% sand, pg, f, T. m, 10% gravel, pg, f, a-sa, max ϕ = 0.5"; dry, no odor. In road (dirt). 0.5
							TD = 0.25', very hard to slide hammer. NO GW encountered

Nicole Hoffman #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL459-SA6-SB-0.0-0.5 Date/Time 11/06/2012 1450

11.6.12

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Began

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 100

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other road base

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nikki Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-659	Subarea: 6	Date Started: 11/26/12	Date Completed: →
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.03331.SSPH8~~ SM 12412		Total Depth: 5.0', 5.0', 5.0' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 0.5'
Radiological Background: 12/69	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: NA		Sampling Method: MACROCORE
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/78	SURFACE SAMPLED ON 11/6/12		SP SM	SAND WITH SILT: Dark Yellowish Brown (10YR 4/4) 90% Sand, pg, f-c gr. (mostly f-m), sa; 10% Silt, non-plastic, stiff; Tr. Gravel, pg, f-grained, max ϕ=1.0", sa-sr; Trace Clay, low plasticity, stiff; moist, no odor, fine roots
1		0.0	10/60				
2		0.0	10/52				@ 2': less gravel
3		0.0	10/54				
4		0.0	10/60	SL-659-SA6-SB-3.5-4.5	1030	4' SP	SAND: Yellowish Brown (10YR 5/6), 95% Sand, pg, f-m gr. (mostly fine), 5% Silt, no plasticity, stiff; moist, no odor;
		0.0	10/78	SL-659-SA6-SB-4.0	1035	4.5'	Weathered Sandstone @ 4.5' bgs
5							TD = 5.0' bgs No GW Encountered Surface Sampled on 11/6/12

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By V. Saz

Sample ID SL-659-SA6-SB-~~4.0-5.0~~ 3.5-4.5 V.C 11/26/12 Date/Time 11/26/2012 10:30

V.C 11/26/12

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~4.0~~ 3.5 V.C 11/26/12

End Depth ~~5.0~~ 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler VIDAL CORTES

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biocides	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 5/6

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By V.Gtz

Sample ID SL-659-SA6-SB-4.0 Date/Time 11/26/2012 10:35

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 4.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler VIDAL CORTES

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Radiation	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP (circled)	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel	(N/A)	
Other _____		

Is Staining Present Yes (No)

Color 10 YR 5/6

Odor

1. **Odor Strength (circle one)**: (None) Slight Strong
2. **Odor Description (circle one)**: Organic Petroleum Chemical (N/A) Other _____

Moisture Condition (circle one): Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-660	Subarea: 6	Date Started: 12/14/12	Date Completed: 12/14/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.SSPH3~~ PB		Total Depth: 5.0'
Company Name: CDM SMITH	Drill Contractor/Driller: Shangara		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: 2.5'
Radiological Background: 12 mrem / 71 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER / SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	12/87	SL-660-SA6-SB-0.0-0.5	1005	SM	SILTY SAND - DARK YELLOWISH BROWN (10YR 3/4), 80% SAND, PG, F.GR, 20% SILT, LOW PLASTICITY, TRACE ROOTS/ORGANICS, MOIST, NO ODOR. TRACE F GRAVEL. CMP 12/12
	0.5/0.5	0.0	12/60				
1.0		0.0	11/66				NO ROOTS AFTER 0.7' BGS.
2.0	0.5/0.5		11/72				
3.0	0.5/0.5		11/60				WEATHERED SANDSTONE-SAND, DARK YELLOWISH BROWN (10YR 4/6), 95% SAND, PG, F GR, 5% SILT, NON-PLASTIC, WEAK TO STRONG CEMENTATION, DRY TO MOIST
4.0	0.5/0.5		11/48	SL-660 SA6 SB-4.0-5.0	1145		
5.0	0.5/0.5		11/60	SL-660-SA6 SB 4.5'	1150		
							END OF BORING @ 5.0' BGS.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-660-SA6-SB-0.0-0.5 Date/Time 12/14/12 1005

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAY CUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Gases	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Metals	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH * 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH * 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes No
2. Percentage Fill (%) 0
3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color 10YR 3/4

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-660-SA6-SS-4.0-5.0 Date/Time 12/11/12 @ 1145

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT (Macro)) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAY CHECK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Oddballs	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0

3. Fill Description (circle all that apply)

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel	(N/A)	
Other		

Is Staining Present Yes (No)

Color 10YR 4/6

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Nikki Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-660-SA6 SB-4.5' Date/Time 12/4/12 1150

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5'

End Depth 4.5'

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MATT CUDDY

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Groups	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tributyltin	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH * 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH * 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes No
2. Percentage Fill (%) _____
3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color 10YR 4/6

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-661	6	9 Nov. 12 - Fri	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 14 / 80	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5 / 0.5	0.0 / 0.0	14/104 / 14/78	SL-661-SA6-SB 0.0-0.5	1225	ML	SILT WITH SAND: yellowish brown (10YR 5/4); 85% silt, non-plastic, soft, 15% sand, pg, f, clumps; dry, no odor; rootlets.
							TD = 0.5' bgs. No GW encountered.

Viola Hoffman #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-661-SA6-SB-0.0-0.5 **Date/Time** 11/09/2012 1225

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Boggs

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nicole Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG 661	Subarea: 6	Date Started: 11/27/12	Date Completed: 11/27/12
Client: DOE	Project Name/#: ~~SSFL-65258-03376.4203.002.223.02231.SSPH8~~ SM 12/12		Total Depth: 3.3
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 0.2
Radiological Background: 13mrem / 83cpm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	13/79			SM	SILTY SAND - DARK YELLOWISH BROWN (10YR 4/4) 80% SAND, POORLY GRADED, FINE GRAINED, 20% SILT, NON-PLASTIC, DRY TO MOIST, LOOSE.
1.0		0.0	10/60 ~~13/79~~ (MP 11/27) ~~13/60~~				
2.0		0.0	10/66	SL-661-SA6-SB-2.5-3.5	0940 ~~SL-661-SA6-SB-2.5-3.5~~	SP	SAND WITH SILT, YELLOWISH BROWN (10YR 5/6) POORLY GRADED, FINE GRAINED WITH TRACE MEDIUM GRAINED, SUBROUNDED TO SUBANGULAR, 10% SILT, NON PLASTIC, DRY TO MOIST, MEDIUM DENSE, GRAD. CONTACT W/ SS BELOW. ~~[illegible]~~ (MP 11/27)
3.0		0.0	10/60				
		0.0	10/48	SL-661-SA6-SB-3.0	~~SL-661-SA6-SB-3.0~~ 0945	SS	SANDSTONE BEDROCK.
		0.0	10/60				REFUSAL @ 3.3', 3.5', 3.5'.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature] 11/27/12

Sample ID SL-661-SA6-SB-~~3.0-4.0~~ 2.5-3.5 SM112712 Date/Time 11/27/12 @ 0940

Matrix (circle one): Soil Sediment Water

Start Depth ~~3.0~~ 2.5

End Depth ~~4.0~~ 3.5 SM112712

Depth Units (circle one): Inches Feet

Check if Composite ☐

Collection Method (circle one): DPT ~~Slide Hammer~~ NP 11/27 Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				(SP)	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 5/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature] 11/27/12

Sample ID SC-661-SA6-SB-3.0 Date/Time 11/27/12 @ 0945

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.0

End Depth 3.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Organics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Inorganics	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 5/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Nikki Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-662	6	9 Nov. 2012 - Fri.	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 14μR, 84cpm	Borehole diameter: 2.25"	
PID Background: 0.0ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	PG Review & No.:	Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 0.0	14/78 14/72	SL-662-SA6-SB-0.0-0.5	1240	ML	SILT WITH SAND: yellowish brown (10YR 5/4), 80% silt, no plasticity, firm (clumps), & unconsolidated, 20% sand, pg, f, T. m, dry, no odor, rootlets.

Total depth of borehole to 0.5' bgs. No groundwater encountered. Surface sample.

Nikki Hoffmann #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-662-SA6-SB-0.0-0.5 (SB 11.9.12) **Date/Time** 11/09/2012 1240

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nikki Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID: DG-662	Subarea: 6	Date Started: 11/27/12	Date Completed: 11/27/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.03231.SSPH3~~ SM 12/12		Total Depth: 5.0
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 1.5
Radiological Background: 13 MR, 82 CPM	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	13/76			SASM	SAND WITH SILT - DARK YELLOWISH BROWN (10YR 4/4) 85% SAND, POORLY GRADED, FINE GRAINED, 15% SILT, NON-PLASTIC, ~~[illegible]~~ (NP 11/27), DRY TO MOIST, LOOSE,
1.0		0.0	10/66				
2.0		0.0	10/60			SP	SAND - ~~PALE~~ BROWN YELLOWISH (NP 11/27) (10YR 5/6) ~~95% SAND~~ POORLY GRADED, FINE GRAINED WITH TRACE MEDIUM GRAINED, SUBROUNDED TO SUBANGULAR, TRACE SILT, NON PLASTIC, DRY TO MOIST, MEDIUM DENSE TO DENSE,
3.0		0.0	10/66	SL-662-SA6-SB-3.0-4.0	0855		
4.0		0.0	10/54	SL-662-SA6-SB-4.0	0400	SS	SANDSTONE - WEATHERED BEDROCK. PALE BROWN (2.5Y 8/3); POORLY CEMENTED.
5.0		0.0	10/60				

REFUSAL @ 5.0' BGS. (3x)

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature] 11/27/12

Sample ID SL-662-~~SB~~ SAG (Coalition) -SB-3.5-4.5' Date/Time 11/27/12 @ 0855

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTCH

Analysis

	Parameters	Method	Analysis?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	Y
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Volatile	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
Soil	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By 11/27/12

Sample ID SC-662-SA6-SB-4.0 Date/Time 11/27/12 @ 0900

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 4.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTCH

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biocide	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Biocide	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/6

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-663	6	11.9.12 - Fri.	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	0.5' bgs
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 14μR, 72cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 / 0.0	14/82 / 14/66	SL-663-SA6-SB-0.0-0.5	1305	ML	SILT w/ SAND: brown (10YR 5/3), 80% silt, no plasticity, firm; 20% sand, pg, f, T. m; dry, no odor, rootlets.
							Total depth of borehole to 0.5' bgs. No GW encountered.

Nicole Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-663-SA6-SB-0.0-0.5 **Date/Time** 11/09/2012 1305

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Bagay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) Ø

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nicole Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-663	Subarea: 6	Date Started: 12/3/12	Date Completed: 12/3/12
Client: DOE	Project Name/#: ~~SSFL-05258-03370.1203.002.223.02231.SSPR3~~ MB		Total Depth: 1.3
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: N/A
Radiological Background: Brown / 60 cm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER.
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	13/75	NONE		SP-SM	S[illegible] (in 12/3)
1.0	0.5/0.5	0.0	13/66			SP-SM	SAND WITH SILT (SP-SM) DARK YELLOWISH BROWN (10YR 4/6) 85% SAND, PG, F.GR., ~~[illegible]~~ 10% SILT, NON PLASTIC, 5% GRAVEL, FINE, SR TO SA, LOOSE, MOIST, NO ODOR.
		0.0 0.0	13/70 13/60				REFUSAL @ 1.3', 0.8' 1.5',
							NOT SAMPLED DUE TO SHALLOW REFUSAL

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID:	Subarea:	Date Started:	Date Completed:
D6-664	6	11/09/2012 - Friday	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	0.5 ft. bgs
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 14 uR, 82 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 0.0	14/109 B/48	SL-664 SAG-SB-0.0-0.5	1335	ML	SILT WITH SAND: brown (10YR 5/3); 80% silt, no plasticity, soft (easy to penetrate); 20% sand, pg, fi roots, dry, no odor.

Total depth of borehole to 0.5 ft. bgs. No ground water encountered

Nicole Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-664-SA6-SB-0.0-0.5 **Date/Time** 11/09/2012 1335

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Beegay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mila Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
SS-664	6	12/3/12	12/3/12

Client: DOE — Project Name/#: ~~SSFL 65258 63276.4208.002.229.02231.SSPHS~~ MB		Total Depth: 3.0'
Company Name: CDM SMITH	Drill Contractor/Driller: N/A	
GPS collected? Yes or No	Drill Method: HAND AUGER	Depth Drilled into Bedrock: N/A
Radiological Background: 12 mrem / 84 cm	Borehole diameter: 2.75"	
PID Background: 0.0	Depth to GW: N/A	Sampling Method: HAND AUGER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 63760	Geologist: MANH PETRS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/58				
1.0	05/05	0.0	12/54			SP-SM	SAND WITH SILT - DARK YELLOWISH BROWN (10YR 4/4), 90% SAND, FG-MED, 10% SILT, NON-PLASTIC, TRACE FINE GRAVEL SUBROUNDED, LOOSE, MOIST
2.0	04/05	0.0	12/66			SP-SM	SP-SM, SAME AS ABOVE.
3.0	05/05	0.0	14/60	SS-664-SAG-SB-2.0-3.0'	1500	SP-SM	SP-SM, SAME AS ABOVE.
				SS-664-SAG-SB-2.5'	1505		REFUSAL @ 3.0' (3')

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-664-SA6-SB-2.0-3.0' Date/Time 12/3/12 @ 1500

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.0'

End Depth 3.0'

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICH

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	Y
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biota	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** (0)

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 4/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Gregory Mern **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SC-664-SA6-SB-2.5' Date/Time 12/3/12 @ 1505

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.5'

End Depth 2.5'

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biota	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

Location ID: DG-665	Subarea: 6	Date Started: 11/12/2012 - Mon	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 1.5, 1.4' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: HA		Depth Drilled into Bedrock: NA
Radiological Background: 15 µR, 103 cpm	Borehole diameter: 2. "		
PID Background: 0.0 ppm	Depth to GW: NA		Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1	0.5 0.5 HA	0.0 0.0 0.0	15/95 15/54 15/66	SL-665-SA6-SB 0.0-0.5	1030	ML	SILT WITH SAND: brown (10YR 5/3); 80% silt, non-plastic, soft; 20% sand, pg, f; dry, no odor, unconsolidated; rootlets + T. wood. T. sandstone 0.25" – 1" diameter
2	NR						Refusal at 1.5' bgs. No 5' sample collected No GW encountered → bedrock.
3							
4							
5							

Nicole Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-665-SB-0.0-0.5 (SA6) **Date/Time** 11/12/2012 1030

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Naralynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-666	6	12-10-2012	12-10-12

Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02284.SSPH3~~ PB	Total Depth: 2 / 1.2
Company Name: CDM SMITH	Drill Contractor/Driller:	
GPS collected? Yes or No	Drill Method: Hand Auger	Depth Drilled into Bedrock: 2.0 ft
Radiological Background: 13MN 74GR	Borehole diameter: 4"	
PID Background: 0.0	Depth to GW: —	Sampling Method: Hand Auger
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: Evangeline Mena 6360	Geologist: J. Helseth

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	0.5	0.0	13/76	SS-666-3A6-SB-0.0-0.5	1230	SM	SILTY SAND: Dark Brown (10 YR 3/3), 60% Sand, F Mgr, Pg, SR; 40% Silt, low Plasticity; Moist, loose, NO odor,
		0.0	11/84				
1		0.0	13/84				color changes to dark yellowish brown (10YR 4/4) @ 1.2'
2		0.0	11/108				Refusal @ 1.2 to 2' (Bedrock)
							No GW.
3							

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-666-SA6-SB-0.0-0.5 **Date/Time** 12-10-2012 / 1230

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist J. Heiseth

Sampler Steve Mercer

Analysis

	Parameter	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Soil	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6200

Additional Comments _____

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-667	Subarea: 6	Date Started: 12-10-12	Date Completed:
Client: DOE	Project Name/#: ~~SSFL-05258-63376.1203.002.223.02231.SSPH3~~ PB		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: Hand auger		Depth Drilled into Bedrock: —
Radiological Background: 13 HR/85 cpm	Borehole diameter: 4"		
PID Background: 0.0	Depth to GW: —		Sampling Method: Hand auger
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: J. Halseth

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	13/82	SS-667-SA6-SB-0.0-0.5	1415	SM	SILTY SAND: Brown (10YR 4/3); 55% Sand Fine gr., PG, SA; 45% Silt, low plasticity; Moist, Med. dense, No odor.
	0.5	0.0	14/80				
							End of boring @ 0.5 NO GW.
1							
2							

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-667-SA6-SB-00-0.5 Date/Time ~~12-10-2012~~ @ 12-10-2012 / 1415

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist John Hulsey

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyte?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyte?
Biocides	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Antifoulant	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

Location ID: DG-668	Subarea: 6	Date Started: 12-10-12	Date Completed:
Client: DOE	Project Name/#: ~~SGFL-00296-03370.1203.002.223.02234.GSPH3~~ PB		Total Depth: 1.5 / 1.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: Hand Auger		Depth Drilled into Bedrock: N/A
Radiological Background: 12/12/6 3cpm	Borehole diameter: 4"		
PID Background: 0.0	Depth to GW: —		Sampling Method: Hand Auger
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [illegible] 6760		Geologist: J. Hansen

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	12/74	SS-668-SA6-SS-0.0-0.5	1310	CL	CLAY WITH SAND: Dark brown (10YR 3/3) 90% clay, low plasticity; 10% Sand, F gr., PG, SR; mod. stiff, no odor, moist.
		0.0	11/66				
1		0.0	13/66				Becomes Dry @ 0.7' Color changes to dark yellowish brown @ 0.7'
2							Refusal @ 1.5 & SM 12/10/12 1.3 No GW.
3							
4							
5							

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	NA= not applicable
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-668-SA6-SB-00-0.5 Date/Time 12-10-2012 / 1310

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist J. Halseth

Sampler ~~Steve~~ Steve Mercer 12-10-12

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Aqueous	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** (0)

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 4/2 3/3

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** _____

Additional Comments _____

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-669	6	11.6.12 TUES.	11.6.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 160cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 / 0.0	13/78 / 13/66	SL-669-SA6-SB-0.0-0.5	0912	CL	CLAY WITH SAND: brown (10YR 4/3); 75% clay, med. plasticity (when wetted), stiff; 20% sand, pg, f; 5% gravel (igneous and sedimentary), pg, f, r-sa, max Φ= 0.5"; dry; no odor, rootlets, FILL. — 0.5
1.0							No GW encountered. Total depth of borehole to 0.5' bgs.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	Φ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-669-SA6-SB-0.1-0.5 Date/Time 11/05/2012 0912

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				(CL)	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 100

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments NA

Santa Susana Field Laboratory/94489

Location ID: DG-669	Subarea: 6	Date Started: 12/3/12	Date Completed: 12/3/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02234.SSPH8~~ PB		Total Depth: 2.0
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: 0.9
Radiological Background: 12 mrem/60 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A.		Sampling Method: HAND AUGER/~~SLIDE HAMMER~~
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/75			ML	SILT WITH SAND (MD 12/3) DARK YELLOWISH BROWN (10 YR 3/4), 90% SILT, MODERATE PLASTICITY, TRACE CLAY, 10% FINE SAND, STIFF, MOIST, ~~NO ODOR~~ NO ODOR.
		0.0	12/60	NONE			
1.0	0.5/0.5	0.0	12/75				
2.0	0.5/0.5	0.0	12/72			ML/SP	SILT GRADING TO WEATHERED SANDSTONE, LIGHT OLIVE BROWN (2.5Y 5/4). 95% SAND, PG, F TO M GR. SR TO SA, 5% SILT, NON-PLASTIC, NO TO MODERATE CEMENTATION, DRY TO MOIST, NO ODOR.
3.0							PROBE REFUSAL @ 2.0, 2.0 & 1.8' NO SAMPLE TAKEN DUE TO SHALLOW REFUSAL.

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID:	Subarea:	Date Started:	Date Completed:
DG-670	6	~~11.5.12~~ 11/06/2012 - Tues 5/11/2012	~~11.5.12~~ 11/06/2012 5/11/2012

Client: DOE	Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	0.5' bgs
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock:
Radiological Background: 13μR, 63cpm	Borehole diameter: 2.25"	NA
PID Background: 0.0	Depth to GW: NA	Sampling Method:
Radiological Equipment Used:	PG Review & No.:	Slide hammer
✓ MicroR ✓ Alpha/Beta ✓ Pancake		Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5 / 0.5	0.0 / 0.0	13167 / 13148	SL-670-CA6-SB-0.0-0.5	0941	ML	SANDY SILT: yellowish brown (10YR 5/4); 70% silt, non-plastic, soft-firm; 20% sand, pg, f, T. m; 10% gravel, pg, f, sa-sa, max ϕ = 0.5"; dry, no odor; FILL igneous, T. sedimentary (Ss) 0.6
1.0							Total depth of borehole to 0.5' bgs. No GW encountered.

Nikki Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-670-SA 6-SB-0.0-0.5 **Date/Time** 11/06/2012 0941

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		(ML)	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 100

3. Fill Description (circle all that apply)

Asphalt	Metal	Plastic
Concrete	Wood	Glass
(Igneous/Metamorphic Gravel)	N/A	

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Vicki Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG 670	6	12/3/12	12/3/12

Client: DOE	Project Name/#: ~~SSFL-05258-03376.1203.002.229.02281.SSPHS~~ PG	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: N/A	1.0
GPS collected? Yes or No	Drill Method: HAND AUGER	Depth Drilled into Bedrock:
Radiological Background: 12 mR / 15 cm	Borehole diameter: 2.75"	0
PID Background: 0.0	Depth to GW: N/A	Sampling Method:
Radiological Equipment Used:	PG Review & No.: Meegeen Mian 6360	HAND AUGER
✓ MicroR ✓ Alpha/Beta ✓ Pancake		Geologist: MARK PEGERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/12				
		0.0	14/48	NONE		ML	SILT WITH SAND AND GRAVEL: DARK BROWN (10YR3/3), 80% SILT, MOD. PLASTICITY, TRACE CLAY, 10% SAND, WG, F TO C GR, SR TO SR, 10% GRAVEL, FINE GR TO SA, STIFF, MOIST, NO ODOR.
	0.4	0.0	12/60				
1.0	0.5'						REFUSAL @ 1.0' (3x) NO SAMPLE TAKEN DUE TO SHALLOW RE

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

Location ID: DG-671	Subarea: 6	Date Started: ~~11.5.12~~ 11/06/2012 smj 11.8.12 · Tues.	Date Completed: ~~11.5.12~~ 11/06/2012 smj 11.8.12 · Tues
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS collected? Yes or No		Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 14 µR, 83 cpm		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		PG Review & No.:	Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 0.0	14/79 14/72	SL-671-SA6-SB-0.0-0.5	1023	CL	CLAY WITH SAND: brown (10YR 4/3); ~~80%~~ 85% clay, med plasticity (when wetted); ~~20%~~ 15% sand, pg, f, T. m; T. gravel, pg, f, sa-sr; max ϕ = 0.25"; dry, no odor. 11.6.12 11.6.12 — soft-firm — 0.5
1.0							Total depth of borehole to 0.5' bgs. No GW encountered.

Nicole Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-671-SA16-SB-0.0-0.5 **Date/Time** 11/06/2012 1023

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH –	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) No

2. **Percentage Fill (%)** 100

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nicholas Hoffman **PG Registration #** 7735

Additional Comments NA

Santa Susana Field Laboratory/94489

Location ID: DS-671	Subarea: 6	Date Started: 12/3/12	Date Completed: 12/3/12
Client: DOE	Project Name/#: ~~SSFL-05258-63376.1203.002.223.02231 SSPH3~~ PB		Total Depth: 2.7
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: N/A
Radiological Background: 12 mrem/66 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER.
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/48				
		0.0	12/60				
1.0	0.5/0.5	0.0	12/60			SM	SILTY SAND (SM) - BROWN (10YR 4/3), 80% SAND, PG, F GR, 20% SILT, LOW PLASTICITY, TRACE FINE GRAVEL, MEDIUM DENSE, MOIST, NO COR.
2.0	0.5/0.5	0.0	12/66			SM	SILTY SAND, SAME AS ABOVE.
		~~0.0~~					
3.0	0.5/0.2	0.0	12/72			SM	SILTY SAND - SAME AS ABOVE.
							REFUSAL @ 2.7', 0.5', 1.0'

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

Location ID: DG-672	Subarea: 6	Date Started: 11/06/2012 ~~11.6.12~~ SM 11/6/12 · Tues	Date Completed: 11.6.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS collected? Yes or No		Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 14 μR, 83 cpm		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		PG Review & No.:	Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	14/92	SL-672-SA6-SB-0.0-0.5	1053	CL	CLAY: Brown (10YR 4/3); 90% clay, med. plas, soft-firm; 10% sand, pg, f; DRY, no odor. ~~FMS~~ 11.6.12
0.5		0.0	14/72				
							Total depth of borehole to 0.5' bgs. No GW encountered.
1.0							

0.5

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-1725A6-SB-0.0-0.5 **Date/Time** 11/05/2012 1053

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** NA

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-672.	Subarea: 6	Date Started: 12/3/12	Date Completed: 12/3/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 5.0
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: Hand Auger		Depth Drilled into Bedrock: Ø
Radiological Background: 13mrem/66cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A.		Sampling Method: Hand Auger / Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: Mark Peters

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	~~0.0~~ (mpl 1/3) 13/76			SM	(1253)
		0.0	~~0.0~~ (mpl 1/3) 13/46				
1.0	0.5/0.5	0.0	~~0.0~~ (mpl 1/3) 13/78			SM	SILTY SAND, DARK YELLOWISH BROWN (10 YR 4/4), 70% SAND, PG, F. GR, 30% SILT, LOW PLASTICITY, LOOSE, MOIST, NO ODOR.
2.0	0.5/0.5	0.0	~~0.0~~ (mpl 1/3) 13/60			SM	SILTY SAND. DARK YELLOWISH BROWN (10 YR 4/6), 80% SAND, PG, F GR., 20% SILT, NON-PLASTIC, LOOSE, MOIST, NO ODOR.
3.0	0.5/0.5	0.0	~~0.0~~ (mpl 1/3) 13/60			SM	SILTY SAND SAME AS ABOVE.
4.0	0.5/0.5	0.0	~~0.0~~ (mpl 1/3) 13/66			SM	SILTY SAND SAME AS ABOVE EXCEPT 30% SILT, LOW PLASTICITY.
				SC-672-SA6-SB-4.0-5.0	1045		
5.0	0.5/0.1	0.0	13/66 ~~0.0~~ mpl 1/3			SM	SILTY SAND SAME AS 3.5-4.0
				SC-672-SA6-SB 4.5	1050		EOB @ 5.0' (3x)

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-~~664~~ 672 SA6-SB-4.0-5.0 Date/Time 12/3/12 @ 1045

Matrix (circle one): Soil (circled) Sediment Water

Start Depth 4.0

End Depth 5.0

Depth Units (circle one): Inches Feet (circled)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer Hand Auger/Slide Hammer (circled) Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 6760

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-672-SA6-SB-4.5 Date/Time 12/3/12 @ 1050

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CLITCH

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	Y
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 62360

Additional Comments _____

NA – Not Applicable

Location ID: DG-673	Subarea: 6	Date Started: 11.5.12 - Tues.	Date Completed: 11.6.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: slide hammer		Depth Drilled into Bedrock: NB
Radiological Background: 14 uR, 90 cpm	Borehole diameter: ~~NRS~~ 11.6.12 2.25"		
PID Background: 0.0 ppm	Depth to GW: NA		Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							Asphalt debris at surface.
	0.5	0.0	14/66	SL-673-SA6-SB-00-05	1255	CL	(CLAY ~~with SAND~~ 11.6.12: brown (10YR 4/3); 90%. clay, med. plasticity, soft-firm; 10%. sand, pg, f-t. m; Asphalt debris. dry; no odor.
0.5	0.5	0.0	14/78				0.5
							Total depth of borehole to 0.5' bgs. No GW encountered.
1.0							

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-173-SA6-SB-0.0-0.5 **Date/Time** 11/05/2012 1255

Matrix (circle one): (Soil) Sediment Water

Start Depth 0-0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				(CL)	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 100

3. Fill Description (circle all that apply)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-673	Subarea: 6	Date Started: 11/26/12	Date Completed: →
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.SSPH3~~ SM 12412		Total Depth: 2.0', 2.0', 1.8' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: ~~N/A~~ SM 11/26/12 0.2' bgs
Radiological Background: 14/91	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: N/A
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	~~14~~ SM 11/26/12	0.0	~~78~~ 14/78	SURFACE SAMPLED ON 11/6/12		SM	Asphalt chunks on surface SILTY SAND: (10 YR 3/3) Dark Brown; ~~80~~ 75 % Sand, pg, f-c, (mostly fine), sa-sr; 15% Silt, ~~low~~ no plasticity, soft; 5% Clay, low plasticity, soft, 5% Gravel, pg, f-~~c~~ gr., sa-sr; moist, no odor, asphalt pieces throughout, gravel fill throughout. SM 11/26/12
0.5							
1.0	~~12~~ SM 11/26/12	0.0	12/54				
1.5							less moist @ 1.5' bgs ~~8~~ SM 11/26/12 Sandstone bedrock @ 1.8' bgs
2.0		0.0	12/78				Refusal @ 2.0' bgs No GW Encountered Surface already sampled on 11/6/12 No 5' Sample Collected.

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID: DG-674	Subarea: 6	Date Started: 11/08/2012	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: slide hammer		Depth Drilled into Bedrock: NA
Radiological Background: 13μR, 104cpm	Borehole diameter: 2.25"		
PID Background: 0.0ppm	Depth to GW: NA		Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 0.0	13/93 13/60	SL-674 SA6-SB-0.0-0.5	H2O	ML	SILT WITH SAND: yellowish brown (10YR 5/4); 80% silt, soft-firm, non plastic (unconsolidated at surface-top); 20% sand, pg, f-m, mostly f, dry (only mostly top due to rain) lightrain. cold. No odor.

Total depth of boring to 0.5' bgs. No GW.

T-gravel (igneous), pg, f, sa-sr, max ϕ = 0.75".

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-1674SA6-SB-0.0-0.5 **Date/Time** 11/08/2012 1420

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

11-8-12

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 100

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No) TB

Color 10YR 5/3 4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NA

Location ID: DG 674	Subarea: 6	Date Started: 12/3/12	Date Completed: 12/3/12
Client: DOE	Project Name/#: ~~GSFL-05258-63376.1203.002.223.02231.SSPHS~~ MB		Total Depth: 3.8
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: N/A
Radiological Background: 12 mm / 70 cm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER / SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature] 6360		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/67				
1.0	0.5/0.5	0.0	12/84			SM	SILTY SAND - DARK YELLOWISH BROWN (10YR 3/4), 65% SAND, PG, F.GR., 30% SILT, NON PLASTIC, 5% FINE SA TO SR GRAVEL, LOOSE, MOIST, NO ODOR
2.0	0.5/0.5	0.0	12/86			SM	SILTY SAND, SAA EXCEPT BROWN (10YR 4/3)
3.0	0.5/0.5	0.0	12/66	SL-674-SA6-SB-2.5-3.5'	1345	ML	SANDY SILT (ML) - DARK YELLOWISH BROWN (10YR 3/4), 60% SILT, LOW PLASTICITY, 40% FINE GR. SAND, PG, MOIST.
		0.0	12/66	SL-694 SA6-SB-3.0'	1350	ML	SANDY SILT (ML) BROWN (10YR 3/4) 60% SILT, MOD. PLASTICITY, TRACE CLAY, 40% F TO M SAND, PG. TRACE FINE SA TO SA GRAVEL, WET.
							REFUSAL @ 3.8', ~~[illegible]~~ 3.8'; 3.8'

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-674-SAC-SB-2.5-3.5 Date/Time 12/3/12 @ 1345

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.5

End Depth 3.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK.

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tributyltin	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel	(N/A)	
Other _____		

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**: (None) Slight Strong
2. **Odor Description (circle one)**: Organic Petroleum Chemical (N/A) Other _____

Moisture Condition (circle one): Dry Moist (Wet)

PG Signature _____ **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-674-SB6-SB-3.0 Date/Time 12/3/12 0 1350

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.0

End Depth 3.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUECH

Analysis

	Parameters	Method	Analyte?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyte?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes No

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature _____ **PG Registration #** 6360

Additional Comments N/A

NA – Not Applicable

Location ID: DG-675	Subarea: 6	Date Started: 11.6.12 - Tues.	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 FT BGS
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: slide hammer		Depth Drilled into Bedrock: NA
Radiological Background: 13μR/42cpm	Borehole diameter: 2.25"		
PID Background: 0.0 ppm	Depth to GW: NA		Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 0.0	13/80 13/72	SL-675-SA6-SB-0.0-0.5	1406	CL	CLAY WITH SAND: Brown (10YR 4/3); 85% clay, med. plasticity, soft-firm; 15% sand, pg,fi.T. gravel (igneous) pg,f, a-sa, max ϕ=0.5"; T. rootlets; dry, no odor
							Total depth of borehole to 0.5' bgs. No GW encountered.

Nila [illegible] #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-675-SA6-SB-0.0-0.5 Date/Time 11/06/2012 1405

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 100

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA

NA – Not Applicable

Location ID: DG 662675	Subarea: 6	Date Started: 12/3/12	Date Completed: 12/3/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 1.0
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? (Yes) or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: N/A
Radiological Background: Range 158 cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: [signature]		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/49				
1.0	0.9/0.5	0.0	12/60	NONE		SM	SILTY SAND-DARK YELLOWISH BROWN (10YR 3/4), 80% SAND, PG, F GR., 20% SILT, NON-PLASTIC, TRACE ROOTS, LOOSE, MOIST, NO ODOR
							PROBE REFUSAL @ 1.0', 1.2', 1.3'
							NOT SAMPLED DUE TO SHALLOW REFUSAL.

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

Location ID:	Subarea:	Date Started:	Date Completed:
DG-676	6	11.6.12 - Tues	11.6.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 13uR/72cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5 / 0.5	0.0 / 0.0	13/87 / 13/60	SL-676 SAU-SB-0.0-0.5	1325	CL	CLAY: yellowish brown (10YR 5/4); 90% clay, med, plas, soft-firm; 10% sand, pg, f; roots; T. gravel (igneous), pg, f, rsa, max ϕ = 0.75"; T. asphalt, T. metal debris (FILL); dry, no odor. TD = 0.5' bgs. No GW encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of ___

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-676SA6-SB-0.0-0.5 Date/Time 11/06/2012 1325

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Fluoride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
1,4 Dioxane	EPA 8270 SIM	
Dioxins	EPA 1613	X
PCBs/PCTs	EPA 8082	X
Perchlorate	EPA 314.0/331	
Perchlorate Confirmation	EPA 6850/6860	
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	
Herbicides	EPA 8151	
Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				(CL)	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 100

3. Fill Description (circle all that apply)

(Asphalt) (Metal) Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-676	6	11/26/12 →	

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 7.0', 7.0', 6.7' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: STRONGARM	
GPS collected? (Yes) or No	Drill Method: DPT	Depth Drilled into Bedrock: 2.0' ~~bgs~~ sm 11/26/12
Radiological Background: 12/62	Borehole diameter: 2.25"	
PID Background: 0.0	Depth to GW: NA	Sampling Method: MACRO CORE
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	12/61	SURFACE SAMPLED on 11/6/12		SP	SAND: ~~Dark~~ sm 11/26/12 Dark Yellowish Brown (10YR 3/4) sm 11/26/12 ~85% Sand, pg, f-c gr. (mostly f-m), sa-sr; 10% Gravel, pg, f-c, max ϕ = 1.0', sa-sr; 5% Silt, non-plastic, soft; moist, no odor, fine roots
1			10/60		1'	SM	@ 0.5': Color becomes Dark Greyish Brown (10YR 4/3)
2			10/72				@ 0.5': Higher Gravel content (~20%)
3			10/60				SILTY SAND: Dark Yellowish Brown (10YR 3/4); 60% Sand, pg, f gr., t. m gr.; 40% Silt, sm 11/26/12 non plastic, soft; moist, no odor, fine roots
4	1/1		10/66	SL-676-SA6-SB-3.5-4.5	1300	3.5' SM	SILTY SAND: Brownish Yellow (10YR 6/8); 80% Sand, pg, ~~f~~ sm 11/26/12 f-gr., t. m. gr; 20% Silt, low non-plasticity, soft; Tr. Clay, low plasticity, soft, sm 11/26/12 moist, no odor
5			10/48	SL-676-SA6-SB-4.0	1305 sm 11/26/12	5' SP	SAND: Yellow (2.5Y 7/8); 95% Sand, pg, f gr.; 5% Silt, sm 11/26/12 non low plasticity, soft; with interbeds of silty Sand ~~Clay~~ (sm 11/26/12 ~~Pale~~ Yellowish Brown) (10YR 5/8) with 5% clay
6			10/60				(Sandstone) + (Weathered)
7			10/72				Refusal @ 7.0' bgs No GW Encountered Surface Sampled on 11/6/12

Nicole Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal 7A

Sample ID SL-676-SA6-SB-4.0 3.5-4.5 **Date/Time** 11/26/2012 1300

V.C 11/26/12

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~4.0~~ 3.5

V.C 11/26/12

End Depth ~~4.0~~ 4.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler VIDAL CORTES

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Aqueous	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 6/8

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-676-SA6-SB-~~6.0-7.0~~ ~~3.5-4.5~~ 4.0 V.C. 11/26/12 SM 11/26/12 Date/Time 11/26/2012 1305

Matrix (circle one): Soil (circled) Sediment Water

Start Depth ~~6.0~~ SM 11/26/12 ~~3.5~~ V.C. 11/26/12 4.0

End Depth ~~7.0~~ ~~4.5~~ V.C. 11/26/12 4.0

Depth Units (circle one): Inches Feet (circled)

Check if Composite ☐

Collection Method (circle one): DPT (circled) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler VIDAL CORTES

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 6/8

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID: DS-677A	Subarea: 6	Date Started: 11/27/12	Date Completed: 11/27/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.SSPH3~~ SM 1241A		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller:		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: 13 mrem/72 cm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PERRS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	13/89	SL-677A-SAG-SB-	1025	SP	SAND WITH SILT - DARK YELLOWISH BROWN (10YR 4/4) 0.5% SAND, POORLY GRADED, FINE TO MEDIUM GRAINED, SUBROUNDED TO SUBANGULAR, 5% GRAVEL, FINE, SUBROUNDED TO SUBANGULAR, IGNEOUS, 10% SILT, NONPLASTIC, DRY TO MOIST, LOOSE.
0.5		0.0	11/66	0.0-0.5			END OF BORING @ 0.5 FEET BGS

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-677A-SA6-SB-0.0-0.5 Date/Time 11/27/12 @ 1025

Matrix (circle one): Soil (circled) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches Feet (circled)

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer (circled) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID NA

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 4/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Nikki Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID: DG-6773	Subarea: 6	Date Started: 11/27/12	Date Completed: 11/27/12
Client: DOE	Project Name/#: ~~SOPL-05258-63276.1203.009.229.09934.SSPH3~~ SM 12413		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller:		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: 13 mon / 7k cpm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SCOOP HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.15	0.5/0.5	0.0 / 0.0	13/7 / 11/54	SC-6773-SA6-SB 0.0-0.5	1030	SP	SAND WITH SILT - DARK YELLOWISH BROWN (10YR 4/4) 85% SAND, POORLY GRADED FINE TO MEDIUM GRAINED SUBROUNDED TO SUBANGULAR, 5% GRAVEL, FINE, SUB-ROUNDED TO SUBANGULAR, IGNEOUS, 10% SILT, NON-PLASTIC, DRY TO MOIST, LOOSE

Mike Hoffman #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By: [signature]

Sample ID: SC-677B-SA6-SB-0.0-0.5 Date/Time: 11/27/12 @ 1050

Matrix (circle one): (Soil) Sediment Water

Start Depth: 0.0

End Depth: 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite: ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID: N/A

Field Geologist: MARK PETERS

Sampler: MAX LUICK

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 4/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID:	Subarea:	Date Started:	Date Completed:
D6-677C	6	11/27/12	11/27/12

Client: DOE	Project Name/#: ~~SSFL.65258.63376.4303.002.003.02204.GSPH0~~ SM 1341a	Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller:	
GPS collected? Yes or No	Drill Method: DSA	Depth Drilled into Bedrock: N/A
Radiological Background: 13 mrem 76cm	Borehole diameter: 2.75"	
PID Background: 0.0	Depth to GW: N/A	Sampling Method: SCOOP / HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: MARK ACRAS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5 / 0.5	0.0 / 0.0	13/77 / 11/57	SC-677C-SA6-53 / 0.0-0.5'	1035	SP	SAND WITH SILT AND GRAVEL. - DARK YELLOWISH BROWN (10YR 4/4) 80% SAND, POORLY GRADED, FINE TO MEDIUM GRAINED, SUBROUNDED TO SUBANGULAR, 10% GRAVEL, FINE, SUB-ROUNDED TO SUBANGULAR, IGNEOUS, 10% SILT NON-PLASTIC, DRY TO MOIST, LOOSE

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-677C-SA6-SB-0.0-.05 Date/Time 11/27/12 @ 1035

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX QUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biocides	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes No

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 4/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-678	6	9 Nov. 2012 Fri.	11.9.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? Yes or No	Drill Method: slide hammer	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 76cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	PG Review & No.:	Geologist: N.B.

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5 / 0.5	0.0 / 0.0	13/77 / 12/60 (11.9.12)	S-678-SA6-SB 0.0-0.5	1425	SM	SILTY SAND: yellowish brown (10YR 5/4), 60% sand, pg, f, m-c, sa-sr; 30% silt, non plasticity, soft (dry & unconsolidated mostly); 10% gravel (ROAD BASE)- igneous; pg, c, a-sr; max ϕ = 2". Mixed in with sand in upper 6". Hard surface & hard to keep soil in sleeve. DRY, No odor
							TD = 0.5' bgs. No GW encountered.

11.9.12

Nicole Hoffman #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-678-SA6-SB-00-0.5 **Date/Time** 11/09/2012 1425

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 100

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments

(ROAD BASE) NA

N/A – Not Applicable

Location ID: DG-678	Subarea: 6	Date Started: 11/20/12 TVES	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3.5', 3.7'
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS collected? Yes or No		Drill Method: HA	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 77cpm		Borehole diameter: 2.75"	
PID Background: 0.0ppm		Depth to GW: NA	Sampling Method:
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		PG Review & No.:	Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1	HA	0.0	13	Surface Sampled on 11/9/12		SM	SILTY SAND: Dark Brown (10YR 3/3) to sm 11/20/12, Sand, pg, f-c gr. mostly f-m; sa-sr; 15% Silt, non plastic, soft, 15% Gravel, f-c gr, sa-sr, max ϕ=1-5", moist, no odor Fill: Gravel
			12/64				
2			12/60			SM	SILTY SAND: Dark Yellowish Brown (10YR 4/6), 80% Sand, pg, f-m gr. (mostly fine); 20% Silt, non plastic, soft, Trace Gravel, f-c gr., sm 11/20/12 Sa-Sr, max ϕ= 1-5"; moist, no odor; roots, Fill: Gravel (Igneous) Sand clumped sm 11/20/12 Soil clumped together throughout.
3	0.0 / 0.5		12/54	SL-678-SAG-SB-2.5-3.5	1433		
	0.45 / 0.5		12/66	SL-678-SAG-SB-3.0	1440		3.7' bgs
4							Refusal @ 3.7' bgs No GW Encountered Surface was already sampled on 11/9/12.
5							

Mike Hoffman #735

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of ___

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-678-SA6-SB-2.5-3.5 **Date/Time** 11/20/2012 1433

Matrix (circle one): (Soil) Sediment Water

Start Depth SM 2.5

End Depth 3.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler MACOLYNN BFGAY

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) No

2. **Percentage Fill (%)** 5

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 4/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-678-SA6-SB-3.0 **Date/Time** 11/20/2012 1440

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.0

End Depth 3.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Steve Mercer

Sampler Nacolynn Begay

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Explosives	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) No

2. **Percentage Fill (%)** 5

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 4/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-678-SA6-SB-3.0R Date/Time 12/12/12 @ 1455

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.0

End Depth 3.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICH

Analysis

	Parameter	Method	Analyze?
Inorganics	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Organics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH * 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH * 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes No

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other _____

Is Staining Present Yes No

Color 10YR 3/4

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

N/A Other _____

Moisture Condition (circle one)

Dry Moist Wet

PG Signature _____ PG Registration # _____

Additional Comments _____ NESAMPLE FOR TPH-GMO

NA – Not Applicable

Location ID: DG-679	Subarea: 6	Date Started: 9 Nov. 2012- Fri.	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-83376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: slide hammer		Depth Drilled into Bedrock: NA
Radiological Background: 13μR, 64cpm	Borehole diameter: 2.25"		
PID Background: 0.0ppm	Depth to GW: NA		Sampling Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: NB

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 0.0	13/86 13/66	SL-679-SA6-SB-0.0-0.5	1400	SM 11.9.12	SILTY SAND: yellowish brown (10YR 5/4); 60% sand, pg, m-c, mostly c, sa-sr; 35% silt, non-plastic, soft-firm; 5% gravel (igneous), pg, f, a-sr, max ϕ= 1"; dry, no odor (FILL). T. asphalt. Hard ground
							TD = 0.5' bgs. No GW.

Mike Hoffman #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-679-SA6-SB-0.0-0.5 **Date/Time** 11/09/2012 1400

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 100

3. Fill Description (circle all that apply)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 5/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

PG Signature Nicole Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-679	Subarea: 6	Date Started: 11/20/2012 TUES.	Date Completed:
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.95', 1.0'
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: HA		Depth Drilled into Bedrock: NA
Radiological Background: 12/60	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: NA		Sampling Method: NA ~~SLIDE HAMMER~~ SM 11/20/12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/80	Surface Sampled SM 11/20/12 on 11/9/12		SM	SILTY SAND: Yellowish Brown (10YR 5/4); 55% Sand, pg, f. to c. gr, (mostly f-m), sa-sr; 30% Silt, non plastic, soft, 15% Gravel (igneous), pg, f-c (mostly fine) max ϕ=1.25", moist, no odor; Gravel fill, hard ground
1	–	0.0	12/66				
2							Refusal @ 1.0' bgs No Sample Collected @ 5' (Surface already ~~col~~ collected on 11/9/12) SM 11/20/12 ~~Now~~ SM 11/20/12
3							No GW encountered.
4							
5							

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID:	Subarea:	Date Started:	Date Completed:
DG-680	6	11/20/12 - TUES →	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.8', 0.8' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? (Yes) or No	Drill Method: HA	Depth Drilled into Bedrock: NA
Radiological Background: 14/84	Borehole diameter: 2.75"	
PID Background: 0.0	Depth to GW: NA	Sampling Method: SLIDE HAMMER
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	PG Review & No.:	Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1	0.5/0.5	0.0	14/77	SL-680-SA6-SB-00-0.5	1110	SM	SILTY SAND. Dark Yellowish Brown (10 YR 3/4) sm 11/20/12 60% Sand, pg, f-m gr, mostly f, ti coarse; sa-sr; 40% Silt, no plasticity, soft; moist, no odor; roots and twigs.; Fill: Asphalt
	HA	0.0	14/78				0.8' bgs
2							Refusal @ 0.8' bgs
							No 5' Sample Collected.
3							No GW Encountered
4							
5							

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-680-SA6-SB-0.0-0.5 **Date/Time** 11/20/2012 1110

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler NAZOLYNN BEGAY

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH ≤ 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH ≤ 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) / No — MB 11.20.12

2. **Percentage Fill (%)** 10

3. **Fill Description (circle all that apply)**

(Asphalt) Metal Plastic

Concrete Wood Glass

~~Igneous/Metamorphic Gravel~~ (N/A) — MB 11.20.12

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Gibson **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-681	Subarea: 6	Date Started: 11/20/12 - TUES	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 1.1', 1.1' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: HA		Depth Drilled into Bedrock: NA
Radiological Background: 13/77	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: NA		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	13/94	SL-681-SA6-SB-0.0-0.5	1000	SM	SILTY SAND: Brown (10YR 4/3) ~~75~~ 70 % Sand, pg, f-m grained, trace coarse grained, sa-sr; 25% Silt, no plasticity, soft; 5% Gravel, pg, f. gr., ~~[illegible]~~ SM 11/20/12, sa-sr; moist, no odor; gravel fill; twigs and fine roots.
	HA	0.0	13/72				
1	↓	0.0	13/66				
2							Refusal @ 1.1' bgs No 5' or 10' Sample Collected No GW Encountered
3							
4							
5							

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-681-SA6-SB-00-0.5 **Date/Time** 11/20/2012 1000

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler NACOLYNN BEGAY

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) No

2. **Percentage Fill (%)** 5

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 4/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Nicole Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Santa Susana Field Laboratory/94489

Location ID:	Subarea:	Date Started:	Date Completed:
D6-682	6	12/13/12	12/13/12

Client: DOE	Project Name/#: ~~SSFL 65258.63376.4203.002.223.02231.SSPI13~~ PB	Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A	
GPS collected? Yes or No	Drill Method: N/A	Depth Drilled into Bedrock: N/A
Radiological Background: 12 max. 7/1cpm	Borehole diameter: 2.75"	
PID Background: 2.0	Depth to GW: N/A	Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5	0.0	12/10	SL-682-SA6-SB-0.0-0.5	1300	CL	CLAYEY SILT WITH SAND - DARK BROWN (10YR3/3), 60% SILT, LOW PLASTICITY, 20% CLAY, 15% FINE SAND, 5% ROOTS/ORGANICS, STIFF, MOIST, NO ODOR
	0.5	0.0	10/10				
0.5							END OF BORING @ 0.5' BGS

Nicole Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID:	Subarea:	Date Started:	Date Completed:
06-682	6	12/13/12	12/13/12

Client: DOE	Project Name/#: ~~SSFL-05250-05370.1203.002.225.02231.SSPH3~~ PB	Total Depth: 4.2'
Company Name: CDM SMITH	Drill Contractor/Driller: STRATAGRAM	
GPS collected? Yes or No	Drill Method: DPT	Depth Drilled into Bedrock: 4.2'
Radiological Background: 12 CAM / 11 CAM	Borehole diameter: 2.25"	
PID Background: 0.0	Depth to GW: N/A	Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: MAM MCM

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0		0.0 0.0 0.0	12/70 13/60 8/48			CL-ML	CLAYEY SILT WITH SAND - DARK BROWN (10YR 3/3), 60% SILT, LOW PLASTICITY, 20% CLAY, 15% FINE SAND, 5% ROOTS/ORGANICS, STIFF, MOIST, NO ODOR.
2.0		0.0	8/54			SM	SILTY SAND - DARK YELLOWISH BROWN (10YR 3/4) 80% SAND, AS, F. GR, 20% SILT, LOW PLASTICITY, LOOSE, MOIST, NO ODOR. EXCEPT AS NOTED: 2" SAND SEAM 2.0-2.2'
3.0		0.0	8/54	SL-682-SNG-SS-3.0-4.0	1325	SP	WEATHERED SANDSTONE: ~~YELLOWISH~~ n/a OLIVE (2.5Y 6/6), 95% SAND, F TO M GR, SUBROUNDED, AS, 5% SILT, NON-PLASTIC, NO TO WEAK CEMENTATION, MOIST, NO ODOR.
4.0		0.0 0.0	8/31 8/42	SL-682-SNG-SS-3	1530		
							~~END OF BORING @ 4' BGS~~ REFUSAL 4.2' (ST)

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-682-SA6-SB-0.0-0.5 Date/Time 12/13/12 1300

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUCAS

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Volatiles	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
Semivolatiles	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Additional	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-682-SA6-SB-3.0-4.0 **Date/Time** 12/13/12 @ 1325

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.0

End Depth 4.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK BETENS

Sampler MAX KUECH

Analysis

	Parameters	Method	Analyze?
Inorganics	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Organics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				(SP)	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes No

Color 2.5 Y 6/6

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-682-SA6-SB-3.5' Date/Time 12/13/11 @ 1330

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.5

End Depth 3.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CLICK

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analyze?
Fuels	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 2.5Y 6/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-683A	6	11/21/2012	

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? (Yes) or No	Drill Method: SLIDE HAMMER	Depth Drilled into Bedrock: NA
Radiological Background: 15/79	Borehole diameter: 2-25"	
PID Background: 0.0	Depth to GW: NA	Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 0.0	15/91 15/66	SL-683A-SA6-SB-0.0-0.5	1106	SM	SILTY SAND: Dark Brown (10YR 3/3); 80% Sand, Pg, f. gr.; 20% Silt, non-plastic; soft; moist, no odor; roots
1							TD=0.5' bgs No GW Encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-683A-SA6-SB-0.0-0.5 **Date/Time** 11/21/2012 1106

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler WILL GROVE

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. Is Fill Material Present Yes (No)

2. Percentage Fill (%) 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-683B	Subarea: 6	Date Started: 11/21/2012	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: SLIDE HAMMER		Depth Drilled into Bedrock: NA
Radiological Background: 15/87	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: NA		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	15/96	SL-683B-SAG-SB-0.0-0.5	1128	SM	SILTY SAND: Dark Yellowish Brown (10YR 3/4) 80% Sand, pg, f-m gr. (mostly f. gr.), 20% Silt, non plastic, soft with small ~~firm~~ SM 11/21/12 firm clumps; Trace Gravel, pg, f.gr. sr; max ϕ = 0.5"; moist, no odor; roots
0.5		0.0	15/84		1128		
1							TD=0.5' bgs No GW Encountered

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Will Grove

Sample ID SL-683B-SA6-SB-0.0-0.5 Date/Time 11/21/2012 1128

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler WILL GROVE

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Biocide	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
Antifreeze	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Antifoulant	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 735

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-683C	6	11/21/2012	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? (Yes) or No	Drill Method: SLIDE HAMMER	Depth Drilled into Bedrock: NA
Radiological Background: 15/104	Borehole diameter: 2.25"	
PID Background: 0.0	Depth to GW: NA	Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 / 0.0	15/84 / 15/84	SL-683C-SM 11/21/12 SAG-SB-0.0-0.5	1146	SM	SILTY SAND: Dark Yellowish Brown (10YR 3/4) 80% Sand, pg, f-m gr. (mostly f-gr.); 20% Silt, non plastic, soft with small f. stiff clumps; Trace Gravel, pg, f. gr., sr, max ϕ = 0.5", moist, no odor; roots SM 11/21/12
1							TD = 0.5' bgs No GW Encountered

Mike Williams #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By: Will Grove

Sample ID: SL-683C-SA6-SB-0.0-0.5 Date/Time: 11/21/2012 1146

Matrix (circle one): (Soil) Sediment Water

Start Depth: 0.0

End Depth: 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite: ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID: NA

Field Geologist: STEVEN MERCER

Sampler: WILL GROVE

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** Ø
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-684	Subarea: 6	Date Started: 12-10-12	Date Completed:
Client: DOE	Project Name/#: ~~SSFL-05256-03376.1203.002.223.02231.GSPH3~~ PB		Total Depth: 1.7 / 2.4
Company Name: CDM SMITH	Drill Contractor/Driller:		
GPS collected? Yes or No	Drill Method: Hand auger		Depth Drilled into Bedrock: N/A
Radiological Background: 1348 / 9208	Borehole diameter: 4"		
PID Background: 0.0	Depth to GW: -		Sampling Method: Hand Auger
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.: Meegeeta Mira 6360		Geologist: J. Halseth

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	13/14	SL-684-SA6-SB-0002'	1450	SM	SILTY SAND: dark brn (10YR 3/3); 60% sand, F-M gr., PG, SR; 35% silt, low plasticity; 5% gravel, F-C, WG, SR; med. dense, moist, no odor
		0.0	13/12				
1		0.0	13/12				
						SM	SILTY SAND: dark yellowish brown (10YR 4/4); 55% sand, F-M gr, SA; 40% silt, No Plast.; 5% gravel, F, PG, SR; MOIST, Med. dense, no odor.
2		0.0	14/14				Refusal @ 1.7 @ 1.4'
							No gw
3							

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-684-SB6-SB-0-0-0.5 Date/Time 12-10-2012 / 1450

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist J. Halseth

Sampler S. Mercer

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Biocides	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tributyltin	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** (0)
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 6360

Additional Comments _____

NA – Not Applicable

Location ID: DG-685	Subarea: 6	Date Started: 12/13/12	Date Completed: 12/13/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.4200.002.223.02231.CCPH3~~ PB		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: N/A
Radiological Background: Rama Alisem	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: [illegible]

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	12/10	SL-685-SAG-SB-0.0-0.5MS	1410	SP-SM	SILT WITH SAND - DARK YELLOWISH BROWN (10YR 3/4), 85% SAND, PG, F-GR, 15% SILT, LOW PLASTICITY, TRACE ROOTS, ~~NO ODOR, MOIST~~ M12/13 LOOSE, MOIST, NO ODOR
0.5		0.0	12/6				
				SL-1085-SAG-SB-0.0-0.5	1415		

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

Location ID: D6-685	Subarea: 6	Date Started: 12/13/12	Date Completed: 12/13/12
Client: DOE	Project Name/#: ~~SSFL-05258-03376.1203.002.223.02231.SSPH3~~ PB		Total Depth: 5.0'
Company Name: CDM SMITH	Drill Contractor/Driller: Shongam		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: N/A
Radiological Background: 12 mm / 11 Scan	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: Mark Peters

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/106			SP-SM	SAND WITH SILT - DARK YELLOWISH BROWN (10YR 3/4), 85% SAND, PG, F.GR, 15% SILT, LOW PLASTICITY, TRACE ROOTS, LOOSE TO MEDIUM DENSE MOIST, NO ODOR.
		0.0	12/60				
1.0		0.0	8/54				EXCEPT AS NOTED: 2" MODERATELY CEMENTED SAND SEAMS 2.0-2.2' AND 2.6-2.8' GRADING TO SANDY SILT BELOW 2.8-3.0'.
2.0		0.0	8/44				
3.0		0.0	8/60				
4.0		0.0	8/72	SL-685 SA6-SB 4.0-5.0	1440	ML	SANDY SILT - DARK YELLOWISH BROWN 10YR 3/4 60% SILT, LOW PLASTICITY, 40% SAND, PG, F.GR, STIFF, MOIST, NO ODOR
5.0		0.0	8/72	SL-685-SA6-SB-4.5'	1445		
							END OF BORING @ 5.0' (3-4)

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID: 06-685	Subarea: 6	Date Started: 12/18/12	Date Completed: 12/18/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376.1203.002.223.02231.SSPH6~~ 12SH SM		Total Depth: 7.8
Company Name: CDM SMITH	Drill Contractor/Driller: Strongam		
GPS collected? Yes or No	Drill Method: DPT		Depth Drilled into Bedrock: 0.1
Radiological Background: 13mm/62cm	Borehole diameter: 2.25"		
PID Background: 6.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	13/77			SA-SM	SAND WITH SILT - DARK YELLOWISH BROWN (10YR 3/4) 85% SAND, PG, F.GR, 15% SILT, LOW PLASTICITY, TRACE ROOTS 0.0-0.5', LOOSE TO MEDIUM DENSE, MOIST, NO ODOR.
1.0		0.0	10/60				EXCEPT AS NOTED 2" MODERATELY CEMENTED SAND SEAMS @ 2.0-2.2' AND 2.6-2.8'
2.0		0.0	10/54				GRADING TO SANDY SILT BELOW 2.8-3.0'
3.0		0.0	10/60			ML	SANDY SILT - DARK YELLOWISH BROWN (10YR 3/4), 60% SILT, LOW PLASTICITY, 40% SAND, PG, F.GR. STIFF, MOIST, NO ODOR.
4.0		0.0	10/48				
5.0		0.0	10/55				
6.0		0.0	10/66	SL-685-SA6-SB-	1500(M) ~~1440~~		6.0-7.7' SAME AS ABOVE EXCEPT 70% SILT/30% SAND, TRACE CLAY, VERY STIFF
7.0		0.0	10/47	~~4.0-5.0~~ SM 12/18/12 6.5-7.5 SL-685-SA6-SB-	1505		
		0.0	10/54	~~4.5~~ SM 12/18/12 7.0		SP	WEATHERED SANDSTONE 7.7-7.8' BGS.
8.0							REFUSAL @ 7.8", 7.5', 7.6' BGS

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:

Project: SSFL	Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SC-685-SA683-0.0-0.5 MS Date/Time 12/13/12 1410

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameter	Method	Analyze?
Biological	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-~~685~~ 1085 (corrected) -SA6-SB-0.0-0.5 Date/Time 12/13/12 @ 1415

Matrix (circle one): Soil (circled) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches Feet (circled)

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer (circled) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID SL-685-SA6-SB-0.0-0.5 MS

Field Geologist MARK PETERS

Sampler MAX LUICK

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analyze?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Nicole Hoffman **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-685-SA6-SB-410-50 Date/Time 12/13/12 @ 1445

Matrix (circle one): (Soil) Sediment Water

Start Depth 410'

End Depth 50

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist Mann Peters

Sampler MAX CLUTCH

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameter	Method	Analyze?
Biocide	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tributyltin	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** (0)
3. **Fill Description (circle all that apply)**

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel	(N/A)	
Other _____		

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**: (None) Slight Strong
2. **Odor Description (circle one)**: Organic Petroleum Chemical (N/A) Other _____

Moisture Condition (circle one): Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-685-GA6-SS-45 Date/Time 12/13/12 1445

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5

End Depth 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CUICH

Analysis

	Parameters	Method	Analyze?
Metals	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	NO (with Cr VI)
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Organics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Inorganics	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-685-SB6-SB-6.5-7.5 Date/Time 12/18/20 1500

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.5

End Depth 7.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LAICH

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Fluoride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
1,4 Dioxane	EPA 8270 SIM	
Dioxins	EPA 1613	X
PCBs/PCTs	EPA 8082	X
Perchlorate	EPA 314.0/331	
Perchlorate Confirmation	EPA 6850/6860	
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	
Herbicides	EPA 8151	X
Pesticides	EPA 8081	X

VOCs	EPA 8260	
1,4 Dioxane	EPA 8260 SIM	
TPH-GRO	EPA 8015	
TPH-EFH	EPA 8015	X
Glycols	EPA 8015	
Alcohols	EPA 8015	
Terphenyls	EPA 8015	
Nitrates	EPA 300.0/9056	
Energetics	EPA 8330	
Cyanide	EPA 9012	
Formaldehyde	EPA 8315	
NDMA	EPA 1625	
Organotin	NOAA Status and Trends, Krone et al.	
Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Nicole Hoffman **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SC-685-SA6-SB-7.0 Date/Time 12/18/12 @ 1505

Matrix (circle one): (Soil) Sediment Water

Start Depth 7.0

End Depth 7.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CLUTCH

Analysis

	Parameter	Method	Analysis
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameter	Method	Analysis
	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 7/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-688A	6	11/21/2012 →	

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	0.5' bgs
GPS collected? (Yes) or No	Drill Method: SLIDE HAMMER	Depth Drilled into Bedrock:
Radiological Background: 14/70	Borehole diameter: 2.25"	NA
PID Background: 0.0	Depth to GW: NA	Sampling Method:
Radiological Equipment Used:	PG Review & No.:	SLIDE HAMMER
✓ MicroR ✓ Alpha/Beta ✓ Pancake		Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 SM 11/21/12	14/88 14/60	SL-688A-SAC-SB-0.0-0.5	0815	SM	SILTY SAND: Dark Yellowish Brown (10YR 3/4); 60% Sand, pg, mostly f. gr., ~~f. to m. gr.~~ f. m. gr., 40% Silt, non-plastic, soft; ~~moist, SM 11/21/12 no odor;~~ SM 11/21/12 contains small firmer chunks; moist, no odor; fine roots.
1							TD=0.5' bgs No GW Encountered

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Krone

Sample ID SL-688A-SA6-SB-0.0-0.5 Date/Time 11/21/2012 0815

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler WILL GROVE

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Water	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10 YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID: DG-688B	Subarea: 6	Date Started: 11/21/2012	Date Completed:
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: SLIDE HAMMER		Depth Drilled into Bedrock: NA
Radiological Background: 14/80	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: NA		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	0.5/0.5	0.0	14/87	SL-688B-SA6-SB-0.0-0.5	0850	SM	SILTY SAND: Dark Yellowish Brown, (10YR 3/4); ~~SM 11/21/12~~ ~~80% Sand~~ 70% Sand, pg, f. gr., t. m. gr., 30% Silt, non plastic, soft, ~~with Small~~ SM 11/21/12 Trace Gravel, (igneous), pg, c. gr., ϕ= 1.0"; moist, no odor, roots.
		0.0	14/72				
0.5							TD= 0.5' bgs
1							No GW Encountered

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By: Will Grove

Sample ID: SL-688B-SA6-SB-0.0-0.5 Date/Time: 11/21/2012 0850

Matrix (circle one): (Soil) Sediment Water

Start Depth: 0.0

End Depth: 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite: ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID: NA

Field Geologist: STEVEN MERCER

Sampler: WILL GROVE

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Encore	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Subcontract	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) (No) sm 11/21/12

2. **Percentage Fill (%)** < 5%

3. **Fill Description (circle all that apply)**

Asphalt	Metal	Plastic
Concrete	Wood	Glass
(Igneous/Metamorphic Gravel)		N/A

Other _____

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-688C	6	11/21/2012	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5 bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? (Yes) or No	Drill Method: SLIDE HAMMER	Depth Drilled into Bedrock: NA
Radiological Background: 14/68	Borehole diameter: 2.25"	
PID Background: 0.0	Depth to GW: NA	Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:	Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	0.5/0.5	0.0	14/83	SL-688C-SA6-SB-0.0-0.5	0908	SM	SILTY SAND: Dark Yellowish Brown (10YR 3/4); 70% Sand, pg, f-m gr. (mostly f. gr.); t. c. gr., sa; 30% Silt, non-plastic, soft with small firmer chunks, moist, no odor; Fill: small red Brick fragments; Also small pieces of sand stone present; Roots; *Tr. (Trace) Gravel, f. gr, sa-sr.
0.5		0.0	14/60				
1							TD = 0.5' bgs No GW Encountered

Nikki Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By: Will Grove

Sample ID: SL-688C-SA6-SB-0.0-0.5 Date/Time: 11/21/2012 0908

Matrix (circle one): (Soil) Sediment Water

Start Depth: 0.0

End Depth: 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite: ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID: NA

Field Geologist: STEVEN MERCER

Sampler: WILL GROVE

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Enscape	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) No

2. **Percentage Fill (%)** <5%

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

(Other) Red Brick Fragments

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-688D	6	11/21/2012	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5 bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? (Yes) or No	Drill Method: SLIDE HAMMER	Depth Drilled into Bedrock: NA
Radiological Background: 14/62	Borehole diameter: 2.25"	
PID Background: 0.0	Depth to GW: NA	Sampling Method: SLIDE HAMMER
Radiological Equipment Used:	PG Review & No.:	Geologist: S. MERCER
✓ MicroR ✓ Alpha/Beta ✓ Pancake		

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0 0.0	15/85 15/66	SL-688D-SA6-SB-0.0-0.5	0925	SM	SILTY SAND: Dark Brown (10YR3/3); 70% Sand, pg, f-m gr. (mostly f.), t. c. gr., sa; 30% Silt, non-plastic, soft; Trace Gravel, pg, f gr., sa; moist, no odor; Sandstone found in bottom 1/2 inch of the sleeve.; roots
1							TD=0.5' bgs No GW Encountered

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By: Will Grove

Sample ID: SL-688D-SA6-SB-0.0-0.5 Date/Time: 11/21/2012 0925

Matrix (circle one): (Soil) Sediment Water

Start Depth: 0.0

End Depth: 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite: ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID: NA

Field Geologist: STEVEN MERCER

Sampler: WILL GROVE

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Aromatics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) No — sm 11/21/12
2. **Percentage Fill (%)** 50

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A — sm 11/21/12

Other _____

Is Staining Present Yes (No)

Color 10 YR 3/3

Odor

1. Odor Strength (circle one)

(None) Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-688E	Subarea: 6	Date Started: 11/21/2012	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS collected? Yes or No	Drill Method: SLIDE HAMMER		Depth Drilled into Bedrock: NA
Radiological Background: 15/75	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: NA		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5		0.0 0.0	15/12 15/18	SL-688E-SA6-SB-0.0-0.5	0946	SM	SILTY SAND: Dark Brown (10YR 3/3) 70% Sand, pg, f-m gr. (mostly f. gr.), 30% Silt, non plastic, soft; Trace Gravel, f. gr., sr; moist, no odor; roots, Red ~~Br~~ Brick Fragments
1							TD=0.5' bgs No GW Encountered

#7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Will Grove

Sample ID SL-688E-SA6-SB-0.0-0.5 Date/Time 11/21/2012 0946

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler WILL GROVE

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Biology	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Archive	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) No
2. **Percentage Fill (%)** <5%
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

(Other) Red Brick Fragments

Is Staining Present Yes (No)

Color 10YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-688F	6	11/21/2012	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS collected? (Yes) or No	Drill Method: SLIDE HAMMER	Depth Drilled into Bedrock: NA
Radiological Background: 15/87	Borehole diameter: 2.25"	
PID Background: 0.0	Depth to GW: NA	Sampling Method: SLIDE HAMMER
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	PG Review & No.:	Geologist: S. MERCER

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	15/77	SL-688F-SA6-SB-0.0-0.5	1001	SM	SILTY SAND: Dark Brown (10YR 3/3); 70% Sand, pg, f-m gr. (mostly f.), tr. c. gr., sa, 30% Silt, low plasticity, soft, Trace Gravel, f. gr., sa, ϕ = 1.0"; (Gravel is fill); moist, no odor; roots and red brick fragments
		0.0	15/60				
1							TD = 0.5' bgs No GW Encountered

Mike Hoffman #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Page___of___

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By 11/21/2012 Will Grove

Sample ID SL-688F-SA6-SB-0.0-0.5 Date/Time 11/21/2012 1001

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID NA

Field Geologist STEVEN MERCER

Sampler WILL GROVE

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analysis?
Biota	VOCs	EPA 8260	
Biota	1,4 Dioxane	EPA 8260 SIM	
Biota	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Biota	Organotin	NOAA Status and Trends, Krone et al.	
Biota	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		(SM)	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** (Yes) No
2. **Percentage Fill (%)** < 5%
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

(Other) Red Brick Fragments

Is Staining Present Yes (No)

Color 10 YR 3/3

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 7935

Additional Comments NA

NA – Not Applicable

Location ID: DG-689	Subarea: 6	Date Started: 12/14/12	Date Completed: 12/14/12
Client: DOE	Project Name/#: ~~SSFL 65258-63376.1203.002.223.02231.SSPH3~~ PB		Total Depth: 0.6'
Company Name: CDM SMITH	Drill Contractor/Driller: N/A		
GPS collected? Yes or No	Drill Method: N/A		Depth Drilled into Bedrock: 0.5'
Radiological Background: 14mm/106cm	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	14/97				TOP 2" BASEPALT
0.5		0.0	10/36	DG-689-SA6-SB-0.0-0.5	1450	SP-SM	WEATHERED SANDSTONE SAND WITH SILT, YELLOWISH BROWN (10YR 5/8), 90% SAND, PG, FINE SAND, SR TO SA, 10% SILT, NON-PLASTIC, ~~TRACE FINE~~ NO TO MODERATE CEMENTATION, MOIST, NO ODOR
							END OF BORING @ 0.6'

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

Santa Susana Field Laboratory/94489

Location ID: 06-689	Subarea: 6	Date Started: 12/14/12	Date Completed: 12/14/12
Client: DOE	Project Name/#: ~~SSFL 66258-63370.1203.002.223.02231.SSPH3~~ PB		Total Depth: 1.0'
Company Name: CDM SMITH	Drill Contractor/Driller: STRATAPROBE		
GPS collected? (Yes) or No	Drill Method: DPT		Depth Drilled into Bedrock: 0.5'
Radiological Background: 14 uR/hr / 10 cpm	Borehole diameter: 2.25"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MANN PERRY

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	14/9				TOPSOIL/ASPHALT
		0.0	10/36			SC-SM	WEATHERED SANDSTONE - SAND WITH SILT, YELLOWISH-BROWN (10YR 5/8), 90% SAND, FG, F-SN, 10% SILT, NON-PLASTIC, NO TO MODERATE CEMENTATION, MOIST, NO ODOR.
1.0		0.0	10/36				
							REFUSAL @ 1.0' BGS, 1.1', 1.3'

Mike Hoffman #7735

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of 1

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-689-SA6-SB-0.0-0.5 Date/Time 12/14/12@1450

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CLUTCH

Analysis

	Parameters	Method	Analyze?
Inorganics	Metals	EPA 6010	Y
		EPA 6020	X
		EPA 7471 (Soil)	Y
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	Y
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Inorganics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	Y
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Tissue	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)

2. **Percentage Fill (%)** 0

3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 5/8

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature _____ **PG Registration #** 7735

Additional Comments N/A

NA – Not Applicable

Location ID: 06-690	Subarea: 6	Date Started: 12/14/12	Date Completed: 12/14/12
Client: DOE	Project Name/#: ~~SSFL-65258-63376-1203.002.223.02231.SSPH3~~		Total Depth: 3.4
Company Name: CDM SMITH	Drill Contractor/Driller: [illegible]		
GPS collected? Yes or No	Drill Method: HAND AUGER		Depth Drilled into Bedrock: 1.5
Radiological Background: 12/56	Borehole diameter: 2.75"		
PID Background: 0.0	Depth to GW: N/A		Sampling Method: HAND AUGER/SLIDE HAMMER
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: MARK PETERS

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	11/90	SL-690-SA6-SB-0.0-0.5	0750	SP-SM	SAND WITH SILT (SP-SM) DARK YELLOWISH BROWN (10YR 3/4), 85% SAND, PG, F TO MED, SR TO SA, 15% SILT, LOW PLASTICITY, LOOSE, MOIST, NO ODOR.
	0.5/0.5	0.0	11/48				
1.0		0.0	11/24				
2.0	0.5/0.5	0.0	11/57	SL-690-SA6-SB-2.5-3.5	0810	SP-SM	WEATHERED SANDSTONE-SAND WITH SILT, BROWNISH YELLOW (10YR 6/6), 90% SAND, PG, F TO MED, SR TO SA, 10% SILT, LOW PLASTICITY, NO CEMENTATION, MOIST, NO ODOR.
3.0	0.5/0.5	0.0	11/42	SL-690 SA6-SB-3.6	0815		
		0.0	11/48				
4.0							REFUSAL @ 3.4', 3.8', 3.6'

[signature] #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

ABBREVIATIONS:

amt: amount	gr: grained	pg: poorly graded	t: trace	nr:no recovery
c: coarse	lt: light	rnd: rounded	v: very	
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	bgs:below ground surface

Location ID:	Subarea:	Date Started:	Date Completed:
Project: SSFL		Geologist:	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-690-SA6-SB-0.0-0.5 Date/Time 12/14/12 0750

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): DPT (Slide Hammer) Hand Auger/Slide Hammer Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CLICK

Analysis

	Parameter	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameter	Method	Analyze?
Fuels	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Special	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0

3. Fill Description (circle all that apply)

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel	(N/A)	
Other		

Is Staining Present Yes (No)

Color 10YR 3/4

Odor

1. Odor Strength (circle one)

None Slight Strong

2. Odor Description (circle one)

Organic Petroleum Chemical

(N/A) Other

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature [signature] **PG Registration #** 7735

Additional Comments

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-690-SA6-SB-2.5-3.5' Date/Time 12/14/12 @ 0810

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.5

End Depth 3.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer (Hand Auger/Slide Hammer) Trenching Sediment

QC Type (circle one): (N) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX CURCH

Analysis

	Parameters	Method	Analysis?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	X
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	X
	Pesticides	EPA 8081	X

	Parameters	Method	Analysis?
Biocides	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
TBT	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 6/6

Odor

1. **Odor Strength (circle one)**

(None) Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-690-SA6-SB-3.0 Date/Time 12/14/12 @ 0815

Matrix (circle one): Soil (circled) Sediment Water

Start Depth 3.0

End Depth 3.0

Depth Units (circle one): Inches Feet (circled)

Check if Composite ☐

Collection Method (circle one): DPT Slide Hammer Hand Auger/Slide Hammer (circled) Trenching Sediment

QC Type (circle one): N (circled) FD FB RB

Parent Sample ID N/A

Field Geologist MARK PETERS

Sampler MAX LUTCH.

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X NO
		EPA 7471 (Soil)	X (Hg)
		EPA 7470 (Water)	
	Fluoride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	
	1,4 Dioxane	EPA 8270 SIM	
	Dioxins	EPA 1613	
	PCBs/PCTs	EPA 8082	
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Enceres	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al.	
	Methyl Mercury	EPA 1630	

NA – Not Applicable

SSFL Phase 3 – Field Data Sample Sheet (Sample Descriptions)

Soil Classification (circle one)

MAJOR DIVISION			GROUP SYMBOL	LETTER SYMBOL	GROUP NAME
COARSE GRAINED SOILS CONTAINS MORE THAN 50% FINES	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVEL WITH < 5% FINES		GW	Well-graded GRAVEL
				GP	Poorly graded GRAVEL
		GRAVEL WITH BETWEEN 5% AND 15% FINES		GW-GM	Well-graded GRAVEL with silt
				GW-GC	Well-graded GRAVEL with clay
				GP-GM	Poorly graded GRAVEL with silt
				GP-GC	Poorly graded GRAVEL with clay
		GRAVEL WITH ≥ 15% FINES		GM	Silty GRAVEL
				GC	Clayey GRAVEL
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SAND WITH < 5% FINES		SW	Well-graded SAND
				SP	Poorly graded SAND
		SAND WITH BETWEEN 5% AND 15% FINES		SW-SM	Well-graded SAND with silt
				SW-SC	Well-graded SAND with clay
				SP-SM	Poorly graded SAND with silt
				SP-SC	Poorly graded SAND with clay
		SAND WITH ≥ 15% FINES		SM	Silty SAND
				SC	Clayey SAND
FINE GRAINED SOILS CONTAINS MORE THAN 50% FINES	SILT AND CLAY	LIQUID LIMIT LESS THAN 50		ML	Inorganic SILT with low plasticity
				CL	Lean inorganic CLAY with low plasticity
				OL	Organic SILT with low plasticity
		LIQUID LIMIT GREATER THAN 50		MH	Elastic inorganic SILT with moderate to high plasticity
				CH	Fat inorganic CLAY with moderate to high plasticity
				OH	Organic SILT or CLAY with moderate to high plasticity
HIGHLY ORGANIC SOILS				PT	PEAT soils with high organic contents

Fill Material

1. **Is Fill Material Present** Yes (No)
2. **Percentage Fill (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other _____

Is Staining Present Yes (No)

Color 10YR 6/6

Odor

1. **Odor Strength (circle one)**

None Slight Strong

2. **Odor Description (circle one)**

Organic Petroleum Chemical

(N/A) Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

PG Signature Mike Hoffman **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

Appendix F
Chain of Custodies

SAMPLE DELIVERY GROUP

12L046

SSFL Phase 3 Chain of Custody

12L046

CDM Smith

DateShipped: 12/6/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121206-01

Cooler #: 1,2,3,4

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	TB-120612	12/6/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																																
2	SL-618-SA6-SB-0.0-0.5MS	12/6/12 08:25	SO	None	6 - SS-Sleeve	10 day	X	X					X			X										X												
	SL-618-SA6-SB-0.0-0.5MS	12/6/12 08:25	SO	None	3 - 4 oz glass	10 day													X								X											MS/MSD
3	SL-1018-SA6-SB-0.0-0.5	12/6/12 08:30	SO	None	2 - SS-Sleeve	10 day	X	X					X			X																						MS/MSD
	SL-1018-SA6-SB-0.0-0.5	12/6/12 08:30	SO	None	1 - 4 oz glass	10 day													X								X										
4	SL-619-SA6-SB-0.0-0.5	12/6/12 07:45	SO	None	2 - SS-Sleeve	10 day	X	X					X			X																						
	SL-619-SA6-SB-0.0-0.5	12/6/12 07:45	SO	None	1 - 4 oz glass	10 day													X								X										
5	SL-520-SA6-SB-4.0-5.0	12/6/12 08:20	SO	None	2 - 16 oz glass	10 day	X	X					X			X																						
	SL-520-SA6-SB-4.0-5.0	12/6/12 08:20	SO	None	1 - 4 oz glass	10 day													X								X										
6	SL-520-SA6-SB-4.5	12/6/12 08:19	SO	None	3 - Encore	10 day																																
7	SL-520-SA6-SB-9.0-10.0	12/6/12 08:30	SO	None	2 - 16 oz glass	10 day	X	X					X			X										X												
	SL-520-SA6-SB-9.0-10.0	12/6/12 08:30	SO	None	1 - 4 oz glass	10 day													X								X										
8	SL-520-SA6-SB-9.5	12/6/12 08:29	SO	None	3 - Encore	10 day																																
9	SL-520-SA6-SB-14.0-15.0	12/6/12 08:35	SO	None	2 - 16 oz glass	10 day	X	X					X			X										X												
	SL-520-SA6-SB-14.0-15.0	12/6/12 08:35	SO	None	1 - 4 oz glass	10 day													X								X										
10	SL-520-SA6-SB-14.5	12/6/12 08:34	SO	None	3 - Encore	10 day																																
11	SL-520-SA6-SB-19.0-20.0	12/6/12 08:40	SO	None	2 - 16 oz glass	10 day	X	X					X			X										X												
	SL-520-SA6-SB-19.0-20.0	12/6/12 08:40	SO	None	1 - 4 oz glass	10 day													X								X										
12	SL-520-SA6-SB-19.5	12/6/12 08:39	SO	None	3 - Encore	10 day																																
13	SL-520-SA6-SB-24.0-25.0	12/6/12 08:45	SO	None	2 - 16 oz glass	10 day	X	X					X			X										X												
	SL-520-SA6-SB-24.0-25.0	12/6/12 08:45	SO	None	1 - 4 oz glass	10 day													X								X										
14	SL-520-SA6-SB-24.5	12/6/12 08:44	SO	None	3 - Encore	10 day																																
15	SL-520-SA6-SB-30.0-31.0	12/6/12 08:50	SO	None	2 - 16 oz glass	10 day	X	X					X			X										X												
	SL-520-SA6-SB-30.0-31.0	12/6/12 08:50	SO	None	1 - 4 oz glass	10 day													X								X										
16	SL-520-SA6-SB-30.5	12/6/12 08:49	SO	None	3 - Encore	10 day																																
17	SL-612-SA6-SB-0.0-0.5	12/6/12 10:10	SO	None	2 - SS-Sleeve	10 day	X	X					X			X										X												
	SL-612-SA6-SB-0.0-0.5	12/6/12 10:10	SO	None	1 - 4 oz glass	10 day													X								X										
18	SL-612-SA6-SB-2.0-3.0	12/6/12 10:30	SO	None	2 - SS-Sleeve	10 day	X	X					X			X											X											
	SL-612-SA6-SB-2.0-3.0	12/6/12 10:30	SO	None	1 - 4 oz glass	10 day													X								X										
19	SL-612-SA6-SB-2.5	12/6/12 10:35	SO	None	3 - Encore	10 day																			X												

Cooler #1 T=3.0°C Cooler #3 T=3.2°C

Cooler #2 T=3.7°C Cooler #4 T=3.4°C

SSFL Phase 3 Chain of Custody

12L046

CDM Smith

DateShipped: 12/6/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121206-01

Cooler #: 1,2,3,4

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 8850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxanotin	Methyl Mercury 1630	Other Analysis/Notes
20	SL-620-SA6-SB-0.0-0.5	12/6/12 09:40	SO	None	2 - SS Sleeve	10 day	X	X					X			X										X											
	SL-620-SA6-SB-0.0-0.5	12/6/12 09:40	SO	None	1 - 4 oz glass	10 day													X								X										
5	SL-520-SA6-SB-4.0-5.0	12/6/12 08:20	SO	None	2 - 16 oz glass	10 day	X	X					X			X										X											
21	SL-521-SA6-SB-0.0-0.5	12/6/12 11:00	SO	None	2 - SS Sleeve	10 day	X	X					X			X										X											
	SL-521-SA6-SB-0.0-0.5	12/6/12 11:00	SO	None	1 - 4 oz glass	10 day													X								X										
22	SL-521-SA6-SB-4.0-5.0	12/6/12 13:10	SO	None	2 - 16 oz glass	10 day	X	X					X			X										X											
	SL-521-SA6-SB-4.0-5.0	12/6/12 13:10	SO	None	1 - 4 oz glass	10 day													X								X										
23	SL-521-SA6-SB-4.5	12/6/12 13:09	SO	None	3 - Encore	10 day																															
24	SL-566-SA6-SB-0.0-0.5	12/6/12 12:55	SO	None	2 - SS Sleeve	10 day	X	X					X			X										X											
	SL-566-SA6-SB-0.0-0.5	12/6/12 12:55	SO	None	1 - 4 oz glass	10 day													X								X										
25	SL-567-SA6-SB-0.0-0.5	12/6/12 13:30	SO	None	2 - SS Sleeve	10 day	X	X					X			X										X											
	SL-567-SA6-SB-0.0-0.5	12/6/12 13:30	SO	None	1 - 4 oz glass	10 day													X								X										
26	SL-567-SA6-SB-2.0-3.0	12/6/12 13:45	SO	None	2 - SS Sleeve	10 day	X	X					X			X										X											
	SL-567-SA6-SB-2.0-3.0	12/6/12 13:45	SO	None	1 - 4 oz glass	10 day													X								X										
27	SL-567-SA6-SB-2.5	12/6/12 13:50	SO	None	3 - Encore	10 day																															
28	SL-516-SA6-SB-0.0-0.5	12/6/12 14:05	SO	None	2 - SS Sleeve	10 day	X	X					X			X	X									X											
	SL-516-SA6-SB-0.0-0.5	12/6/12 14:05	SO	None	1 - 4 oz glass	10 day													X								X										
29	SL-516-SA6-SB-3.0-4.0	12/6/12 14:20	SO	None	~~2 - SS Sleeve~~ 1 8oz	10 day	X	X					X			X	X									X											
	SL-516-SA6-SB-3.0-4.0	12/6/12 14:20	SO	None	1 - 4 oz glass	10 day													X								X										
30	SL-516-SA6-SB-3.5	12/6/12 14:19	SO	None	3 - Encore	10 day																															

12L046

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/6/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121206-01

Cooler #: 1,2,3,4

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address 1835W 205th. St. Torrance, CA 90501

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: [signature] Mark Petros

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/06/2012	11000							[signature]	12/6/12	1815

COC Rev 2

SAMPLE DELIVERY GROUP

12L053

SSFL Phase 3 Chain of Custody

12L053

CDM Smith

DateShipped: 12/7/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121207-01

Cooler #: 1,2,3

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	TB-120712	12/7/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																																
2	SL-542-SA6-SB-0.0-0.5	12/7/12 07:50	SO	None	2 - SS Sleeve	10 day	X	X					X			X									X								X				
	SL-542-SA6-SB-0.0-0.5	12/7/12 07:50	SO	None	2 - 4 oz glass	10 day													X	X						X								X				
3	SL-542-SA6-SB-3.0-4.0MS	12/7/12 08:45	SO	None	6 - 16 oz glass	10 day	X	X					X			X																						
	SL-542-SA6-SB-3.0-4.0MS	12/7/12 08:45	SO	None	6 - 4 oz glass	10 day													X	X						X								X				MS/MSD
4	SL-942-SA6-SB-3.0-4.0	12/7/12 08:55	SO	None	2 - 16 oz glass	10 day	X	X					X			X																						MS/MSD
	SL-942-SA6-SB-3.0-4.0	12/7/12 08:55	SO	None	2 - 4 oz glass	10 day													X	X						X								X				
5	SL-542-SA6-SB-3.5MS	12/7/12 08:50	SO	None	9 - Encore	10 day													X	X																		
6	SL-942-SA6-SB-3.5	12/7/12 09:00	SO	None	3 - Encore	10 day																			X													MS/MSD
7	SL-545-SA6-SB-0.0-0.5	12/7/12 09:40	SO	None	2 - SS Sleeve	10 day	X	X					X			X									X													
	SL-545-SA6-SB-0.0-0.5	12/7/12 09:40	SO	None	2 - 4 oz glass	10 day																				X								X				
8	SL-545-SA6-SB-4.0-5.0	12/7/12 10:20	SO	None	2 - 16 oz glass	10 day	X	X					X			X			X	X																		
	SL-545-SA6-SB-4.0-5.0	12/7/12 10:20	SO	None	2 - 4 oz glass	10 day																				X								X				
9	SL-545-SA6-SB-9.0-10.0	12/7/12 10:30	SO	None	2 - 16 oz glass	10 day	X	X					X			X			X	X																		
	SL-545-SA6-SB-9.0-10.0	12/7/12 10:30	SO	None	2 - 4 oz glass	10 day																				X								X				
10	SL-545-SA6-SB-4.5	12/7/12 10:25	SO	None	3 - Encore	10 day													X	X																		
11	SL-545-SA6-SB-9.5	12/7/12 10:35	SO	None	3 - Encore	10 day																			X													
12	SL-547-SA6-SB-0.0-0.5	12/7/12 12:40	SO	None	2 - SS Sleeve	10 day	X	X					X			X									X													
	SL-547-SA6-SB-0.0-0.5	12/7/12 12:40	SO	None	2 - 4 oz glass	10 day													X	X						X								X				
13	SL-547-SA6-SB-4.0-5.0	12/7/12 13:40	SO	None	2 - 16 oz glass	10 day	X	X					X			X																						
	SL-547-SA6-SB-4.0-5.0	12/7/12 13:40	SO	None	2 - 4 oz glass	10 day													X	X						X								X				
14	SL-547-SA6-SB-9.0-10.0	12/7/12 13:50	SO	None	2 - 16 oz glass	10 day	X	X					X			X																						
	SL-547-SA6-SB-9.0-10.0	12/7/12 13:50	SO	None	2 - 4 oz glass	10 day													X	X						X								X				
15	SL-547-SA6-SB-4.5	12/7/12 13:45	SO	None	3 - Encore	10 day																			X													
16	SL-547-SA6-SB-9.5	12/7/12 13:55	SO	None	3 - Encore	10 day																			X													

1) T = 2.4°C

2) T = 2.4°C

3) T = 2.7°C

COC Rev 2

1 of 2

SSFL Phase 3 Chain of Custody 12L053

CDM Smith

DateShipped: 12/7/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121207-01

Cooler #: 1,2,3

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address 1835W 205th. St. Torrance, CA 90501

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Sly Mysel	12/07/2012	1500									
				12/7/12	1745						

COC Rev 2

SAMPLE DELIVERY GROUP

12L076

SSFL Phase 3 Chain of Custody

12L076

CDM Smith

DateShipped: 12/11/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121211-01

Cooler #: 1,2,3,4

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	TB-121112	12/11/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																															
2	SL-512-SA6-SB-0.0-0.5	12/11/12 07:50	SO	None	2 - SS-Sleeve	10 day	X	X					X			X										X											
	SL-512-SA6-SB-0.0-0.5	12/11/12 07:50	SO	None	1 - 4 oz glass	10 day													X								X										
3	SL-599-SA6-SB-0.0-0.5MS	12/11/12 07:50	SO	None	6 - SS-Sleeve	10 day	X	X					X			X						X	X				X										MS/MSD
	SL-599-SA6-SB-0.0-0.5MS	12/11/12 07:50	SO	None	1 - 16 oz glass	10 day													X																		MS/MSD
4	SL-599-SA6-SB-4.0-5.0	12/11/12 08:20	SO	None	2 - 16 oz glass	10 day	X	X					X			X						X	X				X										
	SL-599-SA6-SB-4.0-5.0	12/11/12 08:20	SO	None	1 - 4 oz glass	10 day													X																		
5	SL-599-SA6-SB-4.5	12/11/12 08:25	SO	None	3 - Encore	10 day																															
6	SL-999-SA6-SB-0.0-0.5	12/11/12 08:00	SO	None	2 - SS-Sleeve	10 day	X	X					X			X						X	X				X										
	SL-999-SA6-SB-0.0-0.5	12/11/12 08:00	SO	None	1 - 4 oz glass	10 day													X																		
7	SL-548-SA6-SB-0.0-0.5MS	12/11/12 08:55	SO	None	6 - SS-Sleeve	10 day	X	X					X			X											X										MS/MSD
	SL-548-SA6-SB-0.0-0.5MS	12/11/12 08:55	SO	None	2 - 16 oz glass	10 day													X	X																	MS/MSD
8	SL-948-SA6-SB-0.0-0.5	12/11/12 09:10	SO	None	2 - SS-Sleeve	10 day	X	X					X			X											X										
	SL-948-SA6-SB-0.0-0.5	12/11/12 09:10	SO	None	2 - 4 oz glass	10 day													X	X																	
9	SL-555-SA6-SB-0.0-0.5	12/11/12 10:25	SO	None	2 - SS-Sleeve	10 day	X	X					X			X											X										
	SL-555-SA6-SB-0.0-0.5	12/11/12 10:25	SO	None	1 - 4 oz glass	10 day													X																		
10	SL-597-SA6-SB-3.5-4.5	12/11/12 09:20	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X										
	SL-597-SA6-SB-3.5-4.5	12/11/12 09:20	SO	None	1 - 4 oz glass	10 day													X																		
11	SL-597-SA6-SB-4.0	12/11/12 09:25	SO	None	3 - Encore	10 day																															
12	SL-605-SA6-SB-4.0-5.0	12/11/12 11:00	SO	None	2 - 16 oz glass	10 day	X	X					X			X										X											
	SL-605-SA6-SB-4.0-5.0	12/11/12 11:00	SO	None	1 - 4 oz glass	10 day													X								X										
13	SL-605-SA6-SB-4.5	12/11/12 11:05	SO	None	3 - Encore	10 day																															
14	SL-609-SA6-SB-2.0-3.0	12/11/12 09:40	SO	None	2 - 16 oz glass	10 day	X	X					X			X										X											
	SL-609-SA6-SB-2.0-3.0	12/11/12 09:40	SO	None	1 - 4 oz glass	10 day													X								X										
15	SL-609-SA6-SB-2.5	12/11/12 09:45	SO	None	3 - Encore	10 day																															
16	SL-610-SA6-SB-3.0-4.0	12/11/12 10:20	SO	None	2 - 16 oz glass	10 day	X	X					X			X										X											
	SL-610-SA6-SB-3.0-4.0	12/11/12 10:20	SO	None	1 - 4 oz glass	10 day													X								X										
17	SL-610-SA6-SB-3.5	12/11/12 10:25	SO	None	3 - Encore	10 day																															
18	SL-556-SA6-SB-0.0-0.5	12/11/12 12:40	SO	None	1 - SS-Sleeve	10 day							X													X											
	SL-556-SA6-SB-0.0-0.5	12/11/12 12:40	SO	None	1 - 4 oz glass	10 day													X																		

COC Rev 2

Cooler #1 T = 3.0°C Cooler #3 T = 2.8°C

Cooler #2 T = 3.2°C Cooler #4 T = 3.4°C

12L076

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/11/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121211-01

Cooler #: 1,2,3,4

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
19	SL-594-SA6-SB-0.0-0.5	12/11/12 14:20	SO	None	2 - SS-Sleeve	10 day	X	X					X			X											X											
	SL-594-SA6-SB-0.0-0.5	12/11/12 14:20	SO	None	1 - 4 oz glass	10 day													X																			
20	SL-595-SA6-SB-0.0-0.5	12/11/12 13:10	SO	None	2 - SS-Sleeve	10 day	X	X					X			X											X											
	SL-595-SA6-SB-0.0-0.5	12/11/12 13:10	SO	None	1 - 4 oz glass	10 day													X																			
21	SL-595-SA6-SB-2.0-3.0	12/11/12 13:40	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-595-SA6-SB-2.0-3.0	12/11/12 13:40	SO	None	1 - 4 oz glass	10 day													X																			
22	SL-595-SA6-SB-2.5	12/11/12 13:45	SO	None	3 - Encore	10 day																				X												
23	SL-593-SA6-SB-0.0-0.5	12/11/12 15:00	SO	None	2 - SS-Sleeve	10 day	X	X					X			X											X											
	SL-593-SA6-SB-0.0-0.5	12/11/12 15:00	SO	None	1 - 4 oz glass	10 day													X																			

Special Instructions:

Sampler: Mark Peters [signature]

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/11/2012	1600							[signature]	12/11/12	1845

COC Rev 2

SAMPLE DELIVERY GROUP

12L093

SSFL Phase 3 Chain of Custody 12L093

CDM Smith

DateShipped: 12/12/2012

CarrierName: Dynamax

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121212-03

Cooler #: 1

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Tetrahenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB-121212	12/12/12 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												
EB-121212	12/12/12 15:00	WQ	None	6 - 1 L Amber	10 day							X			X																					
EB-121212	12/12/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X							X										
EB-121212	12/12/12 15:00	WQ	None	1 - 250 mL Poly	10 day															X																
EB-121212	12/12/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																				X											

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Shelly Mysell	12/12/2012	1600									
										12/12/12	1810

1) T = 3.2 °C
2) T = 2.0 °C
3) T = 2.4 °C
4) T = 2.7 °C

COC Rev 2

SSFL Phase 3 Chain of Custody

12L093

CDM Smith

DateShipped: 12/12/2012
CarrierName:
AirbillNo: NA

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121212-01
Cooler #: 2,3,4
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121
Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No.of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxanotin	Methyl Mercury 1630	Other Analysis/Notes
2	TB-121212	12/12/12 08:00	WQ	HCl	2 - 40 ml Vial	10 day																																
3	SL-611-SA6-SB-0.0-0.5	12/12/12 08:45	SO	None	2 - SS Sleeve	10 day	X	X					X			X										X												
	SL-611-SA6-SB-0.0-0.5	12/12/12 08:45	SO	None	1 - 4 oz glass	10 day													X								X											
4	SL-611-SA6-SB-3.0-4.0	12/12/12 09:10	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-611-SA6-SB-3.0-4.0	12/12/12 09:10	SO	None	1 - 4 oz glass	10 day													X																			
5	SL-611-SA6-SB-3.5	12/12/12 09:15	SO	None	3 - Encore	10 day																				X												
6	SL-614-SA6-SB-0.0-0.5MS	12/12/12 08:00	SO	None	6 - SS Sleeve	10 day	X	X					X			X											X											MS/MSD
	SL-614-SA6-SB-0.0-0.5MS	12/12/12 08:00	SO	None	1 - 16 oz glass	10 day													X																			MS/MSD
7	SL-1014-SA6-SB-0.0-0.5	12/12/12 08:10	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-1014-SA6-SB-0.0-0.5	12/12/12 08:10	SO	None	1 - 4 oz glass	10 day													X																			
8	SL-602-SA6-SB-0.0-0.5	12/12/12 10:15	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-602-SA6-SB-0.0-0.5	12/12/12 10:15	SO	None	1 - 4 oz glass	10 day													X																			
9	SL-602-SA6-SB-4.0-5.0	12/12/12 10:35	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-602-SA6-SB-4.0-5.0	12/12/12 10:35	SO	None	1 - 4 oz glass	10 day													X																			
10	SL-602-SA6-SB-4.5	12/12/12 10:40	SO	None	3 - Encore	10 day																				X												
11	SL-613-SA6-SB-0.0-0.5	12/12/12 09:45	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-613-SA6-SB-0.0-0.5	12/12/12 09:45	SO	None	1 - 4 oz glass	10 day													X																			
12	SL-615-SA6-SB-0.0-0.5	12/12/12 11:05	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-615-SA6-SB-0.0-0.5	12/12/12 11:05	SO	None	1 - 4 oz glass	10 day													X																			
13	SL-615-SA6-SB-4.0-5.0	12/12/12 11:25	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-615-SA6-SB-4.0-5.0	12/12/12 11:25	SO	None	1 - 4 oz glass	10 day													X																			
14	SL-615-SA6-SB-4.5	12/12/12 11:30	SO	None	3 - Encore	10 day																				X												
15	SL-616-SA6-SB-0.0-0.5	12/12/12 14:00	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-616-SA6-SB-0.0-0.5	12/12/12 14:00	SO	None	1 - 4 oz glass	10 day													X																			
16	SL-616-SA6-SB-4.0-5.0	12/12/12 14:15	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-616-SA6-SB-4.0-5.0	12/12/12 14:15	SO	None	1 - 4 oz glass	10 day													X																			
17	SL-616-SA6-SB-4.5	12/12/12 14:20	SO	None	3 - Encore	10 day																				X												
18	SL-621-SA6-SB-0.0-0.5	12/12/12 13:15	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-621-SA6-SB-0.0-0.5	12/12/12 13:15	SO	None	1 - 4 oz glass	10 day													X																			
19	SL-621-SA6-SB-2.5-3.5	12/12/12 13:30	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											

COC Rev 2

1 of 2

SSFL Phase 3 Chain of Custody

12L093

CDM Smith

DateShipped: 12/12/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121212-01

Cooler #: 2,3,4

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
19	SL-621-SA6-SB-2.5-3.5	12/12/12 13:30	SO	None	1 - 4 oz glass	10 day													X																			
20	SL-621-SA6-SB-3.0	12/12/12 13:35	SO	None	3 - Encore	10 day																				X												
21	SL-678-SA6-SB-3.0R	12/12/12 14:55	SO	None	3 - Encore	10 day																				X												

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/12/2012	1600									
									[signature]	12/12/12	1810

COC Rev 2

SAMPLE DELIVERY GROUP

12L106

SSFL Phase 3 Chain of Custody

12L106

CDM Smith
DateShipped: 12/13/2012
CarrierName: Dynamax
AirbillNo: NA

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121213-03
Cooler #: 1,2,3,4
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121
Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	EB1-121312	12/13/12 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												
1	EB1-121312	12/13/12 15:00	WQ	None	10 - 1 L Amber	10 day							X			X						X	X			X												
1	EB1-121312	12/13/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
1	EB1-121312	12/13/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day															X					X												
2	EB2-121312	12/13/12 15:30	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												
2	EB2-121312	12/13/12 15:30	WQ	None	10 - 1 L Amber	10 day							X			X						X	X			X												
2	EB2-121312	12/13/12 15:30	WQ	None	1 - 250 mL Poly	10 day														X																		

Special Instructions:

Sampler: Pa Hartm

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Stephen Mysel	12/13/2012	1600									
										12/13/12	1800

1) T = 2.6 °C
2) T = 3.4 °C
3) T = 3.1 °C
4) T = 2.5 °C
5) T = 3.0 °C
6) T = 2.8 °C

CT

SSFL Phase 3 Chain of Custody 12L106

CDM Smith

DateShipped: 12/13/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121213-01

Cooler #: 5,6

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
3	TB-121312	12/13/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X												
4	SL-585-SA6-SB-0.0-0.5MS	12/13/12 08:00	SO	None	6 - SS Sleeve	10 day	X	X					X			X											X											MS/MSD
	SL-585-SA6-SB-0.0-0.5MS	12/13/12 08:00	SO	None	1 - 16 oz glass	10 day													X																			MS/MSD
5	SL-985-SA6-SB-0.0-0.5	12/13/12 08:10	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-985-SA6-SB-0.0-0.5	12/13/12 08:10	SO	None	1 - 4 oz glass	10 day													X																			
6	SL-584-SA6-SB-0.0-0.5	12/13/12 09:00	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-584-SA6-SB-0.0-0.5	12/13/12 09:00	SO	None	1 - 4 oz glass	10 day													X																			
7	SL-593-SA6-SB-4.5-5.5	12/13/12 10:45	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-593-SA6-SB-4.5-5.5	12/13/12 10:45	SO	None	1 - 4 oz glass	10 day													X																			
8	SL-593-SA6-SB-5.0	12/13/12 10:50	SO	None	3 - Encore	10 day																				X												
9	SL-682-SA6-SB-0.0-0.5	12/13/12 13:00	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-682-SA6-SB-0.0-0.5	12/13/12 13:00	SO	None	1 - 4 oz glass	10 day													X																			
10	SL-582-SA6-SB-0.0-0.5	12/13/12 09:35	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-582-SA6-SB-0.0-0.5	12/13/12 09:35	SO	None	1 - 4 oz glass	10 day													X																			
11	SL-682-SA6-SB-3.0-4.0	12/13/12 13:25	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-682-SA6-SB-3.0-4.0	12/13/12 13:25	SO	None	1 - 4 oz glass	10 day													X																			
12	SL-682-SA6-SB-3.5	12/13/12 13:30	SO	None	3 - Encore	10 day																				X												
13	SL-685-SA6-SB-0.0-0.5MS	12/13/12 14:10	SO	None	6 - SS Sleeve	10 day	X	X					X			X						X	X				X											MS/MSD
	SL-685-SA6-SB-0.0-0.5MS	12/13/12 14:10	SO	None	1 - 16 oz glass	10 day													X																			MS/MSD
14	SL-1085-SA6-SB-0.0-0.5	12/13/12 14:15	SO	None	2 - SS Sleeve	10 day	X	X					X			X						X	X				X											
	SL-1085-SA6-SB-0.0-0.5	12/13/12 14:15	SO	None	1 - 4 oz glass	10 day													X																			
15	SL-685-SA6-SB-4.0-5.0	12/13/12 14:40	SO	None	2 - 16 oz glass	10 day	X	X					X			X						X	X				X											
	SL-685-SA6-SB-4.0-5.0	12/13/12 14:40	SO	None	1 - 4 oz glass	10 day													X																			
16	SL-685-SA6-SB-4.5	12/13/12 14:15	SO	None	3 - Encore	10 day																				X												

COC Rev 2

1 of 2

SSFL Phase 3 Chain of Custody

12L106

CDM Smith
DateShipped: 12/13/2012
CarrierName:
AirbillNo: NA

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121213-01
Cooler #: 5,6
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121
Lab Address: 1835W 205th. St. Torrance, CA 90501

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Soil)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Steve Mupel	12/13/2012	1100									
										12/13/12	1800

COC Rev 2

1 of 2

SAMPLE DELIVERY GROUP

12L126

SSFL Phase 3 Chain of Custody

12L126

CDM Smith

DateShipped: 12/14/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121214-01

Cooler #: 1,2,3

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpheryls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	TB-121412	12/14/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																																
2	SL-607-SA6-SB-0.0-0.5	12/14/12 09:00	SO	None	2 - SS-Sleeve	10 day	X	X					X			X										X												
	SL-607-SA6-SB-0.0-0.5	12/14/12 09:00	SO	None	1 - 4 oz glass	10 day													X								X											
3	SL-607-SA6-SB-4.0-5.0	12/14/12 09:15	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-607-SA6-SB-4.0-5.0	12/14/12 09:15	SO	None	1 - 4 oz glass	10 day													X																			
4	SL-607-SA6-SB-4.5	12/14/12 09:20	SO	None	3 - Encore	10 day																																
5	SL-690-SA6-SB-0.0-0.5	12/14/12 07:50	SO	None	2 - SS-Sleeve	10 day	X	X					X			X						X	X			X												
	SL-690-SA6-SB-0.0-0.5	12/14/12 07:50	SO	None	1 - 4 oz glass	10 day													X								X											
6	SL-690-SA6-SB-2.5-3.5	12/14/12 08:10	SO	None	2 - 16 oz glass	10 day	X	X					X			X						X	X				X											
	SL-690-SA6-SB-2.5-3.5	12/14/12 08:10	SO	None	1 - 4 oz glass	10 day													X																			
7	SL-690-SA6-SB-3.0	12/14/12 08:15	SO	None	3 - Encore	10 day																																
8	SL-660-SA6-SB-0.0-0.5	12/14/12 10:05	SO	None	2 - SS-Sleeve	10 day	X	X					X			X						X	X			X												
	SL-660-SA6-SB-0.0-0.5	12/14/12 10:05	SO	None	1 - 4 oz glass	10 day													X								X											
9	SL-660-SA6-SB-4.0-5.0	12/14/12 11:45	SO	None	2 - 16 oz glass	10 day	X	X					X			X						X	X				X											
	SL-660-SA6-SB-4.0-5.0	12/14/12 11:45	SO	None	1 - 4 oz glass	10 day													X																			
10	SL-660-SA6-SB-4.5	12/14/12 11:50	SO	None	3 - Encore	10 day																																
11	SL-558-SA6-SB-0.0-0.5	12/14/12 14:20	SO	None	2 - SS-Sleeve	10 day	X	X					X			X										X												
	SL-558-SA6-SB-0.0-0.5	12/14/12 14:20	SO	None	1 - 4 oz glass	10 day													X								X											
12	SL-689-SA6-SB-0.0-0.5	12/14/12 14:50	SO	None	2 - SS-Sleeve	10 day	X	X					X			X											X											
	SL-689-SA6-SB-0.0-0.5	12/14/12 14:50	SO	None	1 - 4 oz glass	10 day													X																			

Cooler #1 T=2.0°C

Cooler #2 T=3.2°C

12L126

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/14/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121214-01

Cooler #: 1,2,3

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxranodin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Mark Peters	12/14/12	1600	[illegible]	12/14/12	1800						

COC Rev 2

SAMPLE DELIVERY GROUP

12L140

SSFL Phase 3 Chain of Custody

12L140

CDM Smith

DateShipped: 12/17/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121217-01

Cooler #: 1,2,3

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	TB-121712	12/17/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																																
2	SL-518-SA6-SB-0.0-0.5MS	12/17/12 07:55	SO	None	6 - SS Sleeve	10 day	X	X					X			X		X								X												MS/MSD
	SL-518-SA6-SB-0.0-0.5MS	12/17/12 07:55	SO	None	1 - 16 oz glass	10 day													X																			MS/MSD
3	SL-918-SA6-SB-0.0-0.5	12/17/12 08:00	SO	None	2 - SS Sleeve	10 day	X	X					X			X		X								X												
	SL-918-SA6-SB-0.0-0.5	12/17/12 08:00	SO	None	1 - 4 oz glass	10 day													X																			
4	SL-514-SA6-SB-0.0-0.5	12/17/12 09:45	SO	None	2 - SS Sleeve	10 day	X	X					X			X		X								X												
	SL-514-SA6-SB-0.0-0.5	12/17/12 09:45	SO	None	1 - 4 oz glass	10 day													X																			
5	SL-514-SA6-SB-4.0-5.0	12/17/12 10:00	SO	None	2 - 16 oz glass	10 day	X	X					X			X		X								X												
	SL-514-SA6-SB-4.0-5.0	12/17/12 10:00	SO	None	1 - 4 oz glass	10 day													X																			
6	SL-514-SA6-SB-7.0-8.0	12/17/12 10:15	SO	None	2 - 16 oz glass	10 day	X	X					X			X		X								X												
	SL-514-SA6-SB-7.0-8.0	12/17/12 10:15	SO	None	1 - 4 oz glass	10 day													X																			
7	SL-514-SA6-SB-4.5	12/17/12 10:05	SO	None	3 - Encore	10 day																			X												
8	SL-514-SA6-SB-7.5	12/17/12 10:20	SO	None	3 - Encore	10 day																			X												
9	SL-515-SA6-SB-0.0-0.5	12/17/12 09:00	SO	None	2 - SS Sleeve	10 day	X	X					X			X		X								X												
	SL-515-SA6-SB-0.0-0.5	12/17/12 09:00	SO	None	1 - 4 oz glass	10 day													X																			
10	SL-590-SA6-SB-0.0-0.5	12/17/12 14:00	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-590-SA6-SB-0.0-0.5	12/17/12 14:00	SO	None	1 - 4 oz glass	10 day													X																			
11	SL-590-SA6-SB-4.0-5.0	12/17/12 14:15	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-590-SA6-SB-4.0-5.0	12/17/12 14:15	SO	None	1 - 4 oz glass	10 day													X																			
12	SL-590-SA6-SB-4.5	12/17/12 14:20	SO	None	3 - Encore	10 day																			X												
13	SL-591-SA6-SB-0.0-0.5	12/17/12 13:10	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-591-SA6-SB-0.0-0.5	12/17/12 13:10	SO	None	1 - 4 oz glass	10 day													X																			
14	SL-591-SA6-SB-4.0-5.0	12/17/12 13:25	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-591-SA6-SB-4.0-5.0	12/17/12 13:25	SO	None	1 - 4 oz glass	10 day													X																			
15	SL-591-SA6-SB-4.5	12/17/12 13:30	SO	None	3 - Encore	10 day																			X												
16	SL-592-SA6-SB-0.0-0.5	12/17/12 12:35	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-592-SA6-SB-0.0-0.5	12/17/12 12:35	SO	None	1 - 4 oz glass	10 day													X																			
17	SL-592-SA6-SB-2.5-3.5	12/17/12 12:45	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-592-SA6-SB-2.5-3.5	12/17/12 12:45	SO	None	1 - 4 oz glass	10 day													X																			
18	SL-592-SA6-SB-3.0	12/17/12 12:50	SO	None	3 - Encore	10 day																			X												

1) T = 2.5°C
2) T = 3.2°C
3) T = 2.8°C

SSFL Phase 3 Chain of Custody

12/14D

CDM Smith

DateShipped: 12/17/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121217-01

Cooler #: 1,2, 3

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 8850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
19	SL-575-SA6-SB-0.0-0.5	12/17/12 14:45	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X										
	SL-575-SA6-SB-0.0-0.5	12/17/12 14:45	SO	None	1 - 4 oz glass	10 day													X																		
20	SL-575-SA6-SB-2.0-3.0	12/17/12 15:10	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X										
	SL-575-SA6-SB-2.0-3.0	12/17/12 15:10	SO	None	1 - 4 oz glass	10 day													X																		
21	SL-575-SA6-SB-2.5	12/17/12 15:15	SO	None	3 - Encore	10 day																			X												
22	SL-576-SA6-SB-0.0-0.5	12/17/12 15:30	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X										
	SL-576-SA6-SB-0.0-0.5	12/17/12 15:30	SO	None	1 - 4 oz glass	10 day													X																		
23	SL-576-SA6-SB-2.0-3.0	12/17/12 15:40	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X										
	SL-576-SA6-SB-2.0-3.0	12/17/12 15:40	SO	None	1 - 4 oz glass	10 day													X																		
24	SL-576-SA6-SB-2.5	12/17/12 15:45	SO	None	3 - Encore	10 day																			X												

Special Instructions:

Sampler: Mark Pelera

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Mark Pelera	12/17/2012	1600									
										12/17/12	1820

COC Rev 2

SAMPLE DELIVERY GROUP

12L152

12452

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/18/2012

CarrierName: Dynamax

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121218-02

Cooler #: 1,2,3 SM1818A

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	SL-507-SA3-SB-0.0-0.5	12/18/12 07:50	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X										
	SL-507-SA3-SB-0.0-0.5	12/18/12 07:50	SO	None	1 - 4 oz glass	10 day													X																			
2	SL-507-SA3-SB-3.0-4.0MS	12/18/12 08:15	SO	None	6 - 16 oz glass	10 day	X	X					X			X											X											MS/MSD
	SL-507-SA3-SB-3.0-4.0MS	12/18/12 08:15	SO	None	1 - 16 oz glass	10 day													X																			MS/MSD
3	SL-907-SA3-SB-3.0-4.0	12/18/12 08:25	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-907-SA3-SB-3.0-4.0	12/18/12 08:25	SO	None	1 - 4 oz glass	10 day													X																			
4	SL-507-SA3-SB-3.5MS	12/18/12 08:20	SO	None	9 - Encore	10 day																				X											MS/MSD
5	SL-907-SA3-SB-3.5	12/18/12 08:30	SO	None	3 - Encore	10 day																				X											
6	SL-504-SA3-SB-0.0-0.5	12/18/12 10:20	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X										
	SL-504-SA3-SB-0.0-0.5	12/18/12 10:20	SO	None	1 - 4 oz glass	10 day													X																		
7	SL-504-SA3-SB-3.5-4.5	12/18/12 10:45	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X										
	SL-504-SA3-SB-3.5-4.5	12/18/12 10:45	SO	None	1 - 4 oz glass	10 day													X																		
8	SL-504-SA3-SB-4.0	12/18/12 10:50	SO	None	3 - Encore	10 day																				X											
9	SL-508-SA3-SB-0.0-0.5	12/18/12 09:15	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X										
	SL-508-SA3-SB-0.0-0.5	12/18/12 09:15	SO	None	1 - 4 oz glass	10 day													X																		
10	SL-508-SA3-SB-3.5-4.5	12/18/12 09:30	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X										
	SL-508-SA3-SB-3.5-4.5	12/18/12 09:30	SO	None	1 - 4 oz glass	10 day													X																		
11	SL-508-SA3-SB-4.0	12/18/12 09:35	SO	None	3 - Encore	10 day																				X											

T = 2.0 °C

T = 2.0 °C

COC Rev 2

SSFL Phase 3 Chain of Custody

12L152

CDM Smith

DateShipped: 12/18/2012
CarrierName: Dyramax
AirbillNo: NA

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121218-02
Cooler #: 1,2,3 5m1a1b1a
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121
Lab Address: 1835W 205th. St. Torrance, CA 90501

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/18/2012	1630	[signature]	12/18/12	17:30						

5

COC Rev 2

SAMPLE DELIVERY GROUP

12L153

12153

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 12/18/2012
CarrierName:
AirbillNo: NA

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121218-01
Cooler #: 2,3
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121
Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	TB-121812	12/18/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												
2	SL-588-SA6-SB-0.0-0.5	12/18/12 12:35	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-588-SA6-SB-0.0-0.5	12/18/12 12:35	SO	None	1 - 4 oz glass	10 day													X																			
3	SL-588-SA6-SB-2.0-3.0	12/18/12 12:45	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-588-SA6-SB-2.0-3.0	12/18/12 12:45	SO	None	1 - 4 oz glass	10 day													X																			
4	SL-588-SA6-SB-2.5	12/18/12 12:50	SO	None	3 - Encore	10 day																				X												
5	SL-589-SA6-SB-0.0-0.5	12/18/12 14:15	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-589-SA6-SB-0.0-0.5	12/18/12 14:15	SO	None	1 - 4 oz glass	10 day													X																			
6	SL-600-SA6-SB-0.0-0.5	12/18/12 13:45	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-600-SA6-SB-0.0-0.5	12/18/12 13:45	SO	None	1 - 4 oz glass	10 day													X																			
7	SL-617-SA6-SB-0.0-0.5	12/18/12 13:10	SO	None	2 - SS Sleeve	10 day	X	X					X			X											X											
	SL-617-SA6-SB-0.0-0.5	12/18/12 13:10	SO	None	1 - 4 oz glass	10 day													X																			
8	SL-617-SA6-SB-4.0-5.0	12/18/12 13:20	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X											
	SL-617-SA6-SB-4.0-5.0	12/18/12 13:20	SO	None	1 - 4 oz glass	10 day													X																			
9	SL-617-SA6-SB-4.5	12/18/12 13:25	SO	None	3 - Encore	10 day																				X												
10	SL-685-SA6-SB-6.5-7.5	12/18/12 15:00	SO	None	2 - 16 oz glass	10 day	X	X					X			X						X	X				X											
	SL-685-SA6-SB-6.5-7.5	12/18/12 15:00	SO	None	1 - 4 oz glass	10 day													X																			
11	SL-685-SA6-SB-7.0	12/18/12 15:05	SO	None	3 - Encore	10 day																				X												

T = 2.4 °C

T = 2.0 °C

(3)

12453

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/18/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121218-01

Cooler #: 2,3

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

Lab Address: 1835W 205th. St. Torrance, CA 90501

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Scott Myers	12/18/2012	1630	Andrew Alg	12/18/12	1730						

COC Rev 2

COC: 20121218-01, Page 2 of 2

SAMPLE DELIVERY GROUP

12L166

12L166

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/19/2012
CarrierName: Dynamax
AirbillNo: NA

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121219-04
Cooler #: 1,2,3
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121
Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	EB1-121912	12/19/12 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																													
1	EB1-121912	12/19/12 15:00	WQ	None	10 - 1 L Amber	10 day							X			X						X	X				X											
1	EB1-121912	12/19/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
1	EB1-121912	12/19/12 15:00	WQ	None	1 - 125 mL Poly	10 day												X																				Filtered in field
1	EB1-121912	12/19/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												
2	EB2-121912	12/19/12 15:30	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																													
2	EB2-121912	12/19/12 15:30	WQ	None	6 - 1 L Amber	10 day							X			X											X											
2	EB2-121912	12/19/12 15:30	WQ	None	1 - 250 mL Poly	10 day														X																		
2	EB2-121912	12/19/12 15:30	WQ	None	1 - 125 mL Poly	10 day												X																				Filtered in field

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/19/2012	1300	[signature]	12/19/12	1400						

Cooler #1 T = 3.4°C
Cooler #2 T = 2.8°C
Cooler #3 T = 2.6°C

COC Rev 2

12L166

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/19/2012
CarrierName: Dynamax
AirbillNo: NA

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121219-01
Cooler #: 4,5
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121
Lab Address: 1835W 205th. St. Torrance, CA 90501

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
3	TB-121912	12/19/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																																
4	SL-622-SA6-SB-0.0-0.5MS	12/19/12 07:55	SO	None	6 - SS-Sleeve	10 day	X	X					X			X									X		X										MS/MSD
	SL-622-SA6-SB-0.0-0.5MS	12/19/12 07:55	SO	None	3 - 4 oz glass	10 day													X																		MS/MSD
5	SL-1022-SA6-SB-0.0-0.5	12/19/12 08:00	SO	None	2 - SS-Sleeve	10 day	X	X					X			X											X										
	SL-1022-SA6-SB-0.0-0.5	12/19/12 08:00	SO	None	1 - 4 oz glass	10 day													X																		
6	SL-622-SA6-SB-3.5-4.5	12/19/12 08:15	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X										
	SL-622-SA6-SB-3.5-4.5	12/19/12 08:15	SO	None	1 - 4 oz glass	10 day													X																		
7	SL-622-SA6-SB-4.0	12/19/12 08:20	SO	None	3 - Encore	10 day																			X												
8	SL-624-SA6-SB-0.0-0.5	12/19/12 08:50	SO	None	2 - SS-Sleeve	10 day	X	X					X			X											X										
	SL-624-SA6-SB-0.0-0.5	12/19/12 08:50	SO	None	1 - 4 oz glass	10 day													X																		
9	SL-624-SA6-SB-4.0-5.0	12/19/12 08:55	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X										
	SL-624-SA6-SB-4.0-5.0	12/19/12 08:55	SO	None	1 - 4 oz glass	10 day													X																		
10	SL-624-SA6-SB-4.5	12/19/12 09:00	SO	None	3 - Encore	10 day																			X												
11	SL-623-SA6-SB-0.0-0.5	12/19/12 09:20	SO	None	2 - SS-Sleeve	10 day	X	X					X			X											X										
	SL-623-SA6-SB-0.0-0.5	12/19/12 09:20	SO	None	1 - 4 oz glass	10 day													X																		
12	SL-625-SA6-SB-0.0-0.5	12/19/12 09:50	SO	None	2 - SS-Sleeve	10 day	X	X					X			X											X										
	SL-625-SA6-SB-0.0-0.5	12/19/12 09:50	SO	None	1 - 4 oz glass	10 day													X																		

Cooler #4 T = 2.7°C
Cooler #5 T = 2.4°C

122166

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/19/2012
CarrierName: Dynamax
AirbillNo: NA

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121219-01
Cooler #: 4,5
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121
Lab Address: 1835W 205th. St. Torrance, CA 90501

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxanotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	12/19/12	1300	[illegible]	12/19/12	1400						

COC Rev 2

SAMPLE DELIVERY GROUP

280-35537-1

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/6/2012

CarrierName: FedEx

AirbillNo: 794017316716

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

3.6 °C
TH
FP 11-7-12

COC No: 20121106-01

Cooler #: 1

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-669-SA6-SB-0.0-0.5	11/6/12 09:12	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X											
SL-669-SA6-SB-0.0-0.5	11/6/12 09:12	SO	None	1 - 4 oz glass	10 day													X																		
SL-670-SA6-SB-0.0-0.5	11/6/12 09:41	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X											
SL-670-SA6-SB-0.0-0.5	11/6/12 09:41	SO	None	1 - 4 oz glass	10 day													X																		
SL-671-SA6-SB-0.0-0.5	11/6/12 10:23	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X						X	X			X											
SL-671-SA6-SB-0.0-0.5	11/6/12 10:23	SO	None	1 - 4 oz glass	10 day													X																		
SL-672-SA6-SB-0.0-0.5	11/6/12 10:53	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X						X	X			X											
SL-672-SA6-SB-0.0-0.5	11/6/12 10:53	SO	None	1 - 4 oz glass	10 day													X																		
SL-673-SA6-SB-0.0-0.5	11/6/12 12:55	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X						X	X			X											
SL-673-SA6-SB-0.0-0.5	11/6/12 12:55	SO	None	1 - 4 oz glass	10 day													X																		
SL-676-SA6-SB-0.0-0.5	11/6/12 13:25	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X											
SL-676-SA6-SB-0.0-0.5	11/6/12 13:25	SO	None	1 - 4 oz glass	10 day													X																		
SL-659-SA6-SB-0.0-0.5	11/6/12 14:50	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X										X											
SL-659-SA6-SB-0.0-0.5	11/6/12 14:50	SO	None	1 - 4 oz glass	10 day													X																		
SL-675-SA6-SB-0.0-0.5	11/6/12 14:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X											
SL-675-SA6-SB-0.0-0.5	11/6/12 14:05	SO	None	1 - 4 oz glass	10 day													X																		

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/6/2012	1600		11/7/12	0930						

SAMPLE DELIVERY GROUP

280-35537-2

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/6/2012

CarrierName: FedEx

AirbillNo: 794017316716

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

3.6 °C
TH
FedEx 11-7-12

COC No: 20121106-01

Cooler #: 1

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-669-SA6-SB-0.0-0.5	11/6/12 09:12	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X											
SL-669-SA6-SB-0.0-0.5	11/6/12 09:12	SO	None	1 - 4 oz glass	10 day													X																		
SL-670-SA6-SB-0.0-0.5	11/6/12 09:41	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X											
SL-670-SA6-SB-0.0-0.5	11/6/12 09:41	SO	None	1 - 4 oz glass	10 day													X																		
SL-671-SA6-SB-0.0-0.5	11/6/12 10:23	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X						X	X			X											
SL-671-SA6-SB-0.0-0.5	11/6/12 10:23	SO	None	1 - 4 oz glass	10 day													X																		
SL-672-SA6-SB-0.0-0.5	11/6/12 10:53	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X						X	X			X											
SL-672-SA6-SB-0.0-0.5	11/6/12 10:53	SO	None	1 - 4 oz glass	10 day													X																		
SL-673-SA6-SB-0.0-0.5	11/6/12 12:55	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X						X	X			X											
SL-673-SA6-SB-0.0-0.5	11/6/12 12:55	SO	None	1 - 4 oz glass	10 day													X																		
SL-676-SA6-SB-0.0-0.5	11/6/12 13:25	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X											
SL-676-SA6-SB-0.0-0.5	11/6/12 13:25	SO	None	1 - 4 oz glass	10 day													X																		
SL-659-SA6-SB-0.0-0.5	11/6/12 14:50	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X										X											
SL-659-SA6-SB-0.0-0.5	11/6/12 14:50	SO	None	1 - 4 oz glass	10 day													X																		
SL-675-SA6-SB-0.0-0.5	11/6/12 14:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X											
SL-675-SA6-SB-0.0-0.5	11/6/12 14:05	SO	None	1 - 4 oz glass	10 day													X																		

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/6/2012	1600		11/7/12	0930						

COC Rev 2

SAMPLE DELIVERY GROUP

280-35578-1

5.5(w) IR/ 11 8/12

J35578

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/7/2012
CarrierName: FedEx
AirbillNo: 794025864054

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121107-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-505-SA6-SB-0.0-0.5	11/7/12 10:58	SO	None	1 - SS-Sleeve	10 day									X												X											
SL-508-SA6-SB-0.0-0.5	11/7/12 08:45	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-508-SA6-SB-0.0-0.5	11/7/12 08:45	SO	None	1 - 4 oz glass	10 day													X																			
SL-509-SA6-SB-0.0-0.5	11/7/12 09:10	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-509-SA6-SB-0.0-0.5	11/7/12 09:10	SO	None	1 - 4 oz glass	10 day													X																			
SL-510-SA6-SB-0.0-0.5	11/7/12 09:35	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-510-SA6-SB-0.0-0.5	11/7/12 09:35	SO	None	1 - 4 oz glass	10 day													X																			
SL-511-SA6-SB-0.0-0.5	11/7/12 07:50	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-511-SA6-SB-0.0-0.5	11/7/12 07:50	SO	None	1 - 4 oz glass	10 day													X																			
SL-522-SA6-SB-0.0-0.5	11/7/12 10:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-522-SA6-SB-0.0-0.5	11/7/12 10:30	SO	None	1 - 4 oz glass	10 day													X																			
SL-502-SA6-SB-0.0-0.5	11/7/12 13:40	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-502-SA6-SB-0.0-0.5	11/7/12 13:40	SO	None	1 - 4 oz glass	10 day													X																			
SL-503-SA6-SB-0.0-0.5	11/7/12 14:30	SO	None	1 - SS-Sleeve	10 day									X												X											
SL-504-SA6-SB-0.0-0.5	11/7/12 14:08	SO	None	1 - SS-Sleeve	10 day									X												X											
SL-506-SA6-SB-0.0-0.5	11/7/12 12:50	SO	None	1 - SS-Sleeve	10 day									X												X											
SL-507-SA6-SB-0.0-0.5	11/7/12 13:15	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-507-SA6-SB-0.0-0.5	11/7/12 13:15	SO	None	1 - 4 oz glass	10 day													X																			

COC Rev 2

J25578

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/7/2012
CarrierName: FedEx
AirbillNo: 794025864054

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121107-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Fluorides 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/7/12	1800		11/8/12	0900						

Page 27 of 2789

COC Rev 2

COC: 20121107-01, Page 2 of 2

SAMPLE DELIVERY GROUP

280-35578-2

5.5 (W) IR 4 Fiz

J35578

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/7/2012
CarrierName: FedEx
AirbillNo: 794025864054

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121107-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Tetrahaydo 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Dioxin/Furan	Methyl Mercury 1630	Other Analysis/Notes
SL-505-SA6-SB-0.0-0.5	11/7/12 10:58	SO	None	1-SS-Sleeve	10 day									X													X											
SL-508-SA6-SB-0.0-0.5	11/7/12 08:45	SO	None	2-SS-Sleeve	10 day	X	X						X	X	X												X											
SL-508-SA6-SB-0.0-0.5	11/7/12 08:45	SO	None	1-4 oz glass	10 day													X																				
SL-509-SA6-SB-0.0-0.5	11/7/12 09:10	SO	None	2-SS-Sleeve	10 day	X	X						X	X	X												X											
SL-509-SA6-SB-0.0-0.5	11/7/12 09:10	SO	None	1-4 oz glass	10 day													X																				
SL-510-SA6-SB-0.0-0.5	11/7/12 09:35	SO	None	2-SS-Sleeve	10 day	X	X						X	X	X												X											
SL-510-SA6-SB-0.0-0.5	11/7/12 09:35	SO	None	1-4 oz glass	10 day													X																				
SL-511-SA6-SB-0.0-0.5	11/7/12 07:50	SO	None	2-SS-Sleeve	10 day	X	X						X	X	X												X											
SL-511-SA6-SB-0.0-0.5	11/7/12 07:50	SO	None	1-4 oz glass	10 day													X																				
SL-522-SA6-SB-0.0-0.5	11/7/12 10:30	SO	None	2-SS-Sleeve	10 day	X	X						X	X	X												X											
SL-522-SA6-SB-0.0-0.5	11/7/12 10:30	SO	None	1-4 oz glass	10 day													X																				
SL-502-SA6-SB-0.0-0.5	11/7/12 13:40	SO	None	2-SS-Sleeve	10 day	X	X						X	X	X												X											
SL-502-SA6-SB-0.0-0.5	11/7/12 13:40	SO	None	1-4 oz glass	10 day													X																				
SL-503-SA6-SB-0.0-0.5	11/7/12 14:30	SO	None	1-SS-Sleeve	10 day									X													X											
SL-504-SA6-SB-0.0-0.5	11/7/12 14:08	SO	None	1-SS-Sleeve	10 day									X													X											
SL-506-SA6-SB-0.0-0.5	11/7/12 12:50	SO	None	1-SS-Sleeve	10 day									X													X											
SL-507-SA6-SB-0.0-0.5	11/7/12 13:15	SO	None	2-SS-Sleeve	10 day	X	X						X	X	X												X											
SL-507-SA6-SB-0.0-0.5	11/7/12 13:15	SO	None	1-4 oz glass	10 day													X																				

J35578

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/7/2012
CarrierName: FedEx
AirbillNo: 794025864054

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121107-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	1,4 Dioxane 8260 SIM	VOCs 8260	TPH-GRO 8015	TPH-DRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Dioxins 1613	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/7/12	1800		11/8/12	0900						

Page 2787 of 2789

COC Rev 2

COC: 20121107-01, Page 2 of 2

SAMPLE DELIVERY GROUP

280-35658-1

J35658

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/8/2012
CarrierName: FedEx
AirbillNo: 794035736280

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121108-01
Cooler #: 3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	PCBs/PCTs 8082	Dioxins 1613	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycol 8015	Alcohol 8015	Tetrahydrofuran 8015	Nitrates 300.0/9056	Ethanol 8015	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Orthophosphate	Methyl Mercury 1630	Other Analysis/Notes
SL-513-SA6-SB-0.0-0.5	11/8/12 07:40	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-513-SA6-SB-0.0-0.5	11/8/12 07:40	SO	None	1 - 4 oz glass	10 day													X																			
SL-649-SA6-SB-0.0-0.5	11/8/12 10:37	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X					X		X			X											
SL-649-SA6-SB-0.0-0.5	11/8/12 10:37	SO	None	1 - 4 oz glass	10 day													X																			
SL-650-SA6-SB-0.0-0.5	11/8/12 11:00	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X					X		X			X											
SL-650-SA6-SB-0.0-0.5	11/8/12 11:00	SO	None	1 - 4 oz glass	10 day													X																			
SL-658-SA6-SB-0.0-0.5	11/8/12 13:57	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X					X		X			X											
SL-658-SA6-SB-0.0-0.5	11/8/12 13:57	SO	None	1 - 4 oz glass	10 day													X																			
SL-674-SA6-SB-0.0-0.5	11/8/12 14:20	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X					X		X			X											
SL-674-SA6-SB-0.0-0.5	11/8/12 14:20	SO	None	1 - 4 oz glass	10 day													X																			

Page 3839 of 3843

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/8/12	1100		11/9/12	0930						

3-7 @ IRI 11912

COC Rev 2

COC: 20121108-01, Page 1 of 1

J35658

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/8/2012
CarrierName: FedEx
AirbillNo: 794035736280

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121108-02
Cooler #: Shipping 1, 2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Coritainers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7199/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxanostin	Methyl Mercury 1630	Other Analysis/Notes
EB-110812	11/8/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
EB-110812	11/8/12 15:00	WQ	None	1 - 250 mL Poly	10 day															X																	
EB-110812	11/8/12 15:00	WQ	None	10 - 1 L Amber	10 day							X		X							X	X			X												

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/8/2012	1600	[signature]	11/9/12	0930						

IR
3.0 11912

COC Rev 2

COC: 20121108-02 Page 1 of 1

J35658

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/8/2012

CarrierName: FedEx

AirbillNo: 794035736280

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121108-02

Cooler #: 1,2

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/Pcts 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Endrazine 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Chromatin	Methyl Mercury 1630	Other Analysis/Notes
EB-110812	11/8/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
EB-110812	11/8/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
EB-110812	11/8/12 15:00	WQ	None	10 - 1 L Amber	10 day							X			X						X	X			X												

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/8/2012	1600	[signature]	11/9/12	0930						

4.5 @ IR 11912

COC Rev 2

COC: 20121108-02 Page 1 of 1

SAMPLE DELIVERY GROUP

280-35658-2

J35658

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/8/2012
CarrierName: FedEx
AirbillNo: 794035736280

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121108-01
Cooler #: 3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Ethanolics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-513-SA6-SB-0.0-0.5	11/8/12 07:40	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X						X	X			X											
SL-513-SA6-SB-0.0-0.5	11/8/12 07:40	SO	None	1-4 oz glass	10 day													X																			
SL-649-SA6-SB-0.0-0.5	11/8/12 10:37	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X					X	X	X			X											
SL-649-SA6-SB-0.0-0.5	11/8/12 10:37	SO	None	1-4 oz glass	10 day													X																			
SL-650-SA6-SB-0.0-0.5	11/8/12 11:00	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X					X	X	X			X											
SL-650-SA6-SB-0.0-0.5	11/8/12 11:00	SO	None	1-4 oz glass	10 day													X																			
SL-658-SA6-SB-0.0-0.5	11/8/12 13:57	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X					X	X	X			X											
SL-658-SA6-SB-0.0-0.5	11/8/12 13:57	SO	None	1-4 oz glass	10 day													X																			
SL-674-SA6-SB-0.0-0.5	11/8/12 14:20	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X					X	X	X			X											
SL-674-SA6-SB-0.0-0.5	11/8/12 14:20	SO	None	1-4 oz glass	10 day													X																			

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	11/8/12	1100	[illegible]	11/9/12	0930						

3.7 @ IR1 11912

Page 3839 of 3843

COC Rev 2

COC: 20121108-01, Page 1 of 1

J35658

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/8/2012
CarrierName: FedEx
AirbillNo: 794035736280

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121108-02
Cooler #: Shuttle 1, 2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7199/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Tributyls 8085	Nitrates 300.0/9056	Ethenetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SB-110812	11/8/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X	X																													
SB-110812	11/8/12 15:00	WQ	None	1 - 250 mL Poly	10 day													X																		
SB-110812	11/8/12 15:00	WQ	None	10 - 1 L Amber	10 day					X				X						X	X				X										

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/9/2012	1600	[signature]	11/9/12	0930						

IR
3.0 11/9/12

COC Rev 2

COC: 20121108-02 Page 1 of 1

J35658

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/8/2012
CarrierName: FedEx
AirbillNo: 794035736280

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121108-02
Cooler #: 1 of 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Cyanuric	Methyl Mercury 1630	Other Analysis/Notes
EB-110812	11/8/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
EB-110812	11/8/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
EB-110812	11/8/12 15:00	WQ	None	10 - 1 L Amber	10 day							X		X							X	X			X												

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Pam Hartman	11/8/2012	1600		11/9/12	0930						

4.5 @ IR1 11912

COC Rev 2

COC: 20121108-02 Page: 1 of 1

SAMPLE DELIVERY GROUP

280-35749-1

J35749

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/9/2012
CarrierName: FedEx
AirbillNo: 794046878140

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

4-8 IAI 7(1110

COC No: 20121109-01
Cooler #: 1 of 2 Shipping
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270 TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate_Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Chromatin	Methyl Mercury 1630	Other Analysis/Notes
SL-647-SA6-SB-0.0-0.5	11/9/12 07:28	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-647-SA6-SB-0.0-0.5	11/9/12 07:28	SO	None	1-4 oz glass	10 day													X																	
SL-637-SA6-SB-0.0-0.5	11/9/12 10:35	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-637-SA6-SB-0.0-0.5	11/9/12 10:35	SO	None	1-4 oz glass	10 day													X																	
SL-641-SA6-SB-0.0-0.5	11/9/12 09:05	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-641-SA6-SB-0.0-0.5	11/9/12 09:05	SO	None	1-4 oz glass	10 day													X																	
SL-642-SA6-SB-0.0-0.5	11/9/12 09:57	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-642-SA6-SB-0.0-0.5	11/9/12 09:57	SO	None	1-4 oz glass	10 day													X																	
SL-643-SA6-SB-0.0-0.5	11/9/12 08:38	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-643-SA6-SB-0.0-0.5	11/9/12 08:38	SO	None	1-4 oz glass	10 day													X																	
SL-644-SA6-SB-0.0-0.5	11/9/12 09:30	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-644-SA6-SB-0.0-0.5	11/9/12 09:30	SO	None	1-4 oz glass	10 day													X																	
SL-648-SA6-SB-0.0-0.5	11/9/12 08:05	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-648-SA6-SB-0.0-0.5	11/9/12 08:05	SO	None	1-4 oz glass	10 day													X																	
SL-661-SA6-SB-0.0-0.5	11/9/12 12:25	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-661-SA6-SB-0.0-0.5	11/9/12 12:25	SO	None	1-4 oz glass	10 day													X																	
SL-662-SA6-SB-0.0-0.5	11/9/12 12:40	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-662-SA6-SB-0.0-0.5	11/9/12 12:40	SO	None	1-4 oz glass	10 day													X																	
SL-663-SA6-SB-0.0-0.5	11/9/12 13:05	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-663-SA6-SB-0.0-0.5	11/9/12 13:05	SO	None	1-4 oz glass	10 day													X																	
SL-664-SA6-SB-0.0-0.5	11/9/12 13:35	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-664-SA6-SB-0.0-0.5	11/9/12 13:35	SO	None	1-4 oz glass	10 day													X																	
SL-678-SA6-SB-0.0-0.5	11/9/12 14:25	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-678-SA6-SB-0.0-0.5	11/9/12 14:25	SO	None	1-4 oz glass	10 day													X																	
SL-679-SA6-SB-0.0-0.5	11/9/12 14:00	SO	None	2-SS-Sleeve	10 day	X	X				X		X	X										X											
SL-679-SA6-SB-0.0-0.5	11/9/12 14:00	SO	None	1-4 oz glass	10 day													X																	

COC Rev 2

1 of 2

J85749

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/9/2012

CarrierName: FedEx

AirbillNo: 794046878140

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121109-01

Cooler #: 1, 2 Shipped

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Soil)	Mercury 7471 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxygenates	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/09/2012	1600		11/12/12	0930						

Page 2719 of 2723

COC Rev 2

COC: 20121109-01 Page 2 of 2

2 of 2

J35749

4.6 (A1

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/9/2012
CarrierName: FedEx
AirbillNo: 794046878140

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121109-01
Cooler #: 1, 2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6020 and 6020	Mercury 7471 (Soil)	Mercury 74/0 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/DCTs 8082	Perchlorate 314.0/331.	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7199/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Tarchanyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxamatin	Methyl Mercury 1630	Other Analysis/Notes
SL-647-SA6-SB-0.0-0.5	11/9/12 07:28	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-647-SA6-SB-0.0-0.5	11/9/12 07:28	SO	None	1 - 4 oz glass	10 day													X																		
SL-637-SA6-SB-0.0-0.5	11/9/12 10:35	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-637-SA6-SB-0.0-0.5	11/9/12 10:35	SO	None	1 - 4 oz glass	10 day													X																		
SL-641-SA6-SB-0.0-0.5	11/9/12 09:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-641-SA6-SB-0.0-0.5	11/9/12 09:05	SO	None	1 - 4 oz glass	10 day													X																		
SL-642-SA6-SB-0.0-0.5	11/9/12 09:57	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-642-SA6-SB-0.0-0.5	11/9/12 09:57	SO	None	1 - 4 oz glass	10 day													X																		
SL-643-SA6-SB-0.0-0.5	11/9/12 08:38	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-643-SA6-SB-0.0-0.5	11/9/12 08:38	SO	None	1 - 4 oz glass	10 day													X																		
SL-644-SA6-SB-0.0-0.5	11/9/12 09:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-644-SA6-SB-0.0-0.5	11/9/12 09:30	SO	None	1 - 4 oz glass	10 day													X																		
SL-648-SA6-SB-0.0-0.5	11/9/12 08:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-648-SA6-SB-0.0-0.5	11/9/12 08:05	SO	None	1 - 4 oz glass	10 day													X																		
SL-661-SA6-SB-0.0-0.5	11/9/12 12:25	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-661-SA6-SB-0.0-0.5	11/9/12 12:25	SO	None	1 - 4 oz glass	10 day													X																		
SL-662-SA6-SB-0.0-0.5	11/9/12 12:40	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-662-SA6-SB-0.0-0.5	11/9/12 12:40	SO	None	1 - 4 oz glass	10 day													X																		
SL-663-SA6-SB-0.0-0.5	11/9/12 13:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-663-SA6-SB-0.0-0.5	11/9/12 13:05	SO	None	1 - 4 oz glass	10 day													X																		
SL-664-SA6-SB-0.0-0.5	11/9/12 13:35	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-664-SA6-SB-0.0-0.5	11/9/12 13:35	SO	None	1 - 4 oz glass	10 day													X																		
SL-678-SA6-SB-0.0-0.5	11/9/12 14:25	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-678-SA6-SB-0.0-0.5	11/9/12 14:25	SO	None	1 - 4 oz glass	10 day													X																		
SL-679-SA6-SB-0.0-0.5	11/9/12 14:00	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-679-SA6-SB-0.0-0.5	11/9/12 14:00	SO	None	1 - 4 oz glass	10 day													X																		

J35749

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped:	11/9/2012
CarrierName:	FedEx
AirbillNo:	794046878140

Contact Name:	Pam Hartman
Contact Phone:	(818)466-8007

COC No:	20121109-01
Cooler #:	1, 2 SM 11/9/12
Lab:	TestAmerica - Denver
Lab Phone:	303-736-0100
Lab Address	4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Conf/rm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/09/2012	1400	[signature]	11/10/12	0930						

Page 2721 of 2723

COC Rev 2

COC: 20121109-01, Page 2 of 2

SAMPLE DELIVERY GROUP

280-35749-2

J35749

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/9/2012
CarrierName: FedEx
AirbillNo: 794046878140

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

4.8 IA1 71 1110

COC No: 20121109-01
Cooler #: 1 of 2 Shipping
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-SRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Tetrahydrofuran 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-647-SA6-SB-0.0-0.5	11/9/12 07:28	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-647-SA6-SB-0.0-0.5	11/9/12 07:28	SO	None	1-4 oz glass	10 day													X																		
SL-637-SA6-SB-0.0-0.5	11/9/12 10:35	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-637-SA6-SB-0.0-0.5	11/9/12 10:35	SO	None	1-4 oz glass	10 day													X																		
SL-641-SA6-SB-0.0-0.5	11/9/12 09:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-641-SA6-SB-0.0-0.5	11/9/12 09:05	SO	None	1-4 oz glass	10 day													X																		
SL-642-SA6-SB-0.0-0.5	11/9/12 09:57	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-642-SA6-SB-0.0-0.5	11/9/12 09:57	SO	None	1-4 oz glass	10 day													X																		
SL-643-SA6-SB-0.0-0.5	11/9/12 08:38	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-643-SA6-SB-0.0-0.5	11/9/12 08:38	SO	None	1-4 oz glass	10 day													X																		
SL-644-SA6-SB-0.0-0.5	11/9/12 09:30	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-644-SA6-SB-0.0-0.5	11/9/12 09:30	SO	None	1-4 oz glass	10 day													X																		
SL-648-SA6-SB-0.0-0.5	11/9/12 08:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-648-SA6-SB-0.0-0.5	11/9/12 08:05	SO	None	1-4 oz glass	10 day													X																		
SL-661-SA6-SB-0.0-0.5	11/9/12 12:25	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-661-SA6-SB-0.0-0.5	11/9/12 12:25	SO	None	1-4 oz glass	10 day													X																		
SL-662-SA6-SB-0.0-0.5	11/9/12 12:40	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-662-SA6-SB-0.0-0.5	11/9/12 12:40	SO	None	1-4 oz glass	10 day													X																		
SL-663-SA6-SB-0.0-0.5	11/9/12 13:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-663-SA6-SB-0.0-0.5	11/9/12 13:05	SO	None	1-4 oz glass	10 day													X																		
SL-664-SA6-SB-0.0-0.5	11/9/12 13:35	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-664-SA6-SB-0.0-0.5	11/9/12 13:35	SO	None	1-4 oz glass	10 day													X																		
SL-678-SA6-SB-0.0-0.5	11/9/12 14:25	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-678-SA6-SB-0.0-0.5	11/9/12 14:25	SO	None	1-4 oz glass	10 day													X																		
SL-679-SA6-SB-0.0-0.5	11/9/12 14:00	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-679-SA6-SB-0.0-0.5	11/9/12 14:00	SO	None	1-4 oz glass	10 day													X																		

COC Rev 2

J35749

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped:	11/9/2012	Contact Name:	Pam Hartman	COC No:	20121109-01
CarrierName:	FedEx	Contact Phone:	(818)466-8007	Cooler #:	1, 2 SM 11/12
AirbillNo:	794046878140			Lab:	TestAmerica - Denver
				Lab Phone:	303-736-0100
				Lab Address	4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Enarmetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/09/2012	1600	[signature]	11/10/12	0930						

Page 2719 of 2723

COC Rev 2

COC: 20121109-01, Page 2 of 2

2 of 2

J35749

4.6/A1
1/8/10

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/9/2012
CarrierName: FedEx
AirbillNo: 794046878140

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121109-01
Cooler #: 1, 2 Sayler 2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613b	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Quenolin	Methyl Mercury 1630	Other Analysis/Notes
SL-647-SA6-SB-0.0-0.5	11/9/12 07:28	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-647-SA6-SB-0.0-0.5	11/9/12 07:28	SO	None	1-4 oz glass	10 day													X																			
SL-637-SA6-SB-0.0-0.5	11/9/12 10:35	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-637-SA6-SB-0.0-0.5	11/9/12 10:35	SO	None	1-4 oz glass	10 day													X																			
SL-641-SA6-SB-0.0-0.5	11/9/12 09:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-641-SA6-SB-0.0-0.5	11/9/12 09:05	SO	None	1-4 oz glass	10 day													X																			
SL-642-SA6-SB-0.0-0.5	11/9/12 09:57	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-642-SA6-SB-0.0-0.5	11/9/12 09:57	SO	None	1-4 oz glass	10 day													X																			
SL-643-SA6-SB-0.0-0.5	11/9/12 08:38	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-643-SA6-SB-0.0-0.5	11/9/12 08:38	SO	None	1-4 oz glass	10 day													X																			
SL-644-SA6-SB-0.0-0.5	11/9/12 09:30	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-644-SA6-SB-0.0-0.5	11/9/12 09:30	SO	None	1-4 oz glass	10 day													X																			
SL-648-SA6-SB-0.0-0.5	11/9/12 08:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-648-SA6-SB-0.0-0.5	11/9/12 08:05	SO	None	1-4 oz glass	10 day													X																			
SL-661-SA6-SB-0.0-0.5	11/9/12 12:25	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-661-SA6-SB-0.0-0.5	11/9/12 12:25	SO	None	1-4 oz glass	10 day													X																			
SL-662-SA6-SB-0.0-0.5	11/9/12 12:40	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-662-SA6-SB-0.0-0.5	11/9/12 12:40	SO	None	1-4 oz glass	10 day													X																			
SL-663-SA6-SB-0.0-0.5	11/9/12 13:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-663-SA6-SB-0.0-0.5	11/9/12 13:05	SO	None	1-4 oz glass	10 day													X																			
SL-664-SA6-SB-0.0-0.5	11/9/12 13:35	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-664-SA6-SB-0.0-0.5	11/9/12 13:35	SO	None	1-4 oz glass	10 day													X																			
SL-678-SA6-SB-0.0-0.5	11/9/12 14:25	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-678-SA6-SB-0.0-0.5	11/9/12 14:25	SO	None	1-4 oz glass	10 day													X																			
SL-679-SA6-SB-0.0-0.5	11/9/12 14:00	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-679-SA6-SB-0.0-0.5	11/9/12 14:00	SO	None	1-4 oz glass	10 day													X																			

J35749

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped:	11/9/2012	Contact Name:	Pam Hartman	COC No:	20121109-01
CarrierName:	FedEx	Contact Phone:	(818)466-8007	Cooler #:	1, 2 SM 11/9/12
AirbillNo:	794046878140			Lab:	TestAmerica - Denver
				Lab Phone:	303-736-0100
				Lab Address	4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/09/2012	1600	[signature]	11/10/12	0930						

Page 2721 of 2723

COC Rev 2

COC: 20121109-01, Page 2 of 2

2 of 2

SAMPLE DELIVERY GROUP

280-35822-1

J35822

5.4 [illegible]
FP
11/13/12

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/12/2012
CarrierName: FedEx
AirbillNo: 794056678823

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121112-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-535-SA6-SB-0.0-0.5	11/12/12 08:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-535-SA6-SB-0.0-0.5	11/12/12 08:30	SO	None	1 - 4 oz glass	10 day												X																				
SL-563-SA6-SB-0.0-0.5	11/12/12 09:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-563-SA6-SB-0.0-0.5	11/12/12 09:05	SO	None	1 - 4 oz glass	10 day												X																				
SL-564-SA6-SB-0.0-0.5	11/12/12 09:45	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-564-SA6-SB-0.0-0.5	11/12/12 09:45	SO	None	1 - 4 oz glass	10 day												X																				
SL-665-SA6-SB-0.0-0.5	11/12/12 10:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-665-SA6-SB-0.0-0.5	11/12/12 10:30	SO	None	1 - 4 oz glass	10 day												X																				
SL-552-SA6-SB-0.0-0.5	11/12/12 14:35	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-552-SA6-SB-0.0-0.5	11/12/12 14:35	SO	None	1 - 4 oz glass	10 day												X																				
SL-553-SA6-SB-0.0-0.5	11/12/12 14:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-553-SA6-SB-0.0-0.5	11/12/12 14:05	SO	None	1 - 4 oz glass	10 day												X																				
SL-560-SA6-SB-0.0-0.5	11/12/12 13:10	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-560-SA6-SB-0.0-0.5	11/12/12 13:10	SO	None	1 - 4 oz glass	10 day												X																				

Special Instructions:

Sampler: [signature]

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Steve Myrel	11/12/2012	11000	[signature]	11/13/12	0900						

COC Rev 2

SAMPLE DELIVERY GROUP

280-35822-2

J35822

5.4 [illegible] FY 11/13/12

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/12/2012
CarrierName: FedEx
AirbillNo: 794056678823

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121112-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-535-SA6-SB-0.0-0.5	11/12/12 08:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-535-SA6-SB-0.0-0.5	11/12/12 08:30	SO	None	1 - 4 oz glass	10 day													X																			
SL-563-SA6-SB-0.0-0.5	11/12/12 09:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-563-SA6-SB-0.0-0.5	11/12/12 09:05	SO	None	1 - 4 oz glass	10 day													X																			
SL-564-SA6-SB-0.0-0.5	11/12/12 09:45	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-564-SA6-SB-0.0-0.5	11/12/12 09:45	SO	None	1 - 4 oz glass	10 day													X																			
SL-665-SA6-SB-0.0-0.5	11/12/12 10:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-665-SA6-SB-0.0-0.5	11/12/12 10:30	SO	None	1 - 4 oz glass	10 day													X																			
SL-552-SA6-SB-0.0-0.5	11/12/12 14:35	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-552-SA6-SB-0.0-0.5	11/12/12 14:35	SO	None	1 - 4 oz glass	10 day													X																			
SL-553-SA6-SB-0.0-0.5	11/12/12 14:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-553-SA6-SB-0.0-0.5	11/12/12 14:05	SO	None	1 - 4 oz glass	10 day													X																			
SL-560-SA6-SB-0.0-0.5	11/12/12 13:10	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-560-SA6-SB-0.0-0.5	11/12/12 13:10	SO	None	1 - 4 oz glass	10 day													X																			

Special Instructions:

Sampler: [signature]

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Steve Myrel	11/12/2012	1600	[signature]	11/13/12	0900						

COC Rev 2

SAMPLE DELIVERY GROUP

280-35860-1

J35860

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/13/2012
CarrierName: FedEx
AirbillNo: 794067632336

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121113-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Tetrahydrofuran 8015	Nitrates 300.0/9056	Bromide 9211	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Cinnamon	Methyl Mercury 1630	Other Analysis/Notes
TB-111312	11/13/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X											
SL-508-SA6-SB-2.5-3.5	11/13/12 10:52	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X										
SL-508-SA6-SB-2.5-3.5	11/13/12 10:52	SO	None	1 - 4 oz glass	10 day													X																		
SL-508-SA6-SB-3.0	11/13/12 10:30	SO	None	3 - Encore	10 day																				X										
SL-552-SA6-SB-4.0-5.0	11/13/12 08:05	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X										
SL-552-SA6-SB-4.0-5.0	11/13/12 08:05	SO	None	1 - 4 oz glass	10 day													X																		
SL-552-SA6-SB-4.5	11/13/12 07:58	SO	None	3 - Encore	10 day																				X										

Page 2183 of 2185

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/13/2012	1600	[signature]	11/14/12	0930						

4-5 (w) IR 11/14/12

COC Rev 2

COC 20121113-01, Page 1 of 1

J35860

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/13/2012
CarrierName: FedEx
AirbillNo: 794067632336

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121113-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-111312	11/13/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X												
SL-508-SA6-SB-2.5-3.5	11/13/12 10:32	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X											
SL-508-SA6-SB-2.5-3.5	11/13/12 10:32	SO	None	1 - 4 oz glass	10 day													X																			
SL-508-SA6-SB-3.0	11/13/12 10:30	SO	None	3 - Encore	10 day																				X												
SL-552-SA6-SB-4.0-5.0	11/13/12 08:05	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X											
SL-552-SA6-SB-4.0-5.0	11/13/12 08:05	SO	None	1 - 4 oz glass	10 day													X																			
SL-552-SA6-SB-4.5	11/13/12 07:58	SO	None	3 - Encore	10 day																				X												

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/13/2012	1600	[signature]	11/14/12	0930						

4.5 (w) IR 11/14/12

COC Rev 2

COC: 20121113-01, Page 1 of 1

SAMPLE DELIVERY GROUP

280-35860-2

J35860

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped:	11/13/2012	Contact Name:	Pam Hartman	COC No:	20121113-01
CarrierName:	FedEx	Contact Phone:	(818)466-8007	Cooler #:	1
AirbillNo:	794067632336			Lab:	TestAmerica - Denver
				Lab Phone:	303-736-0100
				Lab Address	4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 900.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Enzymatics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-111312	11/13/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X												
SL-508-SA6-SB-2.5-3.5	11/13/12 10:32	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X											
SL-508-SA6-SB-2.5-3.5	11/13/12 10:32	SO	None	1 - 4 oz glass	10 day													X																			
SL-508-SA6-SB-3.0	11/13/12 10:30	SO	None	3 - Encore	10 day																				X												
SL-552-SA6-SB-4.0-5.0	11/13/12 08:05	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X											
SL-552-SA6-SB-4.0-5.0	11/13/12 08:05	SO	None	1 - 4 oz glass	10 day													X																			
SL-552-SA6-SB-4.5	11/13/12 07:58	SO	None	3 - Encore	10 day																				X												

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/13/2012	1600	[signature]	11/14/12	0930						

4.5 (W) IR 11/14/12

COC Rev 2

J35860

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/13/2012
CarrierName: FedEx
AirbillNo: 794067632336

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121113-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-111312	11/13/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X												
SL-508-SA6-SB-2.5-3.5	11/13/12 10:32	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X											
SL-508-SA6-SB-2.5-3.5	11/13/12 10:32	SO	None	1 - 4 oz glass	10 day													X																			
SL-508-SA6-SB-3.0	11/13/12 10:30	SO	None	3 - Encore	10 day																				X												
SL-552-SA6-SB-4.0-5.0	11/13/12 08:05	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X											
SL-552-SA6-SB-4.0-5.0	11/13/12 08:05	SO	None	1 - 4 oz glass	10 day													X																			
SL-552-SA6-SB-4.5	11/13/12 07:58	SO	None	3 - Encore	10 day																				X												

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/13/2012	1600	[signature]	11/14/12	8930						

4.5 (w) IR 11/14/12

COC Rev 2

COC: 20121113-01, Page 1 of 1

SAMPLE DELIVERY GROUP

280-35930-1

J35930

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/14/2012
CarrierName: FedEx
AirbillNo: 794071624320

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

4.5 @ 1pt 11512

COC No: 20121114-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Tentatively 8015	Explosives 8330	Nitrates 300.0/9056	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-111412	11/14/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X											
SL-610-SA6-SB-0.0-0.5MS	11/14/12 08:00	SO	None	6 - SS-Sleeve	10 day	X	X					X		X	X											X										MS/MSD
SL-610-SA6-SB-0.0-0.5MS	11/14/12 08:00	SO	None	1 - 16 oz glass	10 day													X																		MS/MSD
SL-1010-SA6-SB-0.0-0.5	11/14/12 08:15	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-1010-SA6-SB-0.0-0.5	11/14/12 08:15	SO	None	1 - 4 oz glass	10 day													X																		
SL-597-SA6-SB-0.0-0.5	11/14/12 10:57	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-597-SA6-SB-0.0-0.5	11/14/12 10:57	SO	None	1 - 4 oz glass	10 day													X																		
SL-609-SA6-SB-0.0-0.5	11/14/12 09:35	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-609-SA6-SB-0.0-0.5	11/14/12 09:35	SO	None	1 - 4 oz glass	10 day													X																		
SL-587-SA6-SB-0.0-0.5	11/14/12 13:40	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-587-SA6-SB-0.0-0.5	11/14/12 13:40	SO	None	1 - 4 oz glass	10 day													X																		
SL-587-SA6-SB-2.0-3.0	11/14/12 14:15	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-587-SA6-SB-2.0-3.0	11/14/12 14:15	SO	None	1 - 4 oz glass	10 day													X																		
SL-587-SA6-SB-2.5	11/14/12 14:14	SO	None	3 - Encore	10 day																				X											
SL-605-SA6-SB-0.0-0.5	11/14/12 15:00	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-605-SA6-SB-0.0-0.5	11/14/12 15:00	SO	None	1 - 4 oz glass	10 day													X																		

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Shaun Mypel	11/14/2012	16000	Diana Bimbo	11/15/12	0900						

COC Rev 2

COC: 20121114-01, Page 1 of 1

2-5111512 (cont) R1

J35930

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/14/2012
CarrierName: FedEx
AirbillNo: 794071624320

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121114-02
Cooler #: 2,3,4
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4-Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenols 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
FB-111412	11/14/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
FB-111412	11/14/12 15:00	WQ	None	14 - 1 L Amber	10 day						X	X			X						X	X				X			X								
FB-111412	11/14/12 15:00	WQ	None	1 - 125 mL Poly	10 day												X																				FILTERED IN FIELD
FB-111412	11/14/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
FB-111412	11/14/12 15:00	WQ	HCl	9 - 40 mL Vial	10 day																		X	X	X												
FB-111412	11/14/12 15:00	WQ	None	4 - 40 mL Vial	10 day																						X	X									
FB-111412	11/14/12 15:00	WQ	None	2 - 500 mL amber	10 day																										X						

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
			[signature]	11/15/12	0980						

COC Rev 2

COC: 20121114-02, Page 1 of 1

J35930

3.4 WIRI 11/15/12

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/14/2012
CarrierName: FedEx
AirbillNo: 794071624320

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121114-02
Cooler #: 2,3,4
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
FB-111412	11/14/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
FB-111412	11/14/12 15:00	WQ	None	24 - 1 L Amber	10 day						X	X			X						X	X				X			X								
FB-111412	11/14/12 15:00	WQ	None	1 - 125 mL Poly	10 day												X																				FILTERED IN FIELD
FB-111412	11/14/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
FB-111412	11/14/12 15:00	WQ	HCl	9 - 40 mL Vial	10 day																		X	X	X												
FB-111412	11/14/12 15:00	WQ	None	4 - 40 mL Vial	10 day																						X	X									
FB-111412	11/14/12 15:00	WQ	None	2 - 500 mL amber	10 day																										X						

Special Instructions: Smith 9/2

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	11/14/12	1600	[illegible]	11/15/12	0900						

COC Rev 2

COC 20121114-02, Page 1 of 1

1 of 1

J35930

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/14/2012
CarrierName: FedEx
AirbillNo: 794071624320

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121114-02
Cooler #: 2,3,4
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate,Confirm 8850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-DRO 8015	TPH-GRO 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Formaldehyde 8315	Cyanide 9012	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
FB-111412	11/14/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																												
FB-111412	11/14/12 15:00	WQ	None	14 - 1 L Amber	10 day						X	X			X						X	X			X				X							
FB-111412	11/14/12 15:00	WQ	None	1 - 125 mL Poly	10 day											X																				FILTERED IN FIELD
FB-111412	11/14/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																	
FB-111412	11/14/12 15:00	WQ	HCl	9 - 40 mL Vial	10 day																		X	X	X											
FB-111412	11/14/12 15:00	WQ	None	6 - 40 mL Vial	10 day																						X	X								
FB-111412	11/14/12 15:00	WQ	None	2 - 500 mL	10 day																										X					

Page 5755 of 5762

number SM1418-

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Stuart Myers	11/14/12	1100	Adam Smith	11/15/12	0900						

COC Rev 2

COC: 20121114-02, Page 1 of 1

1 of 1

J35930

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/14/2012
CarrierName: FedEx
AirbillNo: 794071651014

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121114-04
Cooler #: 1
Lab: Test America Irvine
Lab Phone: 949-261-1022
Lab Address: 17461 Derian Avenue Irvine, CA 92614

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-ERH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
FB-111412	11/14/12 15:00	WQ	None	1 - 250 mL Poly	10 day															X																	

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Shipped	11/14/12	1600								11/15/12	10:45

4.3°C

Page 5756 of 5762

COC Rev 2

J35930

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/14/2012

CarrierName: FedEx

AirbillNo: 794071643520

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121114-05

Cooler #: 1

Lab: Test America-Nashville

Lab Phone: 615-726-0177

Lab Address: 2960 Foster Creighton Drive Nashville, TN 37204

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate ConfRm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-DRO 8015	TPH-GRO 8015	Glycols 8015	Alcohols 8015	Tetrahydrofuran 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
FB-111412	11/14/12 15:00	WQ	None	1 - 250 mL Amber	10 day																												X				Loc: 280 35930

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Pam Hartman	11/14/2012	1600									

Page 5757 of 5762

COC Rev 2

COC: 20121114-05, Page 1 of 1

SAMPLE DELIVERY GROUP

280-35930-2

J35930

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/14/2012
CarrierName: FedEx
AirbillNo: 794071624320

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

4.5 @ IR 11/15/12

COC No: 20121114-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Tanhaevis 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Cfranolin	Methyl Mercury 1630	Other Analysis/Notes
FB-111412	11/14/12 08:00	WQ	HCl	2-40 mL Vial	10 day																			X												
SL-610-SA6-SB-0.0-0.5MS	11/14/12 08:00	SO	None	6-SS-Sleeve	10 day	X	X					X			X	X										X										MS/MSD
SL-610-SA6-SB-0.0-0.5MS	11/14/12 08:00	SO	None	1-16 oz glass	10 day													X																		MS/MSD
SL-1010-SA6-SB-0.0-0.5	11/14/12 08:15	SO	None	2-SS-Sleeve	10 day	X	X					X			X	X										X										
SB-1010-SA6-SB-0.0-0.5	11/14/12 08:15	SO	None	1-4 oz glass	10 day													X																		
SL-597-SA6-SB-0.0-0.5	11/14/12 10:57	SO	None	2-SS-Sleeve	10 day	X	X					X			X	X										X										
SB-597-SA6-SB-0.0-0.5	11/14/12 10:57	SO	None	1-4 oz glass	10 day													X																		
SL-609-SA6-SB-0.0-0.5	11/14/12 09:35	SO	None	2-SS-Sleeve	10 day	X	X					X			X	X										X										
SB-609-SA6-SB-0.0-0.5	11/14/12 09:35	SO	None	1-4 oz glass	10 day													X																		
SB-587-SA6-SB-0.0-0.5	11/14/12 13:40	SO	None	2-SS-Sleeve	10 day	X	X					X			X	X										X										
SL-587-SA6-SB-0.0-0.5	11/14/12 13:40	SO	None	1-4 oz glass	10 day													X																		
SL-587-SA6-SB-2.0-3.0	11/14/12 14:15	SO	None	2-SS-Sleeve	10 day	X	X					X			X	X										X										
SL-587-SA6-SB-2.0-3.0	11/14/12 14:15	SO	None	1-4 oz glass	10 day													X																		
SL-587-SA6-SB-2.5	11/14/12 14:14	SO	None	3-Encore	10 day																			X												
SL-605-SA6-SB-0.0-0.5	11/14/12 15:00	SO	None	2-SS-Sleeve	10 day	X	X					X			X	X										X										
SL-605-SA6-SB-0.0-0.5	11/14/12 15:00	SO	None	1-4 oz glass	10 day													X																		

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/14/2012	1600	[signature]	11/15/12	0900						

COC Rev 2

COC: 20121114-01, Page 1 of 1 (of 1)

2-5111612 (cont) R1

J35930

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/14/2012
CarrierName: FedEx
AirbillNo: 794071624320

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121114-02
Cooler #: 2,3,4
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organolin	Methyl Mercury 1630	Other Analysis/Notes
FB-111412	11/14/12 15:00	WQ	HNO3 pH<2	1-500 mL Poly	10 day	X		X																													
FB-111412	11/14/12 15:00	WQ	None	24-1 L Amber	10 day						X	X			X						X	X				X			X								
FB-111412	11/14/12 15:00	WQ	None	1-125 mL Poly	10 day												X																				FILTERED IN FIELD
FB-111412	11/14/12 15:00	WQ	None	1-250 mL Poly	10 day														X																		
FB-111412	11/14/12 15:00	WQ	HCl	9-40 mL Vial	10 day																		X	X	X												
FB-111412	11/14/12 15:00	WQ	None	4-40 mL Vial	10 day																						X	X									
FB-111412	11/14/12 15:00	WQ	None	2-500 mL Amber	10 day																										X						

Special Instructions: 20121142

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
			[signature]	11/15/12	0980						

J35930

3.4 WIRI 111512

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/14/2012
CarrierName: FedEx
AirbillNo: 794071624320

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121114-02
Cooler #: 2,3,4
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
FB-111412	11/14/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
FB-111412	11/14/12 15:00	WQ	None	14 - 1 L Amber	10 day						X	X			X						X	X				X			X								
FB-111412	11/14/12 15:00	WQ	None	1 - 125 mL Poly	10 day												X																				FILTERED IN FIELD
FB-111412	11/14/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
FB-111412	11/14/12 15:00	WQ	HCl	9 - 40 mL Vial	10 day																		X	X	X												
FB-111412	11/14/12 15:00	WQ	None	4 - 40 mL Vial	10 day																						X	X									
FB-111412	11/14/12 15:00	WQ	None	2 - 500 ml amber	10 day																										X						

Special Instructions: Smill972

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/15/12	1600	[signature]	11/15/12	0900						

COC Rev 2

COC 20121114-02, Page 1 of 1

1 of 1

J35930

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/14/2012
CarrierName: FedEx
AirbillNo: 794071624320

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121114-02
Cooler #: 2,3,4
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
FB-111412	11/14/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
FB-111412	11/14/12 15:00	WQ	None	14 - 1 L Amber	10 day						X	X			X						X	X				X			X								
FB-111412	11/14/12 15:00	WQ	None	1 - 125 mL Poly	10 day												X																				FILTERED IN FIELD
FB-111412	11/14/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
FB-111412	11/14/12 15:00	WQ	HCl	9 - 40 mL Vial	10 day																		X	X	X												
FB-111412	11/14/12 15:00	WQ	None	4 - 40 mL Vial	10 day																						X	X									
FB-111412	11/14/12 15:00	WQ	None	2 - 500 mlamber	10 day																										X						

Special Instructions: SM11412

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/14/2012	1600	[signature]	11/15/12	0900						

1 of 1

J35930

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/14/2012
CarrierName: FedEx
AirbillNo: 794071651014

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121114-04
Cooler #: 1
Lab: Test America Irvine
Lab Phone: 949-261-1022
Lab Address: 17461 Derian Avenue Irvine, CA 92614

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCHs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-DRO 8015	TPH-ERH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxamatin	Methyl Mercury 1630	Other Analysis/Notes
FB-111412	11/14/12 15:00	WQ	None	1 - 250 mL Poly	10 day															X																

Special Instructions:

Sampler: Pam Hart

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Shipped	11/14/12	1600									

11/15/12 10:45
4.3°C

Page 5756 of 5962

J35930

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/14/2012
CarrierName: FedEx
AirbillNo: 794071643520

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121114-05
Cooler #: 1
Lab: Test America-Nashville
Lab Phone: 615-726-0177
Lab Address: 2960 Foster Creighton Drive Nashville, TN 37204

Loc: 280
35930

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxanonlin	Methyl Mercury 1630	Other Analysis/Notes
FB-111412	11/14/12 15:00	WQ	None	1 - 250 mL Amber	10 day																												X				

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Stephanie Mysel	11/14/2012	1600									

Page 5757 of 5762

COC Rev 2

COC: 20121114-05, Page 1 of 1

SAMPLE DELIVERY GROUP

280-35982-1

J35982

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/15/2012
CarrierName: FedEx
AirbillNo: 794085012598

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121115-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Fluorides 9056	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-562-SA6-SB-0.0-0.5	11/15/12 08:40	SO	None	1 - SS-Sleeve	10 day										X											X											
SL-581-SA6-SB-0.0-0.5	11/15/12 07:50	SO	None	2 - SS-Sleeve	10 day	X	X						X		X	X										X											
SL-581-SA6-SB-0.0-0.5	11/15/12 07:50	SO	None	1 - 4 oz glass	10 day													X																			
SL-583-SA6-SB-0.0-0.5	11/15/12 09:45	SO	None	2 - SS-Sleeve	10 day	X	X						X		X	X										X											
SL-583-SA6-SB-0.0-0.5	11/15/12 09:45	SO	None	1 - 4 oz glass	10 day													X																			
SL-606-SA6-SB-0.0-0.5	11/15/12 11:10	SO	None	2 - SS-Sleeve	10 day	X	X						X		X	X										X											
SL-606-SA6-SB-0.0-0.5	11/15/12 11:10	SO	None	1 - 4 oz glass	10 day													X																			
SL-638-SA6-SB-0.0-0.5	11/15/12 14:20	SO	None	2 - SS-Sleeve	10 day	X	X						X		X	X						X	X			X											
SL-638-SA6-SB-0.0-0.5	11/15/12 14:20	SO	None	1 - 4 oz glass	10 day													X																			
SL-640-SA6-SB-0.0-0.5	11/15/12 13:37	SO	None	2 - SS-Sleeve	10 day	X	X						X		X	X										X											
SL-640-SA6-SB-0.0-0.5	11/15/12 13:37	SO	None	1 - 4 oz glass	10 day													X																			

Page 39 of 1995

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/15/2012	1600	[signature]	11/16/12	0930						

SSFL Phase 3 Chain of Custody

5-6 TRL
5-2 EE
5-4 EE46

CDM Smith
DateShipped: 11/15/2012
CarrierName: FedEx
AirbillNo: 794085012598

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121115-02
Cooler #: 2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate ConBam 6850/6860	Perchlorate 314.0/331	pH 9040 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-SFH 8015	Glycols 8015	Alcohols 8015	Terphanyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB-111512	11/15/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
EB-111512	11/15/12 15:00	WQ	None	6 - 1 L Amber	10 day							X			X												X										
EB-111512	11/15/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
EB-111512	11/15/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Pam Hartman	11/15/2012	1600	[illegible]	11/16/12	0930						

Page 3678 of 3681

COC Rev 2

COC: 20121115-02, Page 1 of 1

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped:	11/15/2012
CarrierName:	FedEx
AirbillNo:	794085012598

Contact Name:	Pam Hartman
Contact Phone:	(818)466-8007

COC No:	20121115-02
Cooler #:	2,3
Lab:	TestAmerica - Denver
Lab Phone:	303-736-0100
Lab Address	4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB-111512	11/15/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
EB-111512	11/15/12 15:00	WQ	None	6 - 1 L Amber	10 day							X			X											X											
EB-111512	11/15/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
EB-111512	11/15/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Stephen Myrell	11/15/2012	1600	[signature]	11/16/12	0930						

SAMPLE DELIVERY GROUP

280-35982-2

J35982

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/15/2012
CarrierName: FedEx
AirbillNo: 794085012598

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121115-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4-Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4-Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Tetrahydrofuran 8015	Nitrates 300.0/9056	Enterolert 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	MethylMercury 1630	Other Analysis/Notes
SL-562-SA6-SB-0.0-0.5	11/15/12 08:40	SO	None	1 - SS-Sleeve	10 day									X												X										
SL-581-SA6-SB-0.0-0.5	11/15/12 07:50	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-581-SA6-SB-0.0-0.5	11/15/12 07:50	SO	None	1 - 4 oz glass	10 day														X																	
SL-583-SA6-SB-0.0-0.5	11/15/12 09:45	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-583-SA6-SB-0.0-0.5	11/15/12 09:45	SO	None	1 - 4 oz glass	10 day														X																	
SL-606-SA6-SB-0.0-0.5	11/15/12 11:10	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-606-SA6-SB-0.0-0.5	11/15/12 11:10	SO	None	1 - 4 oz glass	10 day														X																	
SL-638-SA6-SB-0.0-0.5	11/15/12 14:20	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X							X	X			X										
SL-638-SA6-SB-0.0-0.5	11/15/12 14:20	SO	None	1 - 4 oz glass	10 day														X																	
SL-640-SA6-SB-0.0-0.5	11/15/12 13:37	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-640-SA6-SB-0.0-0.5	11/15/12 13:37	SO	None	1 - 4 oz glass	10 day														X																	

Page 36 of 3682

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	11/15/12	1600	[signature]	11/16/12	0930						

COC Rev 2

COC: 20121115-01, Page 1 of 1

1 of 1

5-6
5-4

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/15/2012
CarrierName: FedEx
AirbillNo: 794085012598

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121115-02
Cooler #: 2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Enterolert 9230	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxirane/in	Methyl Mercury 1630	Other Analysis/Notes
EB-111512	11/15/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																												
EB-111512	11/15/12 15:00	WQ	None	6 - 1 L Amber	10 day							X			X											X										
EB-111512	11/15/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																	
EB-111512	11/15/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																				X											

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Stephanie Murphy	11/15/2012	1600	[illegible]	11/16/12	0930						

Page 3678 of 3981

COC Rev 2

COC: 20121115-02, Page 1 of 1

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped:	11/15/2012	Contact Name:	Pam Hartman	COC No:	20121115-02
CarrierName:	FedEx	Contact Phone:	(818)466-8007	Cooler #:	2,3
AirbillNo:	794085012598			Lab:	TestAmerica - Denver
				Lab Phone:	303-736-0100
				Lab Address	4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB-111512	11/15/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
EB-111512	11/15/12 15:00	WQ	None	6 - 1 L Amber	10 day							X			X											X											
EB-111512	11/15/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
EB-111512	11/15/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/15/12	1600	[signature]	11/16/12	0930						

COC Rev 2

COC: 20121115-02, Page 1 of 1

Page 3679 of 3681

SAMPLE DELIVERY GROUP

280-36026-1

J36026

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/16/2012
CarrierName: FedEx
AirbillNo: 794091969531

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

4.4 @ IR1
4.6 IR2
11/17/12

COC No: 20121116-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-DRO 8015	TPH-GRO 8015	Glycols 8015	Alcohols 8015	Tetrachloroethene 8015	Nitrates 300.0/9056	Fluorides 8290	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-639-SA6-SB-0.0-0.5	11/16/12 09:30	SO	None	2-16 oz glass	10 day	X	X					X		X	X										X												
SL-639-SA6-SB-0.0-0.5	11/16/12 09:30	SO	None	1-4 oz glass	10 day													X																				
SL-645-SA6-SB-0.0-0.5	11/16/12 07:55	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X						X	X			X												
SL-645-SA6-SB-0.0-0.5	11/16/12 07:55	SO	None	1-4 oz glass	10 day													X																				
SL-646-SA6-SB-0.0-0.5	11/16/12 08:25	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X							X	X				X										
SL-646-SA6-SB-0.0-0.5	11/16/12 08:25	SO	None	1-4 oz glass	10 day													X																				
SL-527-SA6-SB-0.0-0.5	11/16/12 11:50	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X										X												
SL-527-SA6-SB-0.0-0.5	11/16/12 11:50	SO	None	1-4 oz glass	10 day													X																				
SL-528-SA6-SB-0.0-0.5	11/16/12 11:00	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X										X												
SL-528-SA6-SB-0.0-0.5	11/16/12 11:00	SO	None	1-4 oz glass	10 day													X																				
SL-530-SA6-SB-0.0-0.5	11/16/12 12:40	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X										X												
SL-530-SA6-SB-0.0-0.5	11/16/12 12:40	SO	None	1-4 oz glass	10 day													X																				

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/16/2012	1600		11/17/12	1000						

J36026

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/16/2012

CarrierName: FedEx

AirbillNo: 794091969531

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121116-02

Cooler #: 2

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Soil)	Mercury 7471 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Ethanol/ks 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB-111612	11/16/12 15:00	WQ	None	4 - 1 L Amber	10 day																X	X															

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/16/2012	1600	[signature]	11/17/12	1000						

SAMPLE DELIVERY GROUP

280-36026-2

J36026

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/16/2012
CarrierName: FedEx
AirbillNo: 794091969531

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

4.4 @ IR1 11/17/12
4.6

COC No: 20121116-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAH 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate,Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Triethanolamine 8015	Nitrates 300.0/9056	Energetics 8330	Diquat/Paraquat 8032	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-639-SA6-SB-0.0-0.5	11/16/12 09:30	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X										
SL-639-SA6-SB-0.0-0.5	11/16/12 09:30	SO	None	1-4 oz glass	10 day													X																		
SL-645-SA6-SB-0.0-0.5	11/16/12 07:55	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X						X	X				X										
SL-645-SA6-SB-0.0-0.5	11/16/12 07:55	SO	None	1-4 oz glass	10 day													X																		
SL-646-SA6-SB-0.0-0.5	11/16/12 08:25	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X							X	X			X										
SL-646-SA6-SB-0.0-0.5	11/16/12 08:25	SO	None	1-4 oz glass	10 day													X																		
SL-527-SA6-SB-0.0-0.5	11/16/12 11:50	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-527-SA6-SB-0.0-0.5	11/16/12 11:50	SO	None	1-4 oz glass	10 day													X																		
SL-528-SA6-SB-0.0-0.5	11/16/12 11:00	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-528-SA6-SB-0.0-0.5	11/16/12 11:00	SO	None	1-4 oz glass	10 day													X																		
SL-530-SA6-SB-0.0-0.5	11/16/12 12:40	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-530-SA6-SB-0.0-0.5	11/16/12 12:40	SO	None	1-4 oz glass	10 day													X																		

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/16/2012	1600		11/17/12	1000						

COC Rev 2

COC 20121116-01, Page 1 of 1

Page 3285 of 3288

J36026

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/16/2012

CarrierName: FedEx

AirbillNo: 794091969531

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121116-02

Cooler #: 2

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	pH 9040 (Soil)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Tributyltin 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Chromium	Methyl Mercury 1630	Other Analysis/Notes
EB-111612	11/16/12 15:00	WQ	None	4-1 L Amber	10 day																	X	X														

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/16/2012	1600	[signature]	11/17/12	1000						

Page 3286 of 3288

COC Rev 2

COC: 20121116-02, Page 1 of 1

SAMPLE DELIVERY GROUP

280-36112-1

4.5 (W) LRL 11/20/12

J36112

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/19/2012
CarrierName: FedEx
AirbillNo: 794112453210

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121119-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 7000	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Biogenics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Cyanosin	Methyl Mercury 1630	Other Analysis/Notes
TB-111912	11/19/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X													
SL-523-SA6-SB-0.0-0.5	11/19/12 08:40	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X												X											
SL-523-SA6-SB-0.0-0.5	11/19/12 08:40	SO	None	1 - 4 oz glass	10 day													X																				
SL-524-SA6-SB-0.0-0.5	11/19/12 10:40	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X												X											
SL-524-SA6-SB-0.0-0.5	11/19/12 10:40	SO	None	1 - 4 oz glass	10 day													X																				
SL-525-SA6-SB-0.0-0.5	11/19/12 10:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X												X											
SL-525-SA6-SB-0.0-0.5	11/19/12 10:05	SO	None	1 - 4 oz glass	10 day													X																				
SL-526-SA6-SB-0.0-0.5	11/19/12 09:20	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X												X											
SL-526-SA6-SB-0.0-0.5	11/19/12 09:20	SO	None	1 - 4 oz glass	10 day													X																				
SL-537-SA6-SB-0.0-0.5	11/19/12 07:44	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X												X											
SL-537-SA6-SB-0.0-0.5	11/19/12 07:44	SO	None	1 - 4 oz glass	10 day													X																				
SL-503-SA3-SB-0.0-0.5	11/19/12 13:15	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X												X											
SL-503-SA3-SB-0.0-0.5	11/19/12 13:15	SO	None	1 - 4 oz glass	10 day													X																				
SL-503-SA3-SB-2.5-3.5	11/19/12 14:40	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X												X											
SL-503-SA3-SB-2.5-3.5	11/19/12 14:40	SO	None	1 - 4 oz glass	10 day													X																				
SL-503-SA3-SB-3.0	11/19/12 14:37	SO	None	3 - Encore	10 day																				X												

Page 2023 of 2027

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/19/12	1600	[signature]	11/20/12	0930						

COC Rev 2

SAMPLE DELIVERY GROUP

280-36112-2

4.5 (W) LRL 11/20/12

J36112

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/19/2012
CarrierName: FedEx
AirbillNo: 794112453210

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121119-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	1,4 Dioxane 8260 SIM	VOCs 8260	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Fluoride 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Chloride	Methyl Mercury 1630	Other Analysis/Notes
TB-111912	11/19/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X												
SL-523-SA6-SB-0.0-0.5	11/19/12 08:40	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X	X										X										
SL-523-SA6-SB-0.0-0.5	11/19/12 08:40	SO	None	1 - 4 oz glass	10 day													X																			
SL-524-SA6-SB-0.0-0.5	11/19/12 10:40	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X	X										X										
SL-524-SA6-SB-0.0-0.5	11/19/12 10:40	SO	None	1 - 4 oz glass	10 day													X																			
SL-525-SA6-SB-0.0-0.5	11/19/12 10:05	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X	X										X										
SL-525-SA6-SB-0.0-0.5	11/19/12 10:05	SO	None	1 - 4 oz glass	10 day													X																			
SL-526-SA6-SB-0.0-0.5	11/19/12 09:20	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X	X										X										
SL-526-SA6-SB-0.0-0.5	11/19/12 09:20	SO	None	1 - 4 oz glass	10 day													X																			
SL-537-SA6-SB-0.0-0.5	11/19/12 07:44	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X	X										X										
SL-537-SA6-SB-0.0-0.5	11/19/12 07:44	SO	None	1 - 4 oz glass	10 day													X																			
SL-503-SA3-SB-0.0-0.5	11/19/12 13:15	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X	X										X										
SL-503-SA3-SB-0.0-0.5	11/19/12 13:15	SO	None	1 - 4 oz glass	10 day													X																			
SL-503-SA3-SB-2.5-3.5	11/19/12 14:40	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X	X										X										
SL-503-SA3-SB-2.5-3.5	11/19/12 14:40	SO	None	1 - 4 oz glass	10 day													X																			
SL-503-SA3-SB-3.0	11/19/12 14:37	SO	None	3 - Encore	10 day																				X												

Page 2023 of 2027

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/19/2012	1600	[signature]	11/20/12	0930						

SAMPLE DELIVERY GROUP

280-36114-1

4.5 IR 11202 J36114

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/19/2012
CarrierName: FedEx
AirbillNo: 794112453210

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121119-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	Hex Cr 7196/7199	pH 9040 (Water)	Herbicides 8151	Pesticides 8081	1,4 Dioxane 8260 SIM	VOCs 8260	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Ethoxyethers 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-111912	11/19/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X											
SL-523-SA6-SB-0.0-0.5	11/19/12 08:40	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-523-SA6-SB-0.0-0.5	11/19/12 08:40	SO	None	1 - 4 oz glass	10 day													X																		
SL-524-SA6-SB-0.0-0.5	11/19/12 10:40	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-524-SA6-SB-0.0-0.5	11/19/12 10:40	SO	None	1 - 4 oz glass	10 day													X																		
SL-525-SA6-SB-0.0-0.5	11/19/12 10:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-525-SA6-SB-0.0-0.5	11/19/12 10:05	SO	None	1 - 4 oz glass	10 day													X																		
SL-526-SA6-SB-0.0-0.5	11/19/12 09:20	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-526-SA6-SB-0.0-0.5	11/19/12 09:20	SO	None	1 - 4 oz glass	10 day													X																		
SL-537-SA6-SB-0.0-0.5	11/19/12 07:44	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-537-SA6-SB-0.0-0.5	11/19/12 07:44	SO	None	1 - 4 oz glass	10 day													X																		
SL-503-SA3-SB-0.0-0.5	11/19/12 13:15	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-503-SA3-SB-0.0-0.5	11/19/12 13:15	SO	None	1 - 4 oz glass	10 day													X																		
SL-503-SA3-SB-2.5-3.5	11/19/12 14:40	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-503-SA3-SB-2.5-3.5	11/19/12 14:40	SO	None	1 - 4 oz glass	10 day													X																		
SL-503-SA3-SB-3.0	11/19/12 14:37	SO	None	3 - Encore	10 day																				X										

Page 2085 of 2087

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/19/2012	1600		11/20/12	0930						

COC Rev 2

COC 20121119-01, Page 1 of 1

SAMPLE DELIVERY GROUP

280-36114-2

4.5 IR 11202 J36114

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/19/2012
CarrierName: FedEx
AirbillNo: 794112453210

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121119-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate,Coinfirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-111912	11/19/12 08:00	WQ	HCl	2-40 mL Vial	10 day																				X											
SL-523-SA6-SB-0.0-0.5	11/19/12 08:40	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-523-SA6-SB-0.0-0.5	11/19/12 08:40	SO	None	1-4 oz glass	10 day													X																		
SL-524-SA6-SB-0.0-0.5	11/19/12 10:40	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-524-SA6-SB-0.0-0.5	11/19/12 10:40	SO	None	1-4 oz glass	10 day													X																		
SL-525-SA6-SB-0.0-0.5	11/19/12 10:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-525-SA6-SB-0.0-0.5	11/19/12 10:05	SO	None	1-4 oz glass	10 day													X																		
SL-526-SA6-SB-0.0-0.5	11/19/12 09:20	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-526-SA6-SB-0.0-0.5	11/19/12 09:20	SO	None	1-4 oz glass	10 day													X																		
SL-537-SA6-SB-0.0-0.5	11/19/12 07:44	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-537-SA6-SB-0.0-0.5	11/19/12 07:44	SO	None	1-4 oz glass	10 day													X																		
SL-503-SA3-SB-0.0-0.5	11/19/12 13:15	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-503-SA3-SB-0.0-0.5	11/19/12 13:15	SO	None	1-4 oz glass	10 day													X																		
SL-503-SA3-SB-2.5-3.5	11/19/12 14:40	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-503-SA3-SB-2.5-3.5	11/19/12 14:40	SO	None	1-4 oz glass	10 day													X																		
SL-503-SA3-SB-3.0	11/19/12 14:37	SO	None	3-Encore	10 day																				X											

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/19/2012	11600	[signature]	11/20/12	0930						

COC Rev 2

COC: 20121119-01, Page 1 of 1

SAMPLE DELIVERY GROUP

280-36180-1

J36180

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/20/2012
CarrierName: FedEx
AirbillNo: 794121382436

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

1.8 (WQ) 1R1
112312

COC No: 20121120-02
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-681-SA6-SB-0.0-0.5	11/20/12 10:00	SO	None.	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-681-SA6-SB-0.0-0.5	11/20/12 10:00	SO	None	1 - 4 oz glass	10 day													X																			
SL-680-SA6-SB-0.0-0.5	11/20/12 11:10	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X						X	X				X											
SL-680-SA6-SB-0.0-0.5	11/20/12 11:10	SO	None	1 - 4 oz glass	10 day													X																			
SL-678-SA6-SB-2.5-3.5	11/20/12 14:33	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-678-SA6-SB-2.5-3.5	11/20/12 14:33	SO	None	1 - 4 oz glass	10 day													X																			
SL-678-SA6-SB-3.0	11/20/12 14:40	SO	None	3 - Encore	10 day																				X												
TB-112012	11/20/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X												

Special Instructions:

Sampler: [signature]

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/20/2012	1600	[signature]	11/23/12	0900						

COC Rev 2

COC: 20121120-02, Page 1 of 1

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/20/2012
CarrierName: FedEx
AirbillNo: 794121382436

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

3.9 (3) 1.8 11.23.12

COC No: 20121120-03
Cooler #: 2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCBs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Uranium	Method Mercury 1630	Other Analysis/Notes
EB-112012	11/20/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																												
EB-112012	11/20/12 15:00	WQ	None	10 - 1 L Amber	10 day							X			X						X	X			X											
EB-112012	11/20/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																	
EB-112012	11/20/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																			X												

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/20/12	1600	[signature]	11/21/12	0900						

Page 3388 of 3392

COC Rev 2

COC: 20121120-03, Page 1 of 1

5.0 [illegible] 112312

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/20/2012
CarrierName: FedEx
AirbillNo: 794121382436

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121120-03
Cooler #: 2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Omenotin	Methyl Mercury 1630	Other Analysis/Notes
EB-112012	11/20/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
EB-112012	11/20/12 15:00	WQ	None	10 - 1 L Amber	10 day							X			X						X	X				X											
EB-112012	11/20/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
EB-112012	11/20/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	11/20/2012	1600	[illegible]	11/20/12	0900						

COC Rev 2

SAMPLE DELIVERY GROUP

280-36180-2

J36180

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/20/2012
CarrierName: FedEx
AirbillNo: 794121382436

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

1.8 (W) 1R1
11231?

COC No: 20121120-02
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	8015 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-681-SA6-SB-0.0-0.5	11/20/12 10:00	SO	None.	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-681-SA6-SB-0.0-0.5	11/20/12 10:00	SO	None	1-4 oz glass	10 day													X																				
SL-680-SA6-SB-0.0-0.5	11/20/12 11:10	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X						X	X				X												
SL-680-SA6-SB-0.0-0.5	11/20/12 11:10	SO	None	1-4 oz glass	10 day													X																				
SL-678-SA6-SB-2.5-3.5	11/20/12 14:32	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X												
SL-678-SA6-SB-2.5-3.5	11/20/12 14:33	SO	None	1-4 oz glass	10 day													X																				
SL-678-SA6-SB-3.0	11/20/12 14:40	SO	None	3-Encore	10 day																				X												
TB-112012	11/20/12 08:00	WQ	HCl	2-40 mL Vial	10 day																				X												

Page 3387 of 3392

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/20/2012	1400		11/21/12	0900						

COC Rev 2

COC: 20121120-02, Page 1 of 1

1 of 1

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/20/2012
CarrierName: FedEx
AirbillNo: 794121382436

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

3.9 (W) IR 11 2312

COC No: 20121120-03
Cooler #: 2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6020 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/Aclrs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Enterolert 9230	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Chromium	Methyl Mercury 1630	Other Analysis/Notes
EB-112012	11/20/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																												
EB-112012	11/20/12 15:00	WQ	None	10 - 1 L Amber	10 day							X			X						X	X			X											
EB-112012	11/20/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																	
EB-112012	11/20/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																				X											

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Pam Hartman	11/20/12	1100	[illegible]	11/21/12	0900						

Page 3388 of 3392

COC Rev 2

COC: 20121120-03, Page 1 of 1

5.0 QW TH 11/23/12

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/20/2012
CarrierName: FedEx
AirbillNo: 794121382436

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121120-03
Cooler #: 2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	oil 8015 (Soil)	RH 8015 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrate 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB-112012	11/20/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																												
EB-112012	11/20/12 15:00	WQ	None	10 - 1 L Amber	10 day							X			X						X	X			X											
EB-112012	11/20/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																	
EB-112012	11/20/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																			X												

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Pam Hartman	11/20/12	1400	Laura Lopez	11/21/12	0900						

Page 3389 of 3392

COC Rev 2

COC 20121120-03, Page 1 of 1

SAMPLE DELIVERY GROUP

280-36181-1

J36181

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/20/2012
CarrierName: FedEx
AirbillNo: 794121382436

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121120-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street
Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-502-SA3-SB-0.0-0.5	11/20/12 09:23	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-502-SA3-SB-0.0-0.5	11/20/12 09:23	SO	None	1 - 4 oz glass	10 day													X																			
SL-505-SA3-SB-0.0-0.5	11/20/12 08:33	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-505-SA3-SB-0.0-0.5	11/20/12 08:33	SO	None	1 - 4 oz glass	10 day													X																			
SL-506-SA3-SB-0.0-0.5	11/20/12 07:45	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-506-SA3-SB-0.0-0.5	11/20/12 07:45	SO	None	1 - 4 oz glass	10 day													X																			
SL-501-SA3-SB-0.0-0.5	11/20/12 11:50	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-501-SA3-SB-0.0-0.5	11/20/12 11:50	SO	None	1 - 4 oz glass	10 day													X																			

Special Instructions:

Sampler: [signature]

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/20/2012	1600	[signature]	11/23/12	0906						

SAMPLE DELIVERY GROUP

280-36181-2

J36181

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/20/2012
CarrierName: FedEx
AirbillNo: 794121382436

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121120-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxazepam	Methyl Mercury 1630	Other Analysis/Notes
SL-502-SA3-SB-0.0-0.5	11/20/12 09:25	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-502-SA3-SB-0.0-0.5	11/20/12 09:29	SO	None	1-4 oz glass	10 day													X																			
SL-505-SA3-SB-0.0-0.5	11/20/12 08:33	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-505-SA3-SB-0.0-0.5	11/20/12 08:33	SO	None	1-4 oz glass	10 day													X																			
SL-506-SA3-SB-0.0-0.5	11/20/12 07:45	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-506-SA3-SB-0.0-0.5	11/20/12 07:45	SO	None	1-4 oz glass	10 day													X																			
SL-501-SA3-SB-0.0-0.5	11/20/12 11:50	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-501-SA3-SB-0.0-0.5	11/20/12 11:50	SO	None	1-4 oz glass	10 day													X																			

Special Instructions:

Samples:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/20/2012	1600	[signature]	11/21/12	0906						

Page 2078 of 2080

COC Rev 2

COC: 20121120-01, Page 1 of 1

SAMPLE DELIVERY GROUP

280-36211-1

J36211

SSFL Phase 3 Chain of Custody

2.7 @ TRL 112312

CDM Smith

DateShipped: 11/21/2012
CarrierName: FedEx
AirbillNo: 794130420950

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121121-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oreanothin	Methyl Mercury 1630	Other Analysis/Notes
SL-688A-SA6-SB-0.0-0.5	11/21/12 08:15	SO	None	1 - SS-Sleeve	10 day										X																						
SL-688B-SA6-SB-0.0-0.5	11/21/12 08:50	SO	None	1 - SS-Sleeve	10 day										X																						
SL-688C-SA6-SB-0.0-0.5	11/21/12 09:08	SO	None	1 - SS-Sleeve	10 day										X																						
SL-688D-SA6-SB-0.0-0.5	11/21/12 09:25	SO	None	1 - SS-Sleeve	10 day										X																						
SL-688E-SA6-SB-0.0-0.5	11/21/12 09:46	SO	None	1 - SS-Sleeve	10 day										X																						
SL-688F-SA6-SB-0.0-0.5	11/21/12 10:01	SO	None	1 - SS-Sleeve	10 day										X																						
SL-683A-SA6-SB-0.0-0.5	11/21/12 11:06	SO	None	1 - SS-Sleeve	10 day										X																						
SL-683B-SA6-SB-0.0-0.5	11/21/12 11:28	SO	None	1 - SS-Sleeve	10 day										X																						
SL-683C-SA6-SB-0.0-0.5	11/21/12 11:46	SO	None	1 - SS-Sleeve	10 day										X																						

Special Instructions:

Sampler: [signature]

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/21/2012	1300	[signature]	11/23/12	0900						

COC Rev 2

COC 20121121-01, Page 1 of 1

SAMPLE DELIVERY GROUP

280-36278-1

J36278

SSFL Phase 3 Chain of Custody

3-3 (2) FP 112712

CDM Smith

DateShipped: 11/26/2012
CarrierName: FedEx
AirbillNo: 794151391374

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121126-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 9056/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Tarchenyltr 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB112612	11/26/12 08:00	WQ	HCl	2-40 mL Vial	10 day																				X											
SL-658-SA6-SB-4.0-5.0	11/26/12 09:15	SO	None	2-16 oz glass	10 day	X	X					X		X	X						X	X				X										
SL-658-SA6-SB-4.0-5.0	11/26/12 09:15	SO	None	1-4 oz glass	10 day													X																		
SL-658-SA6-SB-4.5	11/26/12 09:20	SO	None	3-Encore	10 day																				X											
SL-659-SA6-SB-3.5-4.5	11/26/12 10:30	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X										
SL-659-SA6-SB-3.5-4.5	11/26/12 10:30	SO	None	1-4 oz glass	10 day													X																		
SL-659-SA6-SB-4.0	11/26/12 10:35	SO	None	3-Encore	10 day																				X											
SL-647-SA6-SB-3.5-4.5	11/26/12 14:15	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X										
SL-647-SA6-SB-3.5-4.5	11/26/12 14:15	SO	None	1-4 oz glass	10 day													X																		
SL-647-SA6-SB-4.0	11/26/12 14:20	SO	None	3-Encore	10 day																				X											
SL-676-SA6-SB-3.5-4.5	11/26/12 13:00	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X										
SL-676-SA6-SB-3.5-4.5	11/26/12 13:00	SO	None	1-4 oz glass	10 day													X																		
SL-676-SA6-SB-4.0	11/26/12 13:05	SO	None	3-Encore	10 day																				X											
SL-648-SA6-SB-6.5-7.5	11/26/12 15:00	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X										
SL-648-SA6-SB-6.5-7.5	11/26/12 15:00	SO	None	1-4 oz glass	10 day													X																		
SL-648-SA6-SB-7.0	11/26/12 15:05	SO	None	3-Encore	10 day																				X											

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/26/12	1545		11/27/12	0930						

COC Rev 2

SAMPLE DELIVERY GROUP

280-36278-2

J36278

SSFL Phase 3 Chain of Custody

3.3 (v) FP 112712

CDM Smith

DateShipped: 11/26/2012
CarrierName: FedEx
AirbillNo: 794151391374

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121126-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Triethanolm 8015	Nitrates 300.0/9056	Enterolite 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB112612	11/26/12 08:00	WQ	HCl	2-40 mL Vial	10 day																				X												
SL-658-SA6-SB-4.0-5.0	11/26/12 09:15	SO	None	2-16 oz glass	10 day	X	X					X		X	X						X	X				X											
SL-658-SA6-SB-4.0-5.0	11/26/12 09:15	SO	None	1-4 oz glass	10 day													X																			
SL-658-SA6-SB-4.5	11/26/12 09:20	SO	None	3-Encore	10 day																				X												
SL-659-SA6-SB-3.5-4.5	11/26/12 10:30	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-659-SA6-SB-3.5-4.5	11/26/12 10:30	SO	None	1-4 oz glass	10 day													X																			
SL-659-SA6-SB-4.0	11/26/12 10:35	SO	None	3-Encore	10 day																				X												
SL-647-SA6-SB-3.5-4.5	11/26/12 14:15	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-647-SA6-SB-3.5-4.5	11/26/12 14:15	SO	None	1-4 oz glass	10 day													X																			
SL-647-SA6-SB-4.0	11/26/12 14:20	SO	None	3-Encore	10 day																				X												
SL-676-SA6-SB-3.5-4.5	11/26/12 13:00	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-676-SA6-SB-3.5-4.5	11/26/12 13:00	SO	None	1-4 oz glass	10 day													X																			
SL-676-SA6-SB-4.0	11/26/12 13:05	SO	None	3-Encore	10 day																				X												
SL-648-SA6-SB-6.5-7.5	11/26/12 15:00	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-648-SA6-SB-6.5-7.5	11/26/12 15:00	SO	None	1-4 oz glass	10 day													X																			
SL-648-SA6-SB-7.0	11/26/12 15:05	SO	None	3-Encore	10 day																				X												

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/26/12	1545		11/27/12	0930						

COC Rev 2

SAMPLE DELIVERY GROUP

280-36311-1

J36311

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/27/2012
CarrierName: FedEx
AirbillNo: 794161841396

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

2.2
IR 11/28/12

COC No: 20121127-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7199/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-112712	11/27/12 08:00	WQ	HCl	2 - 40 ml Vial	10 day																															
SL-662-SA6-SB-3.5-4.5	11/27/12 08:55	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X										X		X									
SL-662-SA6-SB-3.5-4.5	11/27/12 08:55	SO	None	1 - 4 oz glass	10 day													X																		
SL-662-SA6-SB-4.0	11/27/12 09:00	SO	None	3 - Encore	10 day																				X											
SL-661-SA6-SB-3.0	11/27/12 09:45	SO	None	3 - Encore	10 day																				X											
SL-661-SA6-SB-2.5-3.5	11/27/12 09:50	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X												X									
SL-661-SA6-SB-2.5-3.5	11/27/12 09:40	SO	None	1 - 4 oz glass	10 day													X																		
SL-677A-SA6-SB-0.0-0.5	11/27/12 10:25	SO	None	1 - SS-Sleeve	10 day										X																					
SL-677B-SA6-SB-0.0-0.5	11/27/12 10:30	SO	None	1 - SS-Sleeve	10 day										X																					
SL-677C-SA6-SB-0.0-0.5	11/27/12 10:35	SO	None	1 - SS-Sleeve	10 day										X																					
SL-650-SA6-SB-2.0-3.0	11/27/12 14:15	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X						X	X					X									
SL-650-SA6-SB-2.0-3.0	11/27/12 14:15	SO	None	1 - 4 oz glass	10 day													X																		
SL-650-SA6-SB-2.5	11/27/12 14:20	SO	None	3 - Encore	10 day																				X											
SL-651-SA6-SB-0.0-0.5	11/27/12 13:00	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X												X									
SL-651-SA6-SB-0.0-0.5	11/27/12 13:00	SO	None	1 - 4 oz glass	10 day													X																		
SL-652-SA6-SB-0.0-0.5	11/27/12 14:55	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X							X	X				X									
SL-652-SA6-SB-0.0-0.5	11/27/12 14:55	SO	None	1 - 4 oz glass	10 day													X																		
SL-652-SA6-SB-3.5-4.5	11/27/12 15:10	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X							X	X				X									
SL-652-SA6-SB-3.5-4.5	11/27/12 15:10	SO	None	1 - 4 oz glass	10 day													X																		
SL-652-SA6-SB-4.0	11/27/12 15:20	SO	None	3 - Encore	10 day																				X											

J36311

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/27/2012
CarrierName: FedEx
AirbillNo: 794161841396

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121127-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.0	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-ETH 8015	Glycols 8015	Alcohols 8015	Tetrahedrite 8015	Nitrates 300.0/9056	Explosives 8330	Cyanides 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/27/2012	1600		11/28/12	0930						

Page 2960 (of) 2962

COC Rev 2

COC: 20121127-01, Page 2 of 2

SAMPLE DELIVERY GROUP

280-36311-2

J36311

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/27/2012
CarrierName: FedEx
AirbillNo: 794161841396

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

2.2 IR 11/28/12

COC No: 20121127-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Tetrahenils 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxamatin	Methyl Mercury 1630	Other Analysis/Notes
TB-112712	11/27/12 08:00	WQ	HCl	2-40 mL Vial	10 day																				X												
SL-662-SA6-SB-3.5-4.5	11/27/12 08:55	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-662-SA6-SB-3.5-4.5	11/27/12 08:55	SO	None	1-4 oz glass	10 day													X																			
SL-662-SA6-SB-4.0	11/27/12 09:00	SO	None	3-Encore	10 day																				X												
SL-661-SA6-SB-3.0	11/27/12 09:45	SO	None	3-Encore	10 day																				X												
SL-661-SA6-SB-2.5-3.5	11/27/12 09:40	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-661-SA6-SB-2.5-3.5	11/27/12 09:40	SO	None	1-4 oz glass	10 day													X																			
SL-677A-SA6-SB-0.0-0.5	11/27/12 10:25	SO	None	1-SS-Sleeve	10 day										X																						
SL-677B-SA6-SB-0.0-0.5	11/27/12 10:30	SO	None	1-SS-Sleeve	10 day										X																						
SL-677C-SA6-SB-0.0-0.5	11/27/12 10:35	SO	None	1-SS-Sleeve	10 day										X																						
SL-650-SA6-SB-2.0-3.0	11/27/12 14:15	SO	None	2-16 oz glass	10 day	X	X					X		X	X							X	X			X											
SL-650-SA6-SB-2.0-3.0	11/27/12 14:15	SO	None	1-4 oz glass	10 day													X																			
SL-650-SA6-SB-2.5	11/27/12 14:20	SO	None	3-Encore	10 day																				X												
SL-651-SA6-SB-0.0-0.5	11/27/12 13:00	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-651-SA6-SB-0.0-0.5	11/27/12 13:00	SO	None	1-4 oz glass	10 day													X																			
SL-652-SA6-SB-0.0-0.5	11/27/12 14:55	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X							X	X			X											
SL-652-SA6-SB-0.0-0.5	11/27/12 14:55	SO	None	1-4 oz glass	10 day													X																			
SL-652-SA6-SB-3.5-4.5	11/27/12 15:10	SO	None	2-16 oz glass	10 day	X	X					X		X	X							X	X			X											
SL-652-SA6-SB-3.5-4.5	11/27/12 15:10	SO	None	1-4 oz glass	10 day													X																			
SL-652-SA6-SB-4.0	11/27/12 15:20	SO	None	3-Encore	10 day																				X												

J36311

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/27/2012
CarrierName: FedEx
AirbillNo: 794161841396

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121127-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	DIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.0	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Mark Peters	11/27/2012	1100	M Wheeler	11/28/12	0920						

Page 2960 of 2962

COC Rev 2

COC: 20121127-01, Page 2 of 2

SAMPLE DELIVERY GROUP

280-36365-1

J36365

5.4 lbs 11/29/12 FP

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/28/2012
CarrierName: FedEx
AirbillNo: 794169814989

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121128-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Tetrabrids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-112812	11/28/12 08:00	WQ	HCl	2-40 mL Vial	10 day																															
SL-506-SA6-SB-0.0-0.5-RS	11/28/12 08:20	SO	None	1-SS-Sleeve	10 day									X											X											
SL-507-SA6-SB-3.0-4.0MS	11/28/12 09:10	SO	None	6-16 oz glass	10 day	X	X					X		X	X										X											MS/MSD
SL-507-SA6-SB-3.0-4.0MS	11/28/12 09:10	SO	None	1-8 oz glass	10 day													X																		MS/MSD
SL-907-SA6-SB-3.0-4.0	11/28/12 09:20	SO	None	2-16 oz glass	10 day	X	X					X		X	X										X											
SL-907-SA6-SB-3.0-4.0	11/28/12 09:20	SO	None	1-4 oz glass	10 day													X																		
SL-507-SA6-SB-3.5MS	11/28/12 09:15	SO	None	9-Encore	10 day																				X											MS/MSD
SL-907-SA6-SB-3.5	11/28/12 09:25	SO	None	3-Encore	10 day																				X											
SL-522-SA6-SB-4.0-5.0	11/28/12 10:30	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X										
SL-522-SA6-SB-4.0-5.0	11/28/12 10:30	SO	None	1-4 oz glass	10 day													X																		
SL-522-SA6-SB-4.5	11/28/12 10:35	SO	None	3-Encore	10 day																				X											
SL-513-SA6-SB-4.0-5.0	11/28/12 13:30	SO	None	1-4 oz glass	10 day													X																		
SL-513-SA6-SB-4.0-5.0	11/28/12 13:30	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X										
SL-513-SA6-SB-4.5	11/28/12 13:35	SO	None	3-Encore	10 day																				X											
SL-511-SA6-SB-2.5-3.5	11/28/12 12:50	SO	None	1-4 oz glass	10 day													X																		
SL-511-SA6-SB-2.5-3.5	11/28/12 12:50	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X										
SL-511-SA6-SB-3.0	11/28/12 12:55	SO	None	3-Encore	10 day																				X											
SL-517-SA6-SB-2.0-3.0	11/28/12 14:25	SO	None	2-16 oz glass	10 day	X	X					X		X	X		X									X										
SL-517-SA6-SB-2.0-3.0	11/28/12 14:25	SO	None	1-4 oz glass	10 day													X																		
SL-517-SA6-SB-2.5	11/28/12 14:30	SO	None	3-Encore	10 day																				X											
SL-517-SA6-SB-0.0-0.5	11/28/12 14:10	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X		X									X										
SL-517-SA6-SB-0.0-0.5	11/28/12 14:10	SO	None	1-4 oz glass	10 day													X																		

12/13/2012

J36365

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/28/2012
CarrierName: FedEx
AirbillNo: 794169814989

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121128-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	HBK Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Bromide 9056	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxygenates	Methyl Mercury 1630	Other Analysis/Notes
Special Instructions:																																				Sampler: Mark Peterson
Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time																										
Mark Peterson	11/28/2012	1600	[illegible]	11/29/12	0930																																

Page 2187 of 2191

12/13/2012

COC Rev 2

SAMPLE DELIVERY GROUP

280-36365-2

J36365

5.4 lbs 11/29/12 FP

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/28/2012
CarrierName: FedEx
AirbillNo: 794169814989

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121128-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	1,4 Dioxane 8260 SIM	VOCs 8260	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Tetrahydrofuran 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Chromatin	Methyl Mercury 1630	Other Analysis/Notes
TB-112812	11/28/12 08:00	WQ	HCl	2-40 mL Vial	10 day																				X											
SL-506-SA6-SB-0.0-0.5-RS	11/28/12 08:20	SO	None	1-SS-Sleeve	10 day										X											X											
SL-507-SA6-SB-3.0-4.0MS	11/28/12 09:10	SO	None	6-16 oz glass	10 day	X	X					X			X	X										X										MS/MSD
SL-507-SA6-SB-3.0-4.0MS	11/28/12 09:10	SO	None	1-8 oz glass	10 day													X																		MS/MSD
SL-907-SA6-SB-3.0-4.0	11/28/12 09:20	SO	None	2-16 oz glass	10 day	X	X					X			X	X										X										
SL-907-SA6-SB-3.0-4.0	11/28/12 09:20	SO	None	1-4 oz glass	10 day													X																		
SL-507-SA6-SB-3.5MS	11/28/12 09:15	SO	None	9-Encore	10 day																				X											MS/MSD
SL-907-SA6-SB-3.5	11/28/12 09:25	SO	None	3-Encore	10 day																				X											
SL-522-SA6-SB-4.0-5.0	11/28/12 10:30	SO	None	2-16 oz glass	10 day	X	X					X			X	X										X										
SL-522-SA6-SB-4.0-5.0	11/28/12 10:30	SO	None	1-4 oz glass	10 day													X																		
SL-522-SA6-SB-4.5	11/28/12 10:35	SO	None	3-Encore	10 day																				X											
SL-513-SA6-SB-4.0-5.0	11/28/12 13:30	SO	None	1-4 oz glass	10 day													X																		
SL-513-SA6-SB-4.0-5.0	11/28/12 13:30	SO	None	2-16 oz glass	10 day	X	X					X			X	X										X										
SL-513-SA6-SB-4.5	11/28/12 13:35	SO	None	3-Encore	10 day																				X											
SL-511-SA6-SB-2.5-3.5	11/28/12 12:50	SO	None	1-4 oz glass	10 day													X																		
SL-511-SA6-SB-2.5-3.5	11/28/12 12:50	SO	None	2-16 oz glass	10 day	X	X					X			X	X										X										
SL-511-SA6-SB-3.0	11/28/12 12:55	SO	None	3-Encore	10 day																				X											
SL-517-SA6-SB-2.0-3.0	11/28/12 14:25	SO	None	2-16 oz glass	10 day	X	X					X			X	X		X								X										
SL-517-SA6-SB-2.0-3.0	11/28/12 14:25	SO	None	1-4 oz glass	10 day														X																		
SL-517-SA6-SB-2.5	11/28/12 14:30	SO	None	3-Encore	10 day																				X											
SL-517-SA6-SB-0.0-0.5	11/28/12 14:10	SO	None	2-SS-Sleeve	10 day	X	X					X			X	X		X								X										
SL-517-SA6-SB-0.0-0.5	11/28/12 14:10	SO	None	1-4 oz glass	10 day														X																		

12/13/2012

COC Rev 2

1 of 2

J36365

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/28/2012

CarrierName: FedEx

AirbillNo: 794169814989

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121128-01

Cooler #: 1,2

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	Hex Cr 7196/7199	pH 9040 (Water)	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Silvex 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Cleanolin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/28/2012	1600		11/29/12	0930						

Page 2187 of 2191

12/13/2012

COC Rev 2

COC 20121128-01, Page 2 of 2

SAMPLE DELIVERY GROUP

280-36428-1

J36428

4.0°C

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/29/2012
CarrierName: FedEx
AirbillNo: 794180443224

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121129-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	1,2,1-EFH 8015	Glycol 8015	Alcohols 8015	Tetrahydrofuran 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-561-SA6-SB-0.0-0.5	11/29/12 13:15	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X												X										
SL-561-SA6-SB-0.0-0.5	11/29/12 13:15	SO	None	1 - 4 oz glass	10 day													X																			
SL-561-SA6-SB-3.5-4.5	11/29/12 13:40	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X												X										
SL-561-SA6-SB-3.5-4.5	11/29/12 13:40	SO	None	1 - 4 oz glass	10 day													X																			
SL-561-SA6-SB-4.0	11/29/12 13:45	SO	None	3 - Encore	10 day																				X											
SL-580-SA6-SB-0.0-0.5	11/29/12 12:50	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X												X										
SL-580-SA6-SB-0.0-0.5	11/29/12 12:50	SO	None	1 - 4 oz glass	10 day													X																			
TB-112912	11/29/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X											
SL-565-SA6-SB-0.0-0.5	11/29/12 09:15	SO	None	1 - SS-Sleeve	10 day									X																						
SL-565-SA6-SB-0.0-0.5	11/29/12 09:15	SO	None	1 - 4 oz glass	10 day									X																						
SL-579-SA6-SB-0.0-0.5	11/29/12 08:15	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X												X										
SL-579-SA6-SB-0.0-0.5	11/29/12 08:15	SO	None	1 - 4 oz glass	10 day													X																			
SL-579-SA6-SB-2.0-3.0	11/29/12 08:30	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X												X										
SL-579-SA6-SB-2.0-3.0	11/29/12 08:30	SO	None	1 - 4 oz glass	10 day													X																			
SL-579-SA6-SB-2.5	11/29/12 08:35	SO	None	3 - Encore	10 day																				X											
SL-586-SA6-SB-0.0-0.5	11/29/12 09:45	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X						X	X					X										
SL-586-SA6-SB-0.0-0.5	11/29/12 09:45	SO	None	1 - 4 oz glass	10 day													X																			
SL-986-SA6-SB-3.5-4.5	11/29/12 10:15	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X						X	X					X										
SL-986-SA6-SB-3.5-4.5	11/29/12 10:15	SO	None	1 - 4 oz glass	10 day													X																			
SL-986-SA6-SB-4.0	11/29/12 10:20	SO	None	3 - Encore	10 day																				X											
SL-586-SA6-SB-3.5-4.5MS	11/29/12 10:00	SO	None	6 - 16 oz glass	10 day	X	X					X		X	X						X	X					X										MS/MSD
SL-586-SA6-SB-3.5-4.5MS	11/29/12 10:00	SO	None	3 - 4 oz glass	10 day													X																			MS/MSD
SL-586-SA6-SB-4.0MS	11/29/12 10:05	SO	None	9 - Encore	10 day																				X												MS/MSD

J36428

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/29/2012
CarrierName: FedEx
AirbillNo: 794180443224

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121129-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/8880	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenoids 8035	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Matt Peterson

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/29/2012	1600		11/30/12	0930						

Page 5984 of 5989

COC Rev 2

COC 20121129-01, Page 2 of 2

J36428

5.6 [illegible] FP 11/30/12

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 11/29/2012

CarrierName: FedEx

AirbillNo: 794184952412

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121129-04

Cooler #: 1

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-578-SA6-SB-0.0-0.5	11/29/12 14:20	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-578-SA6-SB-0.0-0.5	11/29/12 14:20	SO	None	1 - 4 oz glass	10 day													X																			
SL-577-SA6-SB-0.0-0.5	11/29/12 14:55	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-577-SA6-SB-0.0-0.5	11/29/12 14:55	SO	None	1 - 4 oz glass	10 day													X																			

Special Instructions:

Sampler: Mark Peterson

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	11/29/12	1600	[illegible]	11/30/12	0930						

COC Rev 2

COC 20121129-04, Page 1 of 1

Page 5685 of 5689

SAMPLE DELIVERY GROUP

280-36428-2

J36428

4.0°C
+ Pam 11-29-12

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/29/2012
CarrierName: FedEx
AirbillNo: 794180443224

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121129-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Diesel 1618	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Dioxin 8290	Methyl Mercury 1630	Other Analysis/Notes
SL-561-SA6-SB-0.0-0.5	11/29/12 13:15	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-561-SA6-SB-0.0-0.5	11/29/12 13:15	SO	None	1 - 4 oz glass	10 day													X																			
SL-561-SA6-SB-3.5-4.5	11/29/12 13:40	SO	None	2 - 16 oz glass	10 day	X	X					X			X	X										X											
SL-561-SA6-SB-3.5-4.5	11/29/12 13:40	SO	None	1 - 4 oz glass	10 day													X																			
SL-561-SA6-SB-4.0	11/29/12 13:45	SO	None	3 - Encore	10 day																				X											
SL-580-SA6-SB-0.0-0.5	11/29/12 12:50	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-580-SA6-SB-0.0-0.5	11/29/12 12:50	SO	None	1 - 4 oz glass	10 day													X																			
TB-112912	11/29/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X											
SL-565-SA6-SB-0.0-0.5	11/29/12 09:15	SO	None	1 - SS-Sleeve	10 day										X																					
SL-565-SA6-SB-0.0-0.5	11/29/12 09:15	SO	None	1 - 4 oz glass	10 day										X																					
SL-579-SA6-SB-0.0-0.5	11/29/12 08:15	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-579-SA6-SB-0.0-0.5	11/29/12 08:15	SO	None	1 - 4 oz glass	10 day													X																			
SL-579-SA6-SB-2.0-3.0	11/29/12 08:30	SO	None	2 - 16 oz glass	10 day	X	X					X			X	X										X											
SL-579-SA6-SB-2.0-3.0	11/29/12 08:30	SO	None	1 - 4 oz glass	10 day													X																			
SL-579-SA6-SB-2.5	11/29/12 08:35	SO	None	3 - Encore	10 day																				X											
SL-586-SA6-SB-0.0-0.5	11/29/12 09:45	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X					X	X				X											
SL-586-SA6-SB-0.0-0.5	11/29/12 09:45	SO	None	1 - 4 oz glass	10 day													X																			
SL-986-SA6-SB-3.5-4.5	11/29/12 10:15	SO	None	2 - 16 oz glass	10 day	X	X					X			X	X					X	X				X											
SL-986-SA6-SB-3.5-4.5	11/29/12 10:15	SO	None	1 - 4 oz glass	10 day													X																			
SL-986-SA6-SB-4.0	11/29/12 10:20	SO	None	3 - Encore	10 day																				X											
SL-586-SA6-SB-3.5-4.5MS	11/29/12 10:00	SO	None	6 - 16 oz glass	10 day	X	X					X			X	X					X	X				X											MS/MSD
SL-586-SA6-SB-3.5-4.5MS	11/29/12 10:00	SO	None	3 - 4 oz glass	10 day													X																			MS/MSD
SL-586-SA6-SB-4.0MS	11/29/12 10:05	SO	None	9 - Encore	10 day																				X												MS/MSD

J36428

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/29/2012
CarrierName: FedEx
AirbillNo: 794180443224

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121129-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4-Dioxane 8270 SIM	Dioxins 1613	Perchlorate 314.0/331	PCBs/PCBs 8082	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7198	Halkitides 8151	Pesticides 8081	VOCs 8260	1,4-Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Tetrahenyle 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxamatin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peterson

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	11/29/2012	1600		11/30/12	0930						

Page 5684 of 5689

COC Rev 2

COC: 20121129-01, Page 2 of 2

J36428

5.6 lbs FP 11/30/12

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/29/2012
CarrierName: FedEx
AirbillNo: 794184952412

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121129-04
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCB 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Chromium	Methyl Mercury 1630	Other Analysis/Notes
SL-578-SA6-SB-0.0-0.5	11/29/12 14:20	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-578-SA6-SB-0.0-0.5	11/29/12 14:20	SO	None	1 - 4 oz glass	10 day													X																		
SL-577-SA6-SB-0.0-0.5	11/29/12 14:55	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-577-SA6-SB-0.0-0.5	11/29/12 14:55	SO	None	1 - 4 oz glass	10 day													X																		

Special Instructions:

Sampler: Mark Peterson

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	11/29/12	1400	[illegible]	11/30/12	0930						

Page 5685 of 5689

COC Rev 2

COC 20121129-04, Page 1 of 1

SAMPLE DELIVERY GROUP

280-36452-1

J36452

5.0 (3)
FP
12112

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/30/2012
CarrierName: FedEx
AirbillNo: 794190018040

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121130-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	DRO 8015 (Soil)	NH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxygenates	Methyl Mercury 1630	Other Analysis/Notes
TB-113012	11/30/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X											
SL-573-SA6-SB-0.0-0.5	11/30/12 09:15	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-573-SA6-SB-0.0-0.5	11/30/12 09:15	SO	None	1 - 4 oz glass	10 day													X																		
SL-573-SA6-SB-3.0-4.0MS	11/30/12 09:30	SO	None	6 - 16 oz glass	10 day	X	X					X		X	X											X										MS/MSD
SL-573-SA6-SB-3.0-4.0MS	11/30/12 09:30	SO	None	9 - 4 oz glass	10 day													X																		MS/MSD
SL-573-SA6-SB-3.5 MS	11/30/12 09:35	SO	None	9 - Encore	10 day																				X											MS/MSD
SL-973-SA6-SB-3.0-4.0	11/30/12 09:40	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X										
SL-973-SA6-SB-3.0-4.0	11/30/12 09:40	SO	None	1 - 4 oz glass	10 day													X																		
SL-973-SA6-SB-3.5	11/30/12 09:45	SO	None	2 - Encore	10 day																				X											

Page 1990 of 1993

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Jeff Myers	11/30/2012	1200	M Wheeler	12/12	0900						

COC Rev 2

COC 20121130-01, Page 2 of 2

1 of 1

SAMPLE DELIVERY GROUP

280-36452-2

J36452

5.0 (W)
FP
12112

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 11/30/2012
CarrierName: FedEx
AirbillNo: 794190018040

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121130-01
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	Dioxins 1613	PCBs/Pest 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-113012	11/30/12 08:00	WQ	HCl	2-40 mL Vial	10 day																				X												
SL-573-SA6-SB-0.0-0.5	11/30/12 09:15	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-573-SA6-SB-0.0-0.5	11/30/12 09:15	SO	None	1-4 oz glass	10 day													X																			
SL-573-SA6-SB-3.0-4.0MS	11/30/12 09:30	SO	None	6-16 oz glass	10 day	X	X					X		X	X											X											MS/MSD
SL-573-SA6-SB-3.0-4.0MS	11/30/12 09:30	SO	None	3-4 oz glass	10 day													X																			MS/MSD
SL-573-SA6-SB-3.5 MS	11/30/12 09:35	SO	None	9-Encore	10 day																				X												MS/MSD
SL-973-SA6-SB-3.0-4.0	11/30/12 09:40	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-973-SA6-SB-3.0-4.0	11/30/12 09:40	SO	None	1-4 oz glass	10 day													X																			
SL-973-SA6-SB-3.5	11/30/12 09:45	SO	None	3-Encore	10 day																				X												

Page 1990 of 1993

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Jeff Myers	11/30/2012	1200	N Wheeler	12/1/2	0900						

COC Rev 2

COC: 20121130-01, Page 1 of 1

1 of 1

SAMPLE DELIVERY GROUP

280-36535-1

J36535

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/3/2012

CarrierName: FedEx

AirbillNo: 794208688482

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

3.4 IR
12412

COC No: 20121203-01

Cooler #: 1,2

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471A (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Soil)	pH 9045 (Soil)	Hex Cr 7196/7199	pH 9040 (Water)	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Perchlorate 8330	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-571-SA6-SB-0.0-0.5	12/3/12 09:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-571-SA6-SB-0.0-0.5	12/3/12 09:05	SO	None	1-4 oz glass	10 day														X																		
SL-571-SA6-SB-4.0-5.0MS	12/3/12 09:10	SO	None	6-16 oz glass	10 day	X	X					X		X	X											X											MS/MSD
SL-571-SA6-SB-4.0-5.0MS	12/3/12 09:10	SO	None	1-16 oz glass	10 day														X																		MS/MSD
SL-971-SA6-SB-4.0-5.0	12/3/12 09:20	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-571-SA6-SB-4.0-5.0	12/3/12 09:20	SO	None	1-4 oz glass	10 day														X																		
SL-571-SA6-SB-4.5MS	12/3/12 09:09	SO	None	9-Encore	10 day																				X												MS/MSD
SL-971-SA6-SB-4.5	12/3/12 09:19	SO	None	3-Encore	10 day																				X												
SL-572-SA6-SB-0.0-0.5	12/3/12 10:40	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-572-SA6-SB-0.0-0.5	12/3/12 10:40	SO	None	1-4 oz glass	10 day														X																		
SL-572-SA6-SB-2.5-3.5	12/3/12 10:55	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-572-SA6-SB-2.5-3.5	12/3/12 10:55	SO	None	1-4 oz glass	10 day														X																		
SL-572-SA6-SB-3.0	12/3/12 10:54	SO	None	3-Encore	10 day																				X												
TB-120312	12/3/12 08:00	WQ	HCl	2-40 mL Vial	10 day																				X												
SL-672-SA6-SB-4.0-5.0	12/3/12 10:45	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X							X	X			X											
SL-672-SA6-SB-4.0-5.0	12/3/12 10:45	SO	None	1-4 oz glass	10 day														X																		
SL-672-SA6-SB-4.5	12/3/12 10:50	SO	None	3-Encore	10 day																				X												
SL-674-SA6-SB-2.5-3.5	12/3/12 13:45	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X							X	X			X											
SL-674-SA6-SB-2.5-3.5	12/3/12 13:45	SO	None	1-4 oz glass	10 day														X																		
SL-674-SA6-SB-3.0	12/3/12 13:50	SO	None	3-Encore	10 day																				X												
SL-559-SA6-SB-0.0-0.5	12/3/12 14:20	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-559-SA6-SB-0.0-0.5	12/3/12 14:20	SO	None	1-4 oz glass	10 day														X																		
SL-559-SA6-SB-4.0-5.0	12/3/12 14:30	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-559-SA6-SB-4.0-5.0	12/3/12 14:30	SO	None	1-4 oz glass	10 day														X																		
SL-559-SA6-SB-4.5	12/3/12 14:29	SO	None	3-Encore	10 day																				X												
SL-574-SA6-SB-0.0-0.5	12/3/12 13:00	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-574-SA6-SB-0.0-0.5	12/3/12 13:00	SO	None	1-4 oz glass	10 day														X																		
SL-574-SA6-SB-2.5-3.5	12/3/12 13:15	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-574-SA6-SB-2.5-3.5	12/3/12 13:15	SO	None	1-4 oz glass	10 day														X																		
SL-574-SA6-SB-3.0	12/3/12 13:14	SO	None	3-Encore	10 day																				X												

J36535

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/3/2012
CarrierName: FedEx
AirbillNo: 794208688482

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121203-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Tarchonyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-664-SA6-SB-2.0-3.0	12/3/12 15:00	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-664-SA6-SB-2.0-3.0	12/3/12 15:00	SO	None	1 - 4 oz glass	10 day													X																			
SL-664-SA6-SB-2.5	12/3/12 15:05	SO	None	3 - Encore	10 day																				X											

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/03/2012	1600	RWheeler	12/4/2	0900						

COC Rev 2

COC: 20121203-01, Page 2 of 2

SAMPLE DELIVERY GROUP

280-36535-2

J36535

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/3/2012
CarrierName: FedEx
AirbillNo: 794208688482

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

3.4 IR1
12412

COC No: 20121203-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Tetrahydrofuran 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-571-SA6-SB-0.0-0.5	12/3/12 09:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-571-SA6-SB-0.0-0.5	12/3/12 09:05	SO	None	1-4 oz glass	10 day													X																			
SL-571-SA6-SB-4.0-5.0MS	12/3/12 09:10	SO	None	6-16 oz glass	10 day	X	X					X		X	X											X											MS/MSD
SL-571-SA6-SB-4.0-5.0MS	12/3/12 09:10	SO	None	1-16 oz glass	10 day													X																			MS/MSD
SL-971-SA6-SB-4.0-5.0	12/3/12 09:20	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-971-SA6-SB-4.0-5.0	12/3/12 09:20	SO	None	1-4 oz glass	10 day													X																			
SL-571-SA6-SB-4.5MS	12/3/12 09:09	SO	None	3-Encore	10 day																				X											MS/MSD
SL-971-SA6-SB-4.5	12/3/12 09:19	SO	None	3-Encore	10 day																				X											
SL-572-SA6-SB-0.0-0.5	12/3/12 10:40	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-572-SA6-SB-0.0-0.5	12/3/12 10:40	SO	None	1-4 oz glass	10 day													X																			
SL-572-SA6-SB-2.5-3.5	12/3/12 10:55	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-572-SA6-SB-2.5-3.5	12/3/12 10:55	SO	None	1-4 oz glass	10 day													X																			
SL-572-SA6-SB-3.0	12/3/12 10:54	SO	None	3-Encore	10 day																				X											
TB-120312	12/3/12 08:00	WQ	HCl	2-40 mL Vial	10 day																				X											
SL-672-SA6-SB-4.0-5.0	12/3/12 10:45	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X						X	X				X											
SL-672-SA6-SB-4.0-5.0	12/3/12 10:45	SO	None	1-4 oz glass	10 day													X																			
SL-672-SA6-SB-4.5	12/3/12 10:50	SO	None	3-Encore	10 day																				X											
SL-674-SA6-SB-2.5-3.5	12/3/12 13:45	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X						X	X				X											
SL-674-SA6-SB-2.5-3.5	12/3/12 13:45	SO	None	1-4 oz glass	10 day													X																			
SL-674-SA6-SB-3.0	12/3/12 13:50	SO	None	3-Encore	10 day																				X											
SL-559-SA6-SB-0.0-0.5	12/3/12 14:20	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-559-SA6-SB-0.0-0.5	12/3/12 14:20	SO	None	1-4 oz glass	10 day													X																			
SL-559-SA6-SB-4.0-5.0	12/3/12 14:30	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-559-SA6-SB-4.0-5.0	12/3/12 14:30	SO	None	1-4 oz glass	10 day													X																			
SL-559-SA6-SB-4.5	12/3/12 14:29	SO	None	3-Encore	10 day																				X											
SL-574-SA6-SB-0.0-0.5	12/3/12 13:00	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-574-SA6-SB-0.0-0.5	12/3/12 13:00	SO	None	1-4 oz glass	10 day													X																			
SL-574-SA6-SB-2.5-3.5	12/3/12 13:15	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X											
SL-574-SA6-SB-2.5-3.5	12/3/12 13:15	SO	None	1-4 oz glass	10 day													X																			
SL-574-SA6-SB-3.0	12/3/12 13:14	SO	None	3-Encore	10 day																				X											

J36535

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 12/3/2012
CarrierName: FedEx
AirbillNo: 794208688482

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121203-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Tetrachloride 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxyanions	Methyl Mercury 1630	Other Analysis/Notes
SL-664-SA6-SB-2.0-3.0	12/3/12 15:00	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X										X											
SD-664-SA6-SB-2.0-3.0	12/3/12 15:00	SO	None	1 - 4 oz glass	10 day														X																		
SL-664-SA6-SB-2.5	12/3/12 15:05	SO	None	3 - Encore	10 day																			X													

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/03/2012	1600	V Wheeler	12/4/2	0900						

COC Rev 2

SAMPLE DELIVERY GROUP

280-36589-1

J36589

4.4 5.10 FP 12SR

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/4/2012
CarrierName: FedEx
AirbillNo: 794219854432

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121204-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Dioxin	Methyl Mercury 1630	Other Analysis/Notes
TB120412	12/4/12 08:00	WQ	HCl	2-40 mL Vial	10 day																				X											
SL-529-SA6-SB-0.0-0.5	12/4/12 09:45	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-529-SA6-SB-0.0-0.5	12/4/12 09:45	SO	None	1-4 oz glass	10 day														X																	
SL-531-SA6-SB-0.0-0.5	12/4/12 08:10	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-531-SA6-SB-0.0-0.5	12/4/12 08:10	SO	None	1-4 oz glass	10 day														X																	
SL-532-SA6-SB-0.0-0.5	12/4/12 07:45	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-532-SA6-SB-0.0-0.5	12/4/12 07:45	SO	None	1-4 oz glass	10 day														X																	
SL-533-SA6-SB-0.0-0.5	12/4/12 08:40	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-533-SA6-SB-0.0-0.5	12/4/12 08:40	SO	None	1-4 oz glass	10 day														X																	
SL-534-SA6-SB-0.0-0.5	12/4/12 09:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-534-SA6-SB-0.0-0.5	12/4/12 09:05	SO	None	1-4 oz glass	10 day														X																	
SL-534-SA6-SB-3.0-4.0	12/4/12 09:15	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-534-SA6-SB-3.0-4.0	12/4/12 09:15	SO	None	1-4 oz glass	10 day														X																	
SL-534-SA6-SB-3.5	12/4/12 09:14	SO	None	3-Encore	10 day																				X											
SL-626-SA6-SB-0.0-0.5	12/4/12 07:50	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X						X	X				X										
SL-626-SA6-SB-0.0-0.5	12/4/12 07:50	SO	None	1-4 oz glass	10 day														X																	
SL-627-SA6-SB-0.0-0.5	12/4/12 08:30	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-627-SA6-SB-0.0-0.5	12/4/12 08:30	SO	None	1-4 oz glass	10 day														X																	
SL-627-SA6-SB-1.0-2.0	12/4/12 08:55	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-627-SA6-SB-1.0-2.0	12/4/12 08:55	SO	None	1-4 oz glass	10 day														X																	
SL-627-SA6-SB-1.5	12/4/12 09:00	SO	None	3-Encore	10 day																				X											
SL-628-SA6-SB-0.0-0.5	12/4/12 11:00	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X							X	X			X										
SL-628-SA6-SB-0.0-0.5	12/4/12 11:00	SO	None	1-4 oz glass	10 day														X																	
SL-628-SA6-SB-4.0-5.0	12/4/12 11:20	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X							X	X			X										
SL-628-SA6-SB-4.0-5.0	12/4/12 11:20	SO	None	1-4 oz glass	10 day														X																	
SL-628-SA6-SB-4.5	12/4/12 11:25	SO	None	3-Encore	10 day																				X											
SL-631-SA6-SB-0.0-0.5	12/4/12 10:20	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-631-SA6-SB-0.0-0.5	12/4/12 10:20	SO	None	1-4 oz glass	10 day														X																	
SL-632-SA6-SB-0.0-0.5	12/4/12 09:55	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X							X	X			X										
SL-632-SA6-SB-0.0-0.5	12/4/12 09:55	SO	None	1-4 oz glass	10 day														X																	

J36589

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/4/2012
CarrierName: FedEx
AirbillNo: 794219854432

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121204-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Diofrin 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Tetrahydro 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxamotin	Methyl Mercury 1630	Other Analysis/Notes
SL-629-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-629-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	1-4 oz glass	10 day													X																		
SL-629-SA6-SB-2.5-3.5	12/4/12 14:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-629-SA6-SB-2.5-3.5	12/4/12 14:05	SO	None	1-4 oz glass	10 day													X																		
SL-629-SA6-SB-3.0	12/4/12 14:10	SO	None	3-Encore	10 day																				X											
SL-630-SA6-SB-0.0-0.5	12/4/12 14:25	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X						X	X				X										
SL-630-SA6-SB-0.0-0.5	12/4/12 14:25	SO	None	1-4 oz glass	10 day													X																		
SL-536-SA5B-SB-0.0-0.5	7/17/12 09:20	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-536-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	1-4 oz glass	10 day													X																		
SL-546-SA6-SB-0.0-0.5	12/4/12 14:10	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X								X		
SL-546-SA6-SB-0.0-0.5	12/4/12 14:10	SO	None	2-4 oz glass	10 day													X		X																
SL-546-SA6-SB-6.5-7.5	12/4/12 14:35	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X								X		
SL-546-SA6-SB-6.5-7.5	12/4/12 14:35	SO	None	2-4 oz glass	10 day													X		X																
SL-546-SA6-SB-7.0	12/4/12 14:34	SO	None	3-Encore	10 day																				X											
SL-549-SA6-SB-0.0-0.5	12/4/12 12:55	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-549-SA6-SB-0.0-0.5	12/4/12 12:55	SO	None	1-4 oz glass	10 day													X																		

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Sue Mapel	12/4/2012	1600		12/5/12	1000						

COC Rev 2

J36589

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/4/2012
CarrierName: FedEx
AirbillNo: 794219854432

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121204-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil) Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-120412	12/4/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																			X												
SL-529-SA6-SB-0.0-0.5	12/4/12 09:45	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X											X												
SL-529-SA6-SB-0.0-0.5	12/4/12 09:45	SO	None	1 - 4 oz glass	10 day												X																			
SL-531-SA6-SB-0.0-0.5	12/4/12 08:10	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X											X												
SL-531-SA6-SB-0.0-0.5	12/4/12 08:10	SO	None	1 - 4 oz glass	10 day												X																			
SL-532-SA6-SB-0.0-0.5	12/4/12 07:45	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X											X												
SL-532-SA6-SB-0.0-0.5	12/4/12 07:45	SO	None	1 - 4 oz glass	10 day												X																			
SL-533-SA6-SB-0.0-0.5	12/4/12 08:40	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X											X												
SL-533-SA6-SB-0.0-0.5	12/4/12 08:40	SO	None	1 - 4 oz glass	10 day												X																			
SL-534-SA6-SB-0.0-0.5	12/4/12 09:05	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X											X												
SL-534-SA6-SB-0.0-0.5	12/4/12 09:05	SO	None	1 - 4 oz glass	10 day												X																			
SL-534-SA6-SB-3.0-4.0	12/4/12 09:15	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X											X												
SL-534-SA6-SB-3.0-4.0	12/4/12 09:15	SO	None	1 - 4 oz glass	10 day												X																			
SL-534-SA6-SB-3.5	12/4/12 09:14	SO	None	3 - Encore	10 day																			X												
SL-626-SA6-SB-0.0-0.5	12/4/12 07:50	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X								X	X		X												
SL-626-SA6-SB-0.0-0.5	12/4/12 07:50	SO	None	1 - 4 oz glass	10 day												X																			
SL-627-SA6-SB-0.0-0.5	12/4/12 08:30	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X											X												
SL-627-SA6-SB-0.0-0.5	12/4/12 08:30	SO	None	1 - 4 oz glass	10 day												X																			
SL-627-SA6-SB-1.0-2.0	12/4/12 08:55	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X											X												
SL-627-SA6-SB-1.0-2.0	12/4/12 08:55	SO	None	1 - 4 oz glass	10 day												X																			
SL-627-SA6-SB-1.5	12/4/12 09:00	SO	None	3 - Encore	10 day																			X												
SL-628-SA6-SB-0.0-0.5	12/4/12 11:00	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X								X	X		X												
SL-628-SA6-SB-0.0-0.5	12/4/12 11:00	SO	None	1 - 4 oz glass	10 day												X																			
SL-628-SA6-SB-4.0-5.0	12/4/12 11:20	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X								X	X		X												
SL-628-SA6-SB-4.0-5.0	12/4/12 11:20	SO	None	1 - 4 oz glass	10 day												X																			
SL-628-SA6-SB-4.5	12/4/12 11:25	SO	None	3 - Encore	10 day																			X												
SL-631-SA6-SB-0.0-0.5	12/4/12 10:20	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X											X												
SL-631-SA6-SB-0.0-0.5	12/4/12 10:20	SO	None	1 - 4 oz glass	10 day												X																			
SL-632-SA6-SB-0.0-0.5	12/4/12 09:55	SO	None	2 - SS-Sleeve	10 day	X	X				X		X	X								X	X		X												
SL-632-SA6-SB-0.0-0.5	12/4/12 09:55	SO	None	1 - 4 oz glass	10 day												X																			

J36589

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/4/2012
CarrierName: FedEx
AirbillNo: 794219854432

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121204-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-629-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X											
SL-629-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	1 - 4 oz glass	10 day														X																	
SL-629-SA6-SB-2.5-3.5	12/4/12 14:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X											
SL-629-SA6-SB-2.5-3.5	12/4/12 14:05	SO	None	1 - 4 oz glass	10 day														X																	
SL-629-SA6-SB-3.0	12/4/12 14:10	SO	None	3 - Encore	10 day																			X												
SL-630-SA6-SB-0.0-0.5	12/4/12 14:25	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X						X	X			X											
SL-630-SA6-SB-0.0-0.5	12/4/12 14:25	SO	None	1 - 4 oz glass	10 day														X																	
SL-536-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X											
SL-536-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	1 - 4 oz glass	10 day														X																	
SL-546-SA6-SB-0.0-0.5	12/4/12 14:10	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X							X				
SL-546-SA6-SB-0.0-0.5	12/4/12 14:10	SO	None	2 - 4 oz glass	10 day														X	X																
SL-546-SA6-SB-6.5-7.5	12/4/12 14:35	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X										X								X			
SL-546-SA6-SB-6.5-7.5	12/4/12 14:35	SO	None	2 - 4 oz glass	10 day														X	X																
SL-546-SA6-SB-7.0	12/4/12 14:34	SO	None	3 - Encore	10 day																			X												
SL-549-SA6-SB-0.0-0.5	12/4/12 12:55	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X										X											
SL-549-SA6-SB-0.0-0.5	12/4/12 12:55	SO	None	1 - 4 oz glass	10 day														X																	

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time

COC Rev 2

SAMPLE DELIVERY GROUP

280-36589-2

J36589

4.4 5.10 FP 125 N

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/4/2012
CarrierName: FedEx
AirbillNo: 794219854432

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121204-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	Hex Cr 7196/7199	pH 9040 (Water)	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Tetrazolium 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Ammonia	Methyl Mercury 1630	Other Analysis/Notes
TB120412	12/4/12 08:00	WQ	HCl	2-40 mL Vial	10 day																			X												
SD529-SA6-SB-0.0-0.5	12/4/12 09:45	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X										X											
SL-529-SA6-SB-0.0-0.5	12/4/12 09:45	SO	None	1-4 oz glass	10 day													X																		
SB531-SA6-SB-0.0-0.5	12/4/12 08:10	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X										X											
SL531-SA6-SB-0.0-0.5	12/4/12 08:10	SO	None	1-4 oz glass	10 day													X																		
SL-532-SA6-SB-0.0-0.5	12/4/12 07:45	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X										X											
SB532-SA6-SB-0.0-0.5	12/4/12 07:45	SO	None	1-4 oz glass	10 day													X																		
SL533-SA6-SB-0.0-0.5	12/4/12 08:40	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X										X											
SL533-SA6-SB-0.0-0.5	12/4/12 08:40	SO	None	1-4 oz glass	10 day													X																		
SL-534-SA6-SB-0.0-0.5	12/4/12 09:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X										X											
SL-534-SA6-SB-0.0-0.5	12/4/12 09:05	SO	None	1-4 oz glass	10 day													X																		
SL-534-SA6-SB-3.0-4.0	12/4/12 09:15	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X										X											
SL-534-SA6-SB-3.0-4.0	12/4/12 09:15	SO	None	1-4 oz glass	10 day													X																		
SL-534-SA6-SB-3.5	12/4/12 09:14	SO	None	3-Encore	10 day																			X												
SL-626-SA6-SB-0.0-0.5	12/4/12 07:50	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X						X	X			X											
SL-626-SA6-SB-0.0-0.5	12/4/12 07:50	SO	None	1-4 oz glass	10 day													X																		
SL-627-SA6-SB-0.0-0.5	12/4/12 08:30	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X										X											
SL-627-SA6-SB-0.0-0.5	12/4/12 08:30	SO	None	1-4 oz glass	10 day													X																		
SL-627-SA6-SB-1.0-2.0	12/4/12 08:55	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X										X											
SL-627-SA6-SB-1.0-2.0	12/4/12 08:55	SO	None	1-4 oz glass	10 day													X																		
SL-627-SA6-SB-1.5	12/4/12 09:00	SO	None	3-Encore	10 day																			X												
SL-628-SA6-SB-0.0-0.5	12/4/12 11:00	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X						X	X			X											
SL-628-SA6-SB-0.0-0.5	12/4/12 11:00	SO	None	1-4 oz glass	10 day													X																		
SL-628-SA6-SB-4.0-5.0	12/4/12 11:20	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X							X	X		X											
SL-628-SA6-SB-4.0-5.0	12/4/12 11:20	SO	None	1-4 oz glass	10 day													X																		
SL-628-SA6-SB-4.5	12/4/12 11:25	SO	None	3-Encore	10 day																			X												
SL-631-SA6-SB-0.0-0.5	12/4/12 10:20	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X										X											
SL-631-SA6-SB-0.0-0.5	12/4/12 10:20	SO	None	1-4 oz glass	10 day													X																		
SL-632-SA6-SB-0.0-0.5	12/4/12 09:55	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X							X	X		X											
SL-632-SA6-SB-0.0-0.5	12/4/12 09:55	SO	None	1-4 oz glass	10 day													X																		

J36589

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/4/2012
CarrierName: FedEx
AirbillNo: 794219854432

Contact Name: Pam Hartman
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COC No: 20121204-01
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Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Tert-butyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Chromatin	Methyl Mercury 1630	Other Analysis/Notes
SL-629-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-629-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	1-4 oz glass	10 day													X																			
SL-629-SA6-SB-2.5-3.5	12/4/12 14:05	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-629-SA6-SB-2.5-3.5	12/4/12 14:05	SO	None	1-4 oz glass	10 day													X																			
SL-629-SA6-SB-3.0	12/4/12 14:10	SO	None	3+Encore	10 day																				X											
SL-630-SA6-SB-0.0-0.5	12/4/12 14:25	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X						X	X				X											
SL-630-SA6-SB-0.0-0.5	12/4/12 14:25	SO	None	1-4 oz glass	10 day													X																			
SL-536-SA5B-SB-0.0-0.5	7/17/12 09:20	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-536-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	1-4 oz glass	10 day													X																			
SL-546-SA6-SB-0.0-0.5	12/4/12 14:10	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X							X				
SL-546-SA6-SB-0.0-0.5	12/4/12 14:10	SO	None	2-4 oz glass	10 day													X		X																	
SL-546-SA6-SB-6.5-7.5	12/4/12 14:35	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X							X				
SL-546-SA6-SB-6.5-7.5	12/4/12 14:35	SO	None	2-4 oz glass	10 day													X		X																	
SL-546-SA6-SB-7.0	12/4/12 14:34	SO	None	3-Encore	10 day																				X											
SL-549-SA6-SB-0.0-0.5	12/4/12 12:55	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X											
SL-549-SA6-SB-0.0-0.5	12/4/12 12:55	SO	None	1-4 oz glass	10 day													X																			

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Sue Mapel	12/04/2012	1600		12/5/12	1000						

COC Rev 2

J36589

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/4/2012
CarrierName: FedEx
AirbillNo: 794219854432

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121204-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-120412	12/4/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																			X												
SL-529-SA6-SB-0.0-0.5	12/4/12 09:45	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X									X											
SL-529-SA6-SB-0.0-0.5	12/4/12 09:45	SO	None	1 - 4 oz glass	10 day													X																		
SL-531-SA6-SB-0.0-0.5	12/4/12 08:10	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X									X											
SL-531-SA6-SB-0.0-0.5	12/4/12 08:10	SO	None	1 - 4 oz glass	10 day													X																		
SL-532-SA6-SB-0.0-0.5	12/4/12 07:45	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X									X											
SL-532-SA6-SB-0.0-0.5	12/4/12 07:45	SO	None	1 - 4 oz glass	10 day													X																		
SL-533-SA6-SB-0.0-0.5	12/4/12 08:40	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X									X											
SL-533-SA6-SB-0.0-0.5	12/4/12 08:40	SO	None	1 - 4 oz glass	10 day													X																		
SL-534-SA6-SB-0.0-0.5	12/4/12 09:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X									X											
SL-534-SA6-SB-0.0-0.5	12/4/12 09:05	SO	None	1 - 4 oz glass	10 day													X																		
SL-534-SA6-SB-3.0-4.0	12/4/12 09:15	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X									X											
SL-534-SA6-SB-3.0-4.0	12/4/12 09:15	SO	None	1 - 4 oz glass	10 day													X																		
SL-534-SA6-SB-3.5	12/4/12 09:14	SO	None	3 - Encore	10 day																			X											
SL-626-SA6-SB-0.0-0.5	12/4/12 07:50	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X					X	X			X											
SL-626-SA6-SB-0.0-0.5	12/4/12 07:50	SO	None	1 - 4 oz glass	10 day													X																		
SL-627-SA6-SB-0.0-0.5	12/4/12 08:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X									X											
SL-627-SA6-SB-0.0-0.5	12/4/12 08:30	SO	None	1 - 4 oz glass	10 day													X																		
SL-627-SA6-SB-1.0-2.0	12/4/12 08:55	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X									X											
SL-627-SA6-SB-1.0-2.0	12/4/12 08:55	SO	None	1 - 4 oz glass	10 day													X																		
SL-627-SA6-SB-1.5	12/4/12 09:00	SO	None	3 - Encore	10 day																			X											
SL-628-SA6-SB-0.0-0.5	12/4/12 11:00	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X					X	X			X											
SL-628-SA6-SB-0.0-0.5	12/4/12 11:00	SO	None	1 - 4 oz glass	10 day													X																		
SL-628-SA6-SB-4.0-5.0	12/4/12 11:20	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X					X	X			X											
SL-628-SA6-SB-4.0-5.0	12/4/12 11:20	SO	None	1 - 4 oz glass	10 day													X																		
SL-628-SA6-SB-4.5	12/4/12 11:25	SO	None	3 - Encore	10 day																			X											
SL-631-SA6-SB-0.0-0.5	12/4/12 10:20	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X									X											
SL-631-SA6-SB-0.0-0.5	12/4/12 10:20	SO	None	1 - 4 oz glass	10 day													X																		
SL-632-SA6-SB-0.0-0.5	12/4/12 09:55	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X	X					X	X			X											
SL-632-SA6-SB-0.0-0.5	12/4/12 09:55	SO	None	1 - 4 oz glass	10 day													X																		

J36589

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/4/2012
CarrierName: FedEx
AirbillNo: 794219854432

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121204-01
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-629-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-629-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	1 - 4 oz glass	10 day													X																		
SL-629-SA6-SB-2.5-3.5	12/4/12 14:05	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-629-SA6-SB-2.5-3.5	12/4/12 14:05	SO	None	1 - 4 oz glass	10 day													X																		
SL-629-SA6-SB-3.0	12/4/12 14:10	SO	None	3 - Encore	10 day																				X											
SL-630-SA6-SB-0.0-0.5	12/4/12 14:25	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X						X	X				X										
SL-630-SA6-SB-0.0-0.5	12/4/12 14:25	SO	None	1 - 4 oz glass	10 day													X																		
SL-536-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-536-SA6-SB-0.0-0.5	12/4/12 13:30	SO	None	1 - 4 oz glass	10 day													X																		
SL-546-SA6-SB-0.0-0.5	12/4/12 14:10	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X								X		
SL-546-SA6-SB-0.0-0.5	12/4/12 14:10	SO	None	2 - 4 oz glass	10 day													X	X																	
SL-546-SA6-SB-6.5-7.5	12/4/12 14:35	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X								X		
SL-546-SA6-SB-6.5-7.5	12/4/12 14:35	SO	None	2 - 4 oz glass	10 day													X	X																	
SL-546-SA6-SB-7.0	12/4/12 14:34	SO	None	3 - Encore	10 day																				X											
SL-549-SA6-SB-0.0-0.5	12/4/12 12:55	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-549-SA6-SB-0.0-0.5	12/4/12 12:55	SO	None	1 - 4 oz glass	10 day													X																		

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time

COC Rev 2

SAMPLE DELIVERY GROUP

280-36640-1

J36640

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 12/5/2012
CarrierName: FedEx
AirbillNo: 794228531221

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121205-01
Cooler #: 1,2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxygenates	Methyl Mercury 1630	Other Analysis/Notes
TB-120512	12/5/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X											
SL-519-SA6-SB-0.0-0.5	12/5/12 09:00	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-519-SA6-SB-0.0-0.5	12/5/12 09:00	SO	None	1 - 4 oz glass	10 day													X																		
SL-519-SA6-SB-4.0-5.0	12/5/12 09:45	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X											
SL-519-SA6-SB-4.0-5.0	12/5/12 09:45	SO	None	1 - 4 oz glass	10 day													X																		
SL-519-SA6-SB-4.5	12/5/12 09:44	SO	None	3 - Encore	10 day																				X											
SL-519-SA6-SB-9.0-10.0	12/5/12 09:55	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X											
SL-519-SA6-SB-9.0-10.0	12/5/12 09:53	SO	None	1 - 4 oz glass	10 day													X																		
SL-519-SA6-SB-9.5	12/5/12 09:54	SO	None	3 - Encore	10 day																				X											
SL-519-SA6-SB-14.0-15.0	12/5/12 10:00	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X											
SL-519-SA6-SB-14.0-15.0	12/5/12 10:00	SO	None	1 - 4 oz glass	10 day													X																		
SL-519-SA6-SB-14.5	12/5/12 09:59	SO	None	3 - Encore	10 day																				X											
SL-519-SA6-SB-21.0-22.0	12/5/12 10:05	SO	None	2 - 16 oz glass	10 day	X	X					X		X	X											X											
SL-519-SA6-SB-21.0-22.0	12/5/12 10:05	SO	None	1 - 4 oz glass	10 day													X																		
SL-519-SA6-SB-21.5	12/5/12 10:04	SO	None	3 - Encore	10 day																				X											
SL-550-SA6-SB-0.0-0.5	12/5/12 09:50	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-550-SA6-SB-0.0-0.5	12/5/12 09:50	SO	None	1 - 4 oz glass	10 day													X																		
SL-633-SA6-SB-0.0-0.5	12/5/12 10:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-633-SA6-SB-0.0-0.5	12/5/12 10:30	SO	None	1 - 4 oz glass	10 day													X																		
SL-633-SA6-SB-2.5-3.5	12/5/12 10:50	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-633-SA6-SB-2.5-3.5	12/5/12 10:50	SO	None	1 - 4 oz glass	10 day													X																		
SL-633-SA6-SB-3.0	12/5/12 10:55	SO	None	3 - Encore	10 day																				X											
SL-520-SA6-SB-0.0-0.5	12/5/12 12:45	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-520-SA6-SB-0.0-0.5	12/5/12 12:45	SO	None	1 - 4 oz glass	10 day													X																		
SL-634-SA6-SB-0.0-0.5	12/5/12 13:45	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X						X	X				X											
SL-634-SA6-SB-0.0-0.5	12/5/12 13:45	SO	None	1 - 4 oz glass	10 day													X																		
SL-634-SA6-SB-2.0-3.0	12/5/12 14:00	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X						X	X				X											
SL-634-SA6-SB-2.0-3.0	12/5/12 14:00	SO	None	1 - 4 oz glass	10 day													X																		
SL-634-SA6-SB-2.5	12/5/12 14:05	SO	None	3 - Encore	10 day																				X											
SL-635-SA6-SB-0.0-0.5	12/5/12 14:20	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											

Page 4806 of 4810

1 of 2

J36640

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/5/2012
CarrierName: FedEx
AirbillNo: 794228531221

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121205-01
Cooler #: 1,2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Chromium	Methyl Mercury 1630	Other Analysis/Notes
SL-635-SA6-SB-0.0-0.5	12/5/12 14:20	SO	None	1 - 4 oz glass	10 day													X																			
SL-636-SA6-SB-0.0-0.5	12/5/12 12:40	SO	None	2 - SS Sleeve	10 day	X	X					X		X	X											X											
SL-636-SA6-SB-0.0-0.5	12/5/12 12:40	SO	None	1 - 4 oz glass	10 day													X																			
SL-636-SA6-SB-2.5-3.5	12/5/12 13:15	SO	None	2 - SS Sleeve	10 day	X	X					X		X	X											X											
SL-636-SA6-SB-2.5-3.5	12/5/12 13:15	SO	None	1 - 4 oz glass	10 day													X																			
SL-636-SA6-SB-3.0	12/5/12 13:20	SO	None	3 - Encore	10 day																				X											

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	12/05/2012	1600	[illegible]	12/6/12	0930						

J366640

3.3°C

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/5/2012
CarrierName: FedEx
AirbillNo: 794228531221

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121205-02
Cooler #: 4,5,6
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Ghosts 8015	Alcohols 8015	Tetrahydrofuran 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Uranium	Methyl Mercury 1630	Other Analysis/Notes
EB-120512	12/5/12 14:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																												
EB-120512	12/5/12 14:00	WQ	None	10 - 1 L Amber	10 day							X			X						X	X				X										
EB-120512	12/5/12 14:00	WQ	None	1 - 250 mL Poly	10 day														X																	
EB-120512	12/5/12 14:00	WQ	HCl	3 - 40 mL Vial	10 day																				X											

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	12/5/2012	1600		12/6/12	0930						

Page 4808 of 4810

COC Rev 2

COC: 20121205-02, Page 1 of 1

1 of 1

SAMPLE DELIVERY GROUP

280-36640-2

J36640

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 12/5/2012
CarrierName: FedEx
AirbillNo: 794228531221

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121205-01
Cooler #: 1,2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate Cadmium 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Amines 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-120512	12/5/12 08:00	WQ	HCl	2-40 mL Vial	10 day																				X											
SL-519-SA6-SB-0.0-0.5	12/5/12 09:00	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-519-SA6-SB-0.0-0.5	12/5/12 09:00	SO	None	1-4 oz glass	10 day													X																		
SL-519-SA6-SB-4.0-5.0	12/5/12 09:45	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X										
SL-519-SA6-SB-4.0-5.0	12/5/12 09:45	SO	None	1-4 oz glass	10 day													X																		
SL-519-SA6-SB-4.5	12/5/12 09:44	SO	None	3-Encore	10 day																				X											
SL-519-SA6-SB-9.0-10.0	12/5/12 09:55	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X										
SL-519-SA6-SB-9.0-10.0	12/5/12 09:55	SO	None	1-4 oz glass	10 day													X																		
SL-519-SA6-SB-9.5	12/5/12 09:54	SO	None	3-Encore	10 day																				X											
SL-519-SA6-SB-14.0-15.0	12/5/12 10:00	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X										
SL-519-SA6-SB-14.0-15.0	12/5/12 10:00	SO	None	1-4 oz glass	10 day													X																		
SL-519-SA6-SB-14.5	12/5/12 09:59	SO	None	3-Encore	10 day																				X											
SL-519-SA6-SB-21.0-22.0	12/5/12 10:05	SO	None	2-16 oz glass	10 day	X	X					X		X	X											X										
SL-519-SA6-SB-21.0-22.0	12/5/12 10:05	SO	None	1-4 oz glass	10 day													X																		
SL-519-SA6-SB-21.5	12/5/12 10:04	SO	None	3-Encore	10 day																				X											
SL-550-SA6-SB-0.0-0.5	12/5/12 09:50	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-550-SA6-SB-0.0-0.5	12/5/12 09:50	SO	None	1-4 oz glass	10 day													X																		
SL-633-SA6-SB-0.0-0.5	12/5/12 10:30	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-633-SA6-SB-0.0-0.5	12/5/12 10:30	SO	None	1-4 oz glass	10 day													X																		
SL-633-SA6-SB-2.5-3.5	12/5/12 10:50	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-633-SA6-SB-2.5-3.5	12/5/12 10:50	SO	None	1-4 oz glass	10 day													X																		
SL-633-SA6-SB-3.0	12/5/12 10:55	SO	None	3-Encore	10 day																				X											
SL-520-SA6-SB-0.0-0.5	12/5/12 12:45	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										
SL-520-SA6-SB-0.0-0.5	12/5/12 12:45	SO	None	1-4 oz glass	10 day													X																		
SL-634-SA6-SB-0.0-0.5	12/5/12 13:45	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X							X	X			X										
SL-634-SA6-SB-0.0-0.5	12/5/12 13:45	SO	None	1-4 oz glass	10 day													X																		
SL-634-SA6-SB-2.0-3.0	12/5/12 14:00	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X							X	X			X										
SL-634-SA6-SB-2.0-3.0	12/5/12 14:00	SO	None	1-4 oz glass	10 day													X																		
SL-634-SA6-SB-2.5	12/5/12 14:05	SO	None	3-Encore	10 day																				X											
SL-635-SA6-SB-0.0-0.5	12/5/12 14:20	SO	None	2-SS-Sleeve	10 day	X	X					X		X	X											X										

Page 4806 of 4810

1 of 3

J36640

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/5/2012
CarrierName: FedEx
AirbillNo: 794228531221

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121205-01
Cooler #: 1,2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Entrectics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1690	Other Analysis/Notes
SL-635-SA6-SB-0.0-0.5	12/5/12 14:20	SO	None	1 - 4 oz glass	10 day													X																			
SL-636-SA6-SB-0.0-0.5	12/5/12 12:40	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-636-SA6-SB-0.0-0.5	12/5/12 12:40	SO	None	1 - 4 oz glass	10 day													X																			
SL-636-SA6-SB-2.5-3.5	12/5/12 13:15	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X											
SL-636-SA6-SB-2.5-3.5	12/5/12 13:15	SO	None	1 - 4 oz glass	10 day													X																			
SL-636-SA6-SB-3.0	12/5/12 13:20	SO	None	3 - Encore	10 day																				X												

Special Instructions:

Sampler: [signature]

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/05/2012	1600	[signature]	12/6/12	0930						

COC Rev 2

COC: 20121205-01, Page 2 of 2 2 of 2

J36640

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 12/5/2012
CarrierName: FedEx
AirbillNo: 794228531221

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121205-02
Cooler #: 4,5,6
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4-Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4-Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycol 8015	Alcohol 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB-120512	12/5/12 14:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																												
EB-120512	12/5/12 14:00	WQ	None	10 - 1 L Amber	10 day							X			X						X	X			X											
EB-120512	12/5/12 14:00	WQ	None	1 - 250 mL Poly	10 day														X																	
EB-120512	12/5/12 14:00	WQ	HCl	3 - 40 mL Vial	10 day																				X											

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Pam Hartman	12/5/12	1100	[signature]	12/6/12	0930						

Page 4808 of 4812

COC Rev 2

COC: 20121205-02, Page 2 of 2

SAMPLE DELIVERY GROUP

280-36711-1

J36711

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/6/2012

CarrierName: FedEx

AirbillNo: 794237343408

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121206-02

Cooler #: 1

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxidation	Methyl Mercury 1630	Other Analysis/Notes
SL-618-SA6-SB-0.0-0.5MS	12/6/12 08:25	SO	None	3-SS-Sleeve	10 day									X																							MS/MSD
SL-618-SA6-SB-0.0-0.5	12/6/12 08:30	SO	None	1-SS-Sleeve	10 day									X																							
SL-619-SA6-SB-0.0-0.5	12/6/12 07:45	SO	None	1-SS-Sleeve	10 day									X																							
SL-520-SA6-SB-4.0-5.0	12/6/12 08:20	SO	None	1-4 oz glass	10 day									X																							
SL-520-SA6-SB-9.0-10.0	12/6/12 08:30	SO	None	1-4 oz glass	10 day									X																							
SL-520-SA6-SB-14.0-15.0	12/6/12 08:35	SO	None	1-4 oz glass	10 day									X																							
SL-520-SA6-SB-19.0-20.0	12/6/12 08:40	SO	None	1-4 oz glass	10 day									X																							
SL-520-SA6-SB-24.0-25.0	12/6/12 08:45	SO	None	1-4 oz glass	10 day									X																							
SL-520-SA6-SB-30.0-31.0	12/6/12 08:50	SO	None	1-4 oz glass	10 day									X																							
SL-612-SA6-SB-0.0-0.5	12/6/12 10:10	SO	None	1-SS-Sleeve	10 day									X																							
SL-612-SA6-SB-2.0-3.0	12/6/12 10:30	SO	None	1-SS-Sleeve	10 day									X																							
SL-620-SA6-SB-0.0-0.5	12/6/12 09:40	SO	None	1-SS-Sleeve	10 day									X																							
SL-521-SA6-SB-0.0-0.5	12/6/12 11:00	SO	None	1-4 oz glass	10 day									X																							
SL-521-SA6-SB-4.0-5.0	12/6/12 13:10	SO	None	1-4 oz glass	10 day									X																							
SL-566-SA6-SB-0.0-0.5	12/6/12 12:55	SO	None	1-SS-Sleeve	10 day									X																							
SL-567-SA6-SB-0.0-0.5	12/6/12 13:30	SO	None	1-SS-Sleeve	10 day									X																							
SL-567-SA6-SB-2.0-3.0	12/6/12 13:45	SO	None	1-SS-Sleeve	10 day									X																							
SL-516-SA6-SB-0.0-0.5	12/6/12 14:05	SO	None	1-SS-Sleeve	10 day									X																							
SL-516-SA6-SB-3.0-4.0	12/6/12 14:20	SO	None	1-4 oz glass	10 day									X																							

J36711

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 12/6/2012
CarrierName: FedEx
AirbillNo: 794237343408

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121206-02
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	1,4 Dioxane 8270 SIM	PAHs 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Tetrahunals 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	MethylMercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Retana

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	12/6/2012	1600		12/7/12	930						

Page 2068 of 2078

COC Rev 2

COC: 20121206-02, Page 2 of 2

J36711

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/6/2012
CarrierName: FedEx
AirbillNo: 794237343408

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121206-03
Cooler #: 2,3,4
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street
Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB1-120612	12/6/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
EB1-120612	12/6/12 15:00	WQ	None	6 - 1 L Amber	10 day							X			X											X											
EB1-120612	12/6/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
EB1-120612	12/6/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												
EB2-120612	12/6/12 15:30	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
EB2-120612	12/6/12 15:30	WQ	None	6 - 1 L Amber	10 day							X			X											X											
EB2-120612	12/6/12 15:30	WQ	None	1 - 250 mL Poly	10 day														X																		
EB2-120612	12/6/12 15:30	WQ	HCl	3 - 40 mL Vial	10 day																				X												

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/06/2012	11000	[signature]	12/7/12	930						

COC Rev 2

COC: 20121206-03, Page 1 of 1

J36711

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/6/2012
CarrierName: FedEx
AirbillNo: 794237343408

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121206-03
Cooler #: 2,3,4
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate ConFirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB1-120612	12/6/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																												
EB1-120612	12/6/12 15:00	WQ	None	6 - 1 L Amber	10 day							X			X										X											
EB1-120612	12/6/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																	
EB1-120612	12/6/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																			X												
EB2-120612	12/6/12 15:30	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																												
EB2-120612	12/6/12 15:30	WQ	None	6 - 1 L Amber	10 day							X			X										X											
EB2-120612	12/6/12 15:30	WQ	None	1 - 250 mL Poly	10 day														X																	

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time

COC Rev 2

COC: 20121206-03, Page 1 of 1

J36711

280-36711

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/6/2012
CarrierName: FedEx
AirbillNo: 794237487167

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121206-05
Cooler #: 1
Lab: Test America Irvine
Lab Phone: 949-261-1022
Lab Address: 17461 Derian Avenue
Irvine, CA 92614

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpheneds 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB1-120612	12/6/12 15:00	WQ	None	1 - 250 mL Poly	10 day															X																	
EB2-120612	12/6/12 15:30	WQ	None	1 - 250 mL Poly	10 day															X																	

Special Instructions:

Sampler: Pam Hart

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/06/2012	1600	[signature]	12/7/12	1030						

(E) 4.9°C

COC Rev 2

COC 20121206-05, Page 1 of 1

J36711

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/6/2012
CarrierName: FedEx
AirbillNo: 794237435310

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121206-06
Cooler #: 1
Lab: Test America-Nashville
Lab Phone: 615-726-0177
Lab Address: 2960 Foster Creighton Drive Nashville, TN 37204

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Herbicides 8151	Hex Cr 7198/7199	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Creosote	Methyl Mercury 1630	Other Analysis/Notes
EB1-120612	12/6/12 15:00	WQ	None	1 - 250 mL Amber	10 day																												X				
EB2-120612	12/6/12 15:30	WQ	None	1 - 250 mL Amber	10 day																												X				

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	12/6/2012	1600	[illegible]	12/7/12	08:00	Temp 2.6					

COC Rev 2

COC 20121206-06, Page 1 of 1

SAMPLE DELIVERY GROUP

280-36711-2

J36711

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 12/6/2012
CarrierName: FedEx
AirbillNo: 794237343408

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121206-02
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010B and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-618-SA6-SB-0.0-0.5MS	12/6/12 08:25	SO	None	3-SS-Sleeve	10 day									X																							MS/MSD
SL-1018-SA6-SB-0.0-0.5	12/6/12 08:30	SO	None	1-SS-Sleeve	10 day									X																							
SL-619-SA6-SB-0.0-0.5	12/6/12 07:45	SO	None	1-SS-Sleeve	10 day									X																							
SL-520-SA6-SB-4.0-5.0	12/6/12 08:20	SO	None	1-4 oz glass	10 day									X																							
SL-520-SA6-SB-9.0-10.0	12/6/12 08:30	SO	None	1-4 oz glass	10 day									X																							
SL-520-SA6-SB-14.0-15.0	12/6/12 08:35	SO	None	1-4 oz glass	10 day									X																							
SL-520-SA6-SB-19.0-20.0	12/6/12 08:40	SO	None	1-4 oz glass	10 day									X																							
SL-520-SA6-SB-24.0-25.0	12/6/12 08:45	SO	None	1-4 oz glass	10 day									X																							
SL-520-SA6-SB-30.0-31.0	12/6/12 08:50	SO	None	1-4 oz glass	10 day									X																							
SL-612-SA6-SB-0.0-0.5	12/6/12 10:10	SO	None	1-SS-Sleeve	10 day									X																							
SL-612-SA6-SB-2.0-3.0	12/6/12 10:30	SO	None	1-SS-Sleeve	10 day									X																							
SL-620-SA6-SB-0.0-0.5	12/6/12 09:40	SO	None	1-SS-Sleeve	10 day									X																							
SL-521-SA6-SB-0.0-0.5	12/6/12 11:00	SO	None	1-4 oz glass	10 day									X																							
SL-521-SA6-SB-4.0-5.0	12/6/12 13:10	SO	None	1-4 oz glass	10 day									X																							
SL-566-SA6-SB-0.0-0.5	12/6/12 12:55	SO	None	1-SS-Sleeve	10 day									X																							
SL-567-SA6-SB-0.0-0.5	12/6/12 13:30	SO	None	1-SS-Sleeve	10 day									X																							
SL-567-SA6-SB-2.0-3.0	12/6/12 13:45	SO	None	1-SS-Sleeve	10 day									X																							
SL-516-SA6-SB-0.0-0.5	12/6/12 14:05	SO	None	1-SS-Sleeve	10 day									X																							
SL-516-SA6-SB-3.0-4.0	12/6/12 14:20	SO	None	1-4 oz glass	10 day									X																							

COC Rev 2

J36711

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/6/2012

CarrierName: FedEx

AirbillNo: 794237343408

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121206-02

Cooler #: 1

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Soil)	pH 9045 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Tetrahydrofuran 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Ketron

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	12/6/2012	1600		12/7/12	930						

Page 2068 of 2078

COC Rev 2

COC: 20121206-02, Page 2 of 2

J36711

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/6/2012
CarrierName: FedEx
AirbillNo: 794237343408

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121206-03
Cooler #: 2,3,4
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB1-120612	12/6/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
EB1-120612	12/6/12 15:00	WQ	None	6 - 1 L Amber	10 day							X			X										X												
EB1-120612	12/6/12 15:00	WQ	None	1 - 250 mL Poly	10 day														X																		
EB1-120612	12/6/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																			X													
EB2-120612	12/6/12 15:30	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																													
EB2-120612	12/6/12 15:30	WQ	None	6 - 1 L Amber	10 day							X			X										X												
EB2-120612	12/6/12 15:30	WQ	None	1 - 250 mL Poly	10 day														X																		
EB2-120612	12/6/12 15:30	WQ	HCl	3 - 40 mL Vial	10 day																			X													

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/06/2012	11:00	[signature]	12/7/12	930						

COC Rev 2

J36711

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/6/2012
CarrierName: FedEx
AirbillNo: 794237343408

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121206-03
Cooler #: 2,3,4
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	Hex Cr 7196/7199	pH 9040 (Water)	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB1-120612	12/6/12 15:00	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																												
EB1-120612	12/6/12 15:00	WQ	None	6 - 1 L Amber	10 day							X			X										X											
EB1-120612	12/6/12 15:00	WQ	None	1 - 250 mL Poly	10 day															X																
EB1-120612	12/6/12 15:00	WQ	HCl	3 - 40 mL Vial	10 day																			X												
EB2-120612	12/6/12 15:30	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X		X																												
EB2-120612	12/6/12 15:30	WQ	None	6 - 1 L Amber	10 day							X			X										X											
EB2-120612	12/6/12 15:30	WQ	None	1 - 250 mL Poly	10 day															X																

2078

Special Instructions:

Sampler:

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time

J36711

280-36711

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/6/2012

CarrierName: FedEx

AirbillNo: 794237487167

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121206-05

Cooler #: 1

Lab: Test America Irvine

Lab Phone: 949-261-1022

Lab Address: 17461 Derian Avenue Irvine, CA 92614

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.0	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Tarpaulins 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxanonitin	Methyl Mercury 1630	Other Analysis/Notes
EB1-120612	12/6/12 15:00	WQ	None	1 - 250 mL Poly	10 day															X																
EB2-120612	12/6/12 15:30	WQ	None	1 - 250 mL Poly	10 day															X																

Special Instructions:

Sampler: Pam Hart

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	12/6/2012	1600	[illegible]	12/7/12	1030						

(ex) 4.9°C

Page 2071 of 2078

COC Rev 2

COC: 20121206-05, Page 1 of 1

J36711

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/6/2012

CarrierName: FedEx

AirbillNo: 794237435310

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121206-06

Cooler #: 1

Lab: Test America-Nashville

Lab Phone: 615-726-0177

Lab Address: 2960 Foster Creighton Drive Nashville, TN 37204

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331.	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenes 8015	Nitrates 300.0/9056	Enterolert 9230	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Chromatin	Methyl Mercury 1630	Other Analysis/Notes
EB1-120612	12/6/12 15:00	WQ	None	1 - 250 mL Amber	10 day																												X				
EB2-120612	12/6/12 15:30	WQ	None	1 - 250 mL Amber	10 day																												X				

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Pam Hartman	12/06/2012	1600	[signature]	12/7/12	08:00	Temp 2.6					

Page 2072 of 2078

COC Rev 2

COC 20121206-06, Page 1 of 1

SAMPLE DELIVERY GROUP

280-36788-1

J36788

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/7/2012
CarrierName: FedEx
AirbillNo: 794251446929

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121207-02
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Taphanyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-542-SA6-SB-0.0-0.5	12/7/12 07:50	SO	None	1 - SS-Sleeve	10 day									X																							
SL-542-SA6-SB-3.0-4.0MS	12/7/12 08:45	SO	None	3 - 4 oz glass	10 day									X																							MS/MSD
SL-942-SA6-SB-3.0-4.0	12/7/12 08:55	SO	None	1 - 4 oz glass	10 day									X																							
SL-545-SA6-SB-0.0-0.5	12/7/12 09:40	SO	None	1 - SS-Sleeve	10 day									X																							
SL-545-SA6-SB-4.0-5.0	12/7/12 10:20	SO	None	1 - 4 oz glass	10 day									X																							
SL-545-SA6-SB-9.0-10.0	12/7/12 10:30	SO	None	1 - 4 oz glass	10 day									X																							
SL-547-SA6-SB-0.0-0.5	12/7/12 12:40	SO	None	1 - SS-Sleeve	10 day									X																							
SL-547-SA6-SB-4.0-5.0	12/7/12 13:40	SO	None	1 - 4 oz glass	10 day									X																							
SL-547-SA6-SB-9.0-10.0	12/7/12 13:50	SO	None	1 - 4 oz glass	10 day									X																							

Page 97 of 100

Special Instructions:

Sampler: Mark Peloso

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Mark Peloso	12/07/2012	1500		12/8/12	0900						

COC Rev 2

COC 20121207-02, Page 2 of 2

1 of 1

J36788

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/7/2012
CarrierName: FedEx
AirbillNo: 794251446929

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121207-03
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street
Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	nH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB1-120712	12/7/12 15:00	WQ	None	1 - 125 mL Poly	10 day												X																				FILTERED IN FIELD
EB2-120712	12/7/12 15:30	WQ	None	1 - 125 mL Poly	10 day												X																				FILTERED IN FIELD

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/07/2012	1500	[signature]	12/8/12	0900						

3.8 ee
12/8/12
FP

COC Rev 2

SAMPLE DELIVERY GROUP

280-36788-2

J36788

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/7/2012
CarrierName: FedEx
AirbillNo: 794251446929

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121207-02
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-542-SA6-SB-0.0-0.5	12/7/12 07:50	SO	None	1 - SS-Sleeve	10 day									X																							
SL-542-SA6-SB-3.0-4.0MS	12/7/12 08:45	SO	None	3 - 4 oz glass	10 day									X																							MS/MSD
SL-942-SA6-SB-3.0-4.0	12/7/12 08:55	SO	None	1 - 4 oz glass	10 day									X																							
SL-545-SA6-SB-0.0-0.5	12/7/12 09:40	SO	None	1 - SS-Sleeve	10 day									X																							
SL-545-SA6-SB-4.0-5.0	12/7/12 10:20	SO	None	1 - 4 oz glass	10 day									X																							
SL-545-SA6-SB-9.0-10.0	12/7/12 10:30	SO	None	1 - 4 oz glass	10 day									X																							
SL-547-SA6-SB-0.0-0.5	12/7/12 12:40	SO	None	1 - SS-Sleeve	10 day									X																							
SL-547-SA6-SB-4.0-5.0	12/7/12 13:40	SO	None	1 - 4 oz glass	10 day									X																							
SL-547-SA6-SB-9.0-10.0	12/7/12 13:50	SO	None	1 - 4 oz glass	10 day									X																							

Page 97 of 100

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	12/7/12	1500	[illegible]	12/8/12	0900						

J36788

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/7/2012
CarrierName: FedEx
AirbillNo: 794251446929

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121207-03
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street
Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCBs 8082	Perchlorate 314.0/331.	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenyls 8015	Nitrates 300.0/9056	Endrselks 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB1-120712	12/7/12 15:00	WQ	None	1 - 125 mL Poly	10 day												X																			FILTERED IN FIELD
EB2-120712	12/7/12 15:30	WQ	None	1 - 125 mL Poly	10 day												X																			FILTERED IN FIELD

Special Instructions:

Sampler: Pam Hart

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	12/07/12	1500	[illegible]	12/8/12	0900						

38 ml
12/8/12
FF

SAMPLE DELIVERY GROUP

280-36846-1

J36846

28
4.0
2.8

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/10/2012
CarrierName: FedEx
AirbillNo: 794266139531

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121210-01
Cooler #: 1,2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street
Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-121012	12/10/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X												
SL-557-SA6-SB-0.0-0.5	12/10/12 10:25	SO	None	3 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-557-SA6-SB-0.0-0.5	12/10/12 10:25	SO	None	1 - 4 oz glass	10 day													X																			
SL-557-SA6-SB-5.5-6.5	12/10/12 10:45	SO	None	2 - 16 oz glass	10 day	X	X					X				X										X											
SL-557-SA6-SB-5.5-6.5	12/10/12 10:45	SO	None	2 - 4 oz glass	10 day										X			X																			
SL-557-SA6-SB-6.0	12/10/12 10:50	SO	None	3 - Encore	10 day																				X												
SL-603-SA6-SB-0.0-0.5	12/10/12 08:20	SO	None	3 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-603-SA6-SB-0.0-0.5	12/10/12 08:20	SO	None	1 - 4 oz glass	10 day													X																			
SL-603-SA6-SB-4.0-5.0	12/10/12 08:40	SO	None	2 - 16 oz glass	10 day	X	X					X				X										X											
SL-603-SA6-SB-4.0-5.0	12/10/12 08:40	SO	None	2 - 4 oz glass	10 day										X			X																			
SL-603-SA6-SB-4.5	12/10/12 08:45	SO	None	3 - Encore	10 day																				X												
SL-604-SA6-SB-0.0-0.5	12/10/12 09:25	SO	None	3 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-604-SA6-SB-0.0-0.5	12/10/12 09:25	SO	None	1 - 4 oz glass	10 day													X																			
SL-604-SA6-SB-3.5-4.5	12/10/12 09:40	SO	None	2 - 16 oz glass	10 day	X	X					X				X										X											
SL-604-SA6-SB-3.5-4.5	12/10/12 09:40	SO	None	2 - 4 oz glass	10 day										X			X																			
SL-604-SA6-SB-4.0	12/10/12 09:45	SO	None	3 - Encore	10 day																				X												
SL-653-SA6-SB-0.0-0.5	12/10/12 10:10	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-653-SA6-SB-0.0-0.5	12/10/12 10:10	SO	None	1 - 4 oz glass	10 day													X																			
SL-654A-SA6-SB-0.0-0.5	12/10/12 08:15	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-654A-SA6-SB-0.0-0.5	12/10/12 08:15	SO	None	1 - 4 oz glass	10 day													X																			
SL-654A-SA6-SB-2.0-3.0	12/10/12 08:50	SO	None	1 - SS-Sleeve	10 day											X																					
SL-654B-SA6-SB-0.0-0.5	12/10/12 09:05	SO	None	1 - SS-Sleeve	10 day											X																					
SL-654C-SA6-SB-0.0-0.5	12/10/12 09:30	SO	None	1 - SS-Sleeve	10 day											X																					
SL-596-SA6-SB-0.0-0.5	12/10/12 14:25	SO	None	3 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-596-SA6-SB-0.0-0.5	12/10/12 14:25	SO	None	1 - 4 oz glass	10 day													X																			
SL-596-SA6-SB-4.0-5.0	12/10/12 14:35	SO	None	2 - 16 oz glass	10 day	X	X					X				X										X											
SL-596-SA6-SB-4.0-5.0	12/10/12 14:35	SO	None	2 - 4 oz glass	10 day										X			X																			
SL-596-SA6-SB-4.5	12/10/12 14:40	SO	None	3 - Encore	10 day																				X												
SL-598-SA6-SB-0.0-0.5	12/10/12 13:40	SO	None	3 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-598-SA6-SB-0.0-0.5	12/10/12 13:40	SO	None	1 - 4 oz glass	10 day													X																			

J36846

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/10/2012
CarrierName: FedEx
AirbillNo: 794266139531

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121210-01
Cooler #: 1,2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-598-SA6-SB-4.0-5.0	12/10/12 13:50	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X										
SL-598-SA6-SB-4.0-5.0	12/10/12 13:50	SO	None	2 - 4 oz glass	10 day									X					X																	
SL-598-SA6-SB-4.5	12/10/12 13:55	SO	None	3 - Encore	10 day																			X												
SL-601-SA6-SB-0.0-0.5	12/10/12 13:00	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-601-SA6-SB-0.0-0.5	12/10/12 13:00	SO	None	1 - 4 oz glass	10 day														X																	
SL-601-SA6-SB-4.0-5.0	12/10/12 13:10	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X										
SL-601-SA6-SB-4.0-5.0	12/10/12 13:10	SO	None	2 - 4 oz glass	10 day									X					X																	
SL-601-SA6-SB-4.5	12/10/12 13:15	SO	None	3 - Encore	10 day																			X												
SL-608-SA6-SB-0.0-0.5	12/10/12 12:25	SO	None	3 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-608-SA6-SB-0.0-0.5	12/10/12 12:25	SO	None	1 - 4 oz glass	10 day														X																	
SL-666-SA6-SB-0.0-0.5	12/10/12 12:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-666-SA6-SB-0.0-0.5	12/10/12 12:30	SO	None	1 - 4 oz glass	10 day														X																	
SL-667-SA6-SB-0.0-0.5	12/10/12 14:15	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-667-SA6-SB-0.0-0.5	12/10/12 14:15	SO	None	1 - 4 oz glass	10 day														X																	
SL-668-SA6-SB-0.0-0.5	12/10/12 13:10	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-668-SA6-SB-0.0-0.5	12/10/12 13:10	SO	None	1 - 4 oz glass	10 day														X																	
SL-684-SA6-SB-0.0-0.5	12/10/12 14:50	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-684-SA6-SB-0.0-0.5	12/10/12 14:50	SO	None	1 - 4 oz glass	10 day														X																	

J36846

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/10/2012
CarrierName: FedEx
AirbillNo: 794266139531

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121210-01
Cooler #: 1,2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peters Jeb Haberth

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/10/2012	1600		12-12-12	0950						

Page 3553 3560

COC Rev 2

COC 20121210-01, Page 3 of 3

3 of 3

J36846

2.2 dlw 12/12/12
FP

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 12/10/2012
CarrierName: FedEx
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121210-02
Cooler #:
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Page 3554 of 3560

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAH 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
-2 SL-542-SA6-SB-0.0-0.5	12/7/12 07:50	SO	None	2 - SS-Sleeve	10 day																											X				
-3 SL-542-SA6-SB-3.0-4.0MS	12/7/12 08:45	SO	None	6 - 16 oz glass	10 day																											X				MS/MSD
-4 SL-942-SA6-SB-3.0-4.0	12/7/12 08:55	SO	None	2 - 16 oz glass	10 day																											X				
-7 SL-545-SA6-SB-0.0-0.5	12/7/12 09:40	SO	None	2 - SS-Sleeve	10 day																											X				
-8 SL-545-SA6-SB-4.0-5.0	12/7/12 10:20	SO	None	2 - 16 oz glass	10 day																											X				
-9 SL-545-SA6-SB-9.0-10.0	12/7/12 10:50	SO	None	2 - 16 oz glass	10 day																											X				
-12 SL-547-SA6-SB-0.0-0.5	12/7/12 12:40	SO	None	2 - SS-Sleeve	10 day																											X				
-13 SL-547-SA6-SB-4.0-5.0	12/7/12 13:40	SO	None	2 - 16 oz glass	10 day																											X				
-14 SL-547-SA6-SB-9.0-10.0	12/7/12 13:50	SO	None	2 - 16 oz glass	10 day																											X				

124053

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/10/2012	1200	[signature]	12-12-12	93-	[signature]	12/10/12	1230			

SAMPLE DELIVERY GROUP

280-36846-2

J36846

28
4.0
2.8

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/10/2012
CarrierName: FedEx
AirbillNo: 794266139531

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121210-01
Cooler #: 1,2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street
Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
TB-121012	12/10/12 08:00	WQ	HCl	2 - 40 mL Vial	10 day																				X												
SL-557-SA6-SB-0.0-0.5	12/10/12 10:25	SO	None	3 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-557-SA6-SB-0.0-0.5	12/10/12 10:25	SO	None	1 - 4 oz glass	10 day													X																			
SL-557-SA6-SB-5.5-6.5	12/10/12 10:45	SO	None	2 - 16 oz glass	10 day	X	X					X				X										X											
SL-557-SA6-SB-5.5-6.5	12/10/12 10:45	SO	None	2 - 4 oz glass	10 day										X			X																			
SL-557-SA6-SB-6.0	12/10/12 10:50	SO	None	3 - Encore	10 day																				X												
SL-603-SA6-SB-0.0-0.5	12/10/12 08:20	SO	None	3 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-603-SA6-SB-0.0-0.5	12/10/12 08:20	SO	None	1 - 4 oz glass	10 day													X																			
SL-603-SA6-SB-4.0-5.0	12/10/12 08:40	SO	None	2 - 16 oz glass	10 day	X	X					X				X										X											
SL-603-SA6-SB-4.0-5.0	12/10/12 08:40	SO	None	2 - 4 oz glass	10 day										X			X																			
SL-603-SA6-SB-4.5	12/10/12 08:45	SO	None	3 - Encore	10 day																				X												
SL-604-SA6-SB-0.0-0.5	12/10/12 09:25	SO	None	3 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-604-SA6-SB-0.0-0.5	12/10/12 09:25	SO	None	1 - 4 oz glass	10 day													X																			
SL-604-SA6-SB-3.5-4.5	12/10/12 09:40	SO	None	2 - 16 oz glass	10 day	X	X					X				X										X											
SL-604-SA6-SB-3.5-4.5	12/10/12 09:40	SO	None	2 - 4 oz glass	10 day										X			X																			
SL-604-SA6-SB-4.0	12/10/12 09:45	SO	None	3 - Encore	10 day																				X												
SL-653-SA6-SB-0.0-0.5	12/10/12 10:10	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-653-SA6-SB-0.0-0.5	12/10/12 10:10	SO	None	1 - 4 oz glass	10 day													X																			
SL-654A-SA6-SB-0.0-0.5	12/10/12 08:15	SO	None	2 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-654A-SA6-SB-0.0-0.5	12/10/12 08:15	SO	None	1 - 4 oz glass	10 day													X																			
SL-654A-SA6-SB-2.0-3.0	12/10/12 08:50	SO	None	1 - SS-Sleeve	10 day											X																					
SL-654B-SA6-SB-0.0-0.5	12/10/12 09:05	SO	None	1 - SS-Sleeve	10 day											X																					
SL-654C-SA6-SB-0.0-0.5	12/10/12 09:30	SO	None	1 - SS-Sleeve	10 day											X																					
SL-596-SA6-SB-0.0-0.5	12/10/12 14:25	SO	None	3 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-596-SA6-SB-0.0-0.5	12/10/12 14:25	SO	None	1 - 4 oz glass	10 day													X																			
SL-596-SA6-SB-4.0-5.0	12/10/12 14:35	SO	None	2 - 16 oz glass	10 day	X	X					X				X										X											
SL-596-SA6-SB-4.0-5.0	12/10/12 14:35	SO	None	2 - 4 oz glass	10 day										X			X																			
SL-596-SA6-SB-4.5	12/10/12 14:40	SO	None	3 - Encore	10 day																				X												
SL-598-SA6-SB-0.0-0.5	12/10/12 13:40	SO	None	3 - SS-Sleeve	10 day	X	X					X			X	X										X											
SL-598-SA6-SB-0.0-0.5	12/10/12 13:40	SO	None	1 - 4 oz glass	10 day													X																			

J36846

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/10/2012
CarrierName: FedEx
AirbillNo: 794266139531

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121210-01
Cooler #: 1,2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-598-SA6-SB-4.0-5.0	12/10/12 13:50	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X										
SL-598-SA6-SB-4.0-5.0	12/10/12 13:50	SO	None	2 - 4 oz glass	10 day									X					X																	
SL-598-SA6-SB-4.5	12/10/12 13:55	SO	None	3 - Encore	10 day																			X												
SL-601-SA6-SB-0.0-0.5	12/10/12 13:00	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-601-SA6-SB-0.0-0.5	12/10/12 13:00	SO	None	1 - 4 oz glass	10 day														X																	
SL-601-SA6-SB-4.0-5.0	12/10/12 13:10	SO	None	2 - 16 oz glass	10 day	X	X					X			X											X										
SL-601-SA6-SB-4.0-5.0	12/10/12 13:10	SO	None	2 - 4 oz glass	10 day									X					X																	
SL-601-SA6-SB-4.5	12/10/12 13:15	SO	None	3 - Encore	10 day																			X												
SL-608-SA6-SB-0.0-0.5	12/10/12 12:25	SO	None	3 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-608-SA6-SB-0.0-0.5	12/10/12 12:25	SO	None	1 - 4 oz glass	10 day														X																	
SL-666-SA6-SB-0.0-0.5	12/10/12 12:30	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-666-SA6-SB-0.0-0.5	12/10/12 12:30	SO	None	1 - 4 oz glass	10 day														X																	
SL-667-SA6-SB-0.0-0.5	12/10/12 14:15	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-667-SA6-SB-0.0-0.5	12/10/12 14:15	SO	None	1 - 4 oz glass	10 day														X																	
SL-668-SA6-SB-0.0-0.5	12/10/12 13:10	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-668-SA6-SB-0.0-0.5	12/10/12 13:10	SO	None	1 - 4 oz glass	10 day														X																	
SL-684-SA6-SB-0.0-0.5	12/10/12 14:50	SO	None	2 - SS-Sleeve	10 day	X	X					X		X	X											X										
SL-684-SA6-SB-0.0-0.5	12/10/12 14:50	SO	None	1 - 4 oz glass	10 day														X																	

J36846

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/10/2012
CarrierName: FedEx
AirbillNo: 794266139531

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121210-01
Cooler #: 1,2,3
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peters Jeb Haberth

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/10/2012	1600		12-12-12	0950						

Page 3553 3560

COC Rev 2

COC 20121210-01, Page 3 of 3

3 of 3

J36846

2.2 dlw 12/12/12
FP

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 12/10/2012
CarrierName: FedEx
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121210-02
Cooler #:
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Page 3554 of 3560

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAH 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
-2 SL-542-SA6-SB-0.0-0.5	12/7/12 07:50	SO	None	2 - SS-Sleeve	10 day																											X				
-3 SL-542-SA6-SB-3.0-4.0MS	12/7/12 08:45	SO	None	6 - 16 oz glass	10 day																											X				MS/MSD
-4 SL-942-SA6-SB-3.0-4.0	12/7/12 08:55	SO	None	2 - 16 oz glass	10 day																											X				
-7 SL-545-SA6-SB-0.0-0.5	12/7/12 09:40	SO	None	2 - SS-Sleeve	10 day																											X				
-8 SL-545-SA6-SB-4.0-5.0	12/7/12 10:20	SO	None	2 - 16 oz glass	10 day																											X				
-9 SL-545-SA6-SB-9.0-10.0	12/7/12 10:50	SO	None	2 - 16 oz glass	10 day																											X				
-12 SL-547-SA6-SB-0.0-0.5	12/7/12 12:40	SO	None	2 - SS-Sleeve	10 day																											X				
-13 SL-547-SA6-SB-4.0-5.0	12/7/12 13:40	SO	None	2 - 16 oz glass	10 day																											X				
-14 SL-547-SA6-SB-9.0-10.0	12/7/12 13:50	SO	None	2 - 16 oz glass	10 day																											X				

124053

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/10/2012	1200	[signature]	12-12-12	93-	[signature]	12/10/12	1230			

SAMPLE DELIVERY GROUP

280-36889-1

J36889

46 [illegible] 12/12/12 Fp

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/11/2012

CarrierName: FedEx

AirbillNo: 794276213101

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121211-02

Cooler #: 1

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-512-SA6-SB-0.0-0.5	12/11/12 07:50	SO	None	1 - SS-Sleeve	10 day									X																							
SL-599-SA6-SB-0.0-0.5MS	12/11/12 07:50	SO	None	3 - SS-Sleeve	10 day									X																							MS/MSD
SL-999-SA6-SB-0.0-0.5	12/11/12 08:00	SO	None	1 - SS-Sleeve	10 day									X																							
SL-599-SA6-SB-4.0-5.0	12/11/12 08:20	SO	None	1 - 4 oz glass	10 day									X																							
SL-548-SA6-SB-0.0-0.5MS	12/11/12 08:55	SO	None	2 - SS-Sleeve	10 day									X																			X				MS/MSD
SL-948-SA6-SB-0.0-0.5	12/11/12 09:10	SO	None	1 - SS-Sleeve	10 day									X																			X				
SL-555-SA6-SB-0.0-0.5	12/11/12 10:25	SO	None	1 - SS-Sleeve	10 day									X																							
SL-597-SA6-SB-3.5-4.5	12/11/12 09:20	SO	None	1 - 4 oz glass	10 day									X																							
SL-605-SA6-SB-4.0-5.0	12/11/12 11:00	SO	None	1 - 4 oz glass	10 day									X																							
SL-609-SA6-SB-2.0-3.0	12/11/12 09:40	SO	None	1 - 4 oz glass	10 day									X																							
SL-610-SA6-SB-3.0-4.0	12/11/12 10:20	SO	None	1 - 4 oz glass	10 day									X																							
SL-556-SA6-SB-0.0-0.5	12/11/12 12:40	SO	None	1 - SS-Sleeve	10 day									X																							
SL-594-SA6-SB-0.0-0.5	12/11/12 14:20	SO	None	1 - SS-Sleeve	10 day									X																							
SL-595-SA6-SB-0.0-0.5	12/11/12 13:10	SO	None	1 - SS-Sleeve	10 day									X																							
SL-595-SA6-SB-2.0-3.0	12/11/12 13:40	SO	None	1 - 4 oz glass	10 day									X																							
SL-593-SA6-SB-0.0-0.5	12/11/12 15:00	SO	None	1 - SS-Sleeve	10 day									X																							

Special Instructions:

Sampler: Mark Peters John Halsett

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	12/11/2012	1600	[illegible]	12/12/12	0930						

SAMPLE DELIVERY GROUP

280-36889-2

J36889

46 [illegible] 12/12/12 Fp

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/11/2012

CarrierName: FedEx

AirbillNo: 794276213101

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121211-02

Cooler #: 1

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street
Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-512-SA6-SB-0.0-0.5	12/11/12 07:50	SO	None	1 - SS-Sleeve	10 day									X																							
SL-599-SA6-SB-0.0-0.5MS	12/11/12 07:50	SO	None	3 - SS-Sleeve	10 day									X																							MS/MSD
SL-999-SA6-SB-0.0-0.5	12/11/12 08:00	SO	None	1 - SS-Sleeve	10 day									X																							
SL-599-SA6-SB-4.0-5.0	12/11/12 08:20	SO	None	1 - 4 oz glass	10 day									X																							
SL-548-SA6-SB-0.0-0.5MS	12/11/12 08:55	SO	None	2 - SS-Sleeve	10 day									X																			X				MS/MSD
SL-948-SA6-SB-0.0-0.5	12/11/12 09:10	SO	None	1 - SS-Sleeve	10 day									X																			X				
SL-555-SA6-SB-0.0-0.5	12/11/12 10:25	SO	None	1 - SS-Sleeve	10 day									X																							
SL-597-SA6-SB-3.5-4.5	12/11/12 09:20	SO	None	1 - 4 oz glass	10 day									X																							
SL-605-SA6-SB-4.0-5.0	12/11/12 11:00	SO	None	1 - 4 oz glass	10 day									X																							
SL-609-SA6-SB-2.0-3.0	12/11/12 09:40	SO	None	1 - 4 oz glass	10 day									X																							
SL-610-SA6-SB-3.0-4.0	12/11/12 10:20	SO	None	1 - 4 oz glass	10 day									X																							
SL-556-SA6-SB-0.0-0.5	12/11/12 12:40	SO	None	1 - SS-Sleeve	10 day									X																							
SL-594-SA6-SB-0.0-0.5	12/11/12 14:20	SO	None	1 - SS-Sleeve	10 day									X																							
SL-595-SA6-SB-0.0-0.5	12/11/12 13:10	SO	None	1 - SS-Sleeve	10 day									X																							
SL-595-SA6-SB-2.0-3.0	12/11/12 13:40	SO	None	1 - 4 oz glass	10 day									X																							
SL-593-SA6-SB-0.0-0.5	12/11/12 15:00	SO	None	1 - SS-Sleeve	10 day									X																							

Special Instructions:

Sampler: Mark Peters John Halsett

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	12/11/2012	1600	[illegible]	12/12/12	0930						

SAMPLE DELIVERY GROUP

280-36945-1

J36945

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/12/2012
CarrierName: FedEx
AirbillNo: 794282509352

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121212-05
Cooler #: 1
Lab: Test America-Nashville
Lab Phone: 615-726-0177
Lab Address: 2960 Foster Creighton Drive Nashville, TN 37204

Loc: 280
36945

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxygenate	Methyl Mercury 1630	Other Analysis/Notes
EB-121212	12/12/12 15:00	WQ	None	1 - 250 mL Amber	10 day																												X				

Special Instructions:

Sampler: Pa Hart

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/12/2012	1600									

Page 86 of 89

SAMPLE DELIVERY GROUP

280-36945-2

J36945

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/12/2012
CarrierName: FedEx
AirbillNo: 794282509352

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121212-05
Cooler #: 1
Lab: Test America-Nashville
Lab Phone: 615-726-0177
Lab Address: 2960 Foster Creighton Drive Nashville, TN 37204

Loc: 280
36945

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	pH 9045 (Soil)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxygenate	Methyl Mercury 1630	Other Analysis/Notes
EB-121212	12/12/12 15:00	WQ	None	1 - 250 mL Amber	10 day																												X				

Special Instructions:

Sampler: Pa Hart

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/12/2012	1600									

Page 86 of 89

SAMPLE DELIVERY GROUP

280-37012-1

J37012

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/13/2012

CarrierName: FedEx

AirbillNo: 794300575415

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121213-02

Cooler #: 1

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-585-SA6-SB-0.0-0.5MS	12/13/12 08:00	SO	None	3 - SS-Sleeve	10 day									X																							MS/MSD
SL-985-SA6-SB-0.0-0.5	12/13/12 08:10	SO	None	1 - SS-Sleeve	10 day									X																							
SL-584-SA6-SB-0.0-0.5	12/13/12 09:00	SO	None	1 - SS-Sleeve	10 day									X																							
SL-593-SA6-SB-4.5-5.5	12/13/12 10:45	SO	None	1 - 4 oz glass	10 day									X																							
SL-682-SA6-SB-0.0-0.5	12/13/12 13:00	SO	None	1 - SS-Sleeve	10 day									X																							
SL-582-SA6-SB-0.0-0.5	12/13/12 09:35	SO	None	1 - SS-Sleeve	10 day									X																							
SL-682-SA6-SB-3.0-4.0	12/13/12 13:25	SO	None	1 - 4 oz glass	10 day									X																							
SL-685-SA6-SB-0.0-0.5MS	12/13/12 14:10	SO	None	3 - SS-Sleeve	10 day									X																							MS/MSD
SL-685-SA6-SB-4.0-5.0	12/13/12 14:40	SO	None	1 - 4 oz glass	10 day									X																							
SL-1085-SA6-SB-0.0-0.5	12/13/12 14:15	SO	None	1 - SS-Sleeve	10 day									X																							

Page 1996 of 2000

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
Mark Peters	12/13/2012	1600									

280-37012-1

J37012

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/13/2012

CarrierName: FedEx

AirbillNo: 794293472440

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121213-04

Cooler #: 1

Lab: Test America Knoxville

Lab Phone: 865-291-3000

Lab Address: 5815 Middlebrook Pike
Knoxville, TN 37921

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB1-121312	12/13/12 15:00	WQ	None	2 - 1 L Amber	10 day									X																							RC/ND pH=7
EB2-121312	12/13/12 15:30	WQ	None	2 - 1 L Amber	10 day									X																							RC/ND pH=7

Special Instructions:

Sampler: Pam Hartman

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/13/2012	1600	Ryan Henry	12/14/12	1000						

REC. @ 1.2°C
CUSTODY SEAL INTACT
1 COOLER RH 12/14/12
FED EX #794293472440

1 of 1

SAMPLE DELIVERY GROUP

280-37060-1

J37060

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/14/2012

CarrierName: FedEx

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

COC No: 20121214-02

Cooler #: 1

Lab: TestAmerica - Denver

Lab Phone: 303-736-0100

Lab Address: 4955 Yarrow Street, Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxanotin	Methyl Mercury 1630	Other Analysis/Notes
SL-607-SA6-SB-0.0-0.5	12/14/12 09:00	SO	None	1 - SS-Sleeve	10 day									X																							
SL-607-SA6-SB-4.0-5.0	12/14/12 09:15	SO	None	1 - 4 oz glass	10 day									X																							
SL-690-SA6-SB-0.0-0.5	12/14/12 07:50	SO	None	1 - SS-Sleeve	10 day									X																							
SL-690-SA6-SB-2.5-3.5	12/14/12 08:10	SO	None	1 - 4 oz glass	10 day									X																							
SL-660-SA6-SB-0.0-0.5	12/14/12 10:05	SO	None	1 - SS-Sleeve	10 day									X																							
SL-660-SA6-SB-4.0-5.0	12/14/12 11:45	SO	None	1 - 4 oz glass	10 day									X																							
SL-558-SA6-SB-0.0-0.5	12/14/12 14:20	SO	None	1 - SS-Sleeve	10 day									X																							
SL-689-SA6-SB-0.0-0.5	12/14/12 14:50	SO	None	1 - SS-Sleeve	10 day									X																							

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/14/2012	1600	[signature]	12/15/12	0930						

.33 [initials] 12/15/12

[initials]

COC Rev 2

COC 20121214-02, Page 1 of 1

01/22/2013

SAMPLE DELIVERY GROUP

280-37202-1

J37202

3.4-2 4.4-2 cc FP

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/19/2012
CarrierName: FedEx
AirbillNo: 794348579768

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121219-02
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-685-SA6-SB-6.5-7.5	12/18/12 15:00	SO	None	1 - 4 oz glass	10 day									X																					
SL-575-SA6-SB-2.0-3.0	12/17/12 15:10	SO	None	1 - 4 oz glass	10 day									X																					
SL-576-SA6-SB-2.0-3.0	12/17/12 15:40	SO	None	1 - 4 oz glass	10 day									X																					
SL-514-SA6-SB-4.0-5.0	12/17/12 10:00	SO	None	1 - 4 oz glass	10 day									X																					
SL-514-SA6-SB-7.0-8.0	12/17/12 10:15	SO	None	1 - 4 oz glass	10 day									X																					
SL-588-SA6-SB-2.0-3.0	12/18/12 12:45	SO	None	1 - 4 oz glass	10 day									X																					
SL-617-SA6-SB-4.0-5.0	12/18/12 13:20	SO	None	1 - 4 oz glass	10 day									X																					
SL-590-SA6-SB-4.0-5.0	12/17/12 14:15	SO	None	1 - 4 oz glass	10 day									X																					
SL-592-SA6-SB-2.5-3.5	12/17/12 12:45	SO	None	1 - 4 oz glass	10 day									X																					
SL-591-SA6-SB-4.0-5.0	12/17/12 13:25	SO	None	1 - 4 oz glass	10 day									X																					
SL-575-SA6-SB-0.0-0.5	12/17/12 14:45	SO	None	1 - SS-Sleeve	10 day									X																					
SL-589-SA6-SB-0.0-0.5	12/18/12 14:15	SO	None	1 - SS-Sleeve	10 day									X																					
SL-591-SA6-SB-0.0-0.5	12/17/12 13:10	SO	None	1 - SS-Sleeve	10 day									X																					
SL-600-SA6-SB-0.0-0.5	12/18/12 13:45	SO	None	1 - SS-Sleeve	10 day									X																					
SL-588-SA6-SB-0.0-0.5	12/18/12 12:35	SO	None	1 - SS-Sleeve	10 day									X																					
SL-592-SA6-SB-0.0-0.5	12/17/12 12:35	SO	None	1 - SS-Sleeve	10 day									X																					
SL-617-SA6-SB-0.0-0.5	12/18/12 13:10	SO	None	1 - SS-Sleeve	10 day									X																					
SL-576-SA6-SB-0.0-0.5	12/17/12 15:30	SO	None	1 - SS-Sleeve	10 day									X																					
SL-514-SA6-SB-0.0-0.5	12/17/12 09:45	SO	None	1 - SS-Sleeve	10 day									X																					
SL-590-SA6-SB-0.0-0.5	12/17/12 14:00	SO	None	1 - SS-Sleeve	10 day									X																					
SL-515-SA6-SB-0.0-0.5	12/17/12 09:00	SO	None	1 - SS-Sleeve	10 day									X																					
SL-518-SA6-SB-0.0-0.5MS	12/17/12 07:55	SO	None	1 - SS-Sleeve	10 day									X																					MS/MSD
SL-918-SA6-SB-0.0-0.5	12/17/12 08:00	SO	None	1 - SS-Sleeve	10 day									X																					
SL-622-SA6-SB-0.0-0.5MS	12/19/12 07:55	SO	None	1 - SS-Sleeve	10 day									X																					MS/MSD
SL-1022-SA6-SB-0.0-0.5	12/19/12 08:00	SO	None	1 - SS-Sleeve	10 day									X																					
SL-622-SA6-SB-3.5-4.5	12/19/12 08:15	SO	None	1 - 4 oz glass	10 day									X																					
SL-624-SA6-SB-0.0-0.5	12/19/12 08:50	SO	None	1 - SS-Sleeve	10 day									X																					
SL-624-SA6-SB-4.0-5.0	12/19/12 08:55	SO	None	1 - 4 oz glass	10 day									X																					
SL-623-SA6-SB-0.0-0.5	12/19/12 09:20	SO	None	1 - SS-Sleeve	10 day									X																					
SL-625-SA6-SB-0.0-0.5	12/19/12 09:50	SO	None	1 - SS-Sleeve	10 day									X																					

Page 2692 of 2696

J37202

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/19/2012
CarrierName: FedEx
AirbillNo: 794348579768

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121219-02
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Orthophth	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
	12/19	1300		12/19	1720						

Page 2963 of 4969

COC Rev 2

COC: 20121219-02, Page 2 of 2

2 of 2

J37202

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/19/2012
CarrierName: FedEx
AirbillNo: 794348579768

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121219-02
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-DRO 8015	Glycols 8015	Alcohols 8015	Terpenyls 8015	Nitrates 300.0/9056	Explosives 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-685-SA6-SB-6.5-7.5	12/18/12 15:00	SO	None	1 - 4 oz glass	10 day									X																						
SL-575-SA6-SB-2.0-3.0	12/17/12 15:10	SO	None	1 - 4 oz glass	10 day									X																						
SL-576-SA6-SB-2.0-3.0	12/17/12 15:40	SO	None	1 - 4 oz glass	10 day									X																						
SL-514-SA6-SB-4.0-5.0	12/17/12 10:00	SO	None	1 - 4 oz glass	10 day									X																						
SL-514-SA6-SB-7.0-8.0	12/17/12 10:15	SO	None	1 - 4 oz glass	10 day									X																						
SL-588-SA6-SB-2.0-3.0	12/18/12 12:45	SO	None	1 - 4 oz glass	10 day									X																						
SL-617-SA6-SB-4.0-5.0	12/18/12 13:20	SO	None	1 - 4 oz glass	10 day									X																						
SL-590-SA6-SB-4.0-5.0	12/17/12 14:15	SO	None	1 - 4 oz glass	10 day									X																						
SL-592-SA6-SB-2.5-3.5	12/17/12 12:45	SO	None	1 - 4 oz glass	10 day									X																						
SL-591-SA6-SB-4.0-5.0	12/17/12 13:25	SO	None	1 - 4 oz glass	10 day									X																						
SL-575-SA6-SB-0.0-0.5	12/17/12 14:45	SO	None	1 - SS-Sleeve	10 day									X																						
SL-589-SA6-SB-0.0-0.5	12/18/12 14:15	SO	None	1 - SS-Sleeve	10 day									X																						
SL-591-SA6-SB-0.0-0.5	12/17/12 13:10	SO	None	1 - SS-Sleeve	10 day									X																						
SL-600-SA6-SB-0.0-0.5	12/18/12 13:45	SO	None	1 - SS-Sleeve	10 day									X																						
SL-588-SA6-SB-0.0-0.5	12/18/12 12:35	SO	None	1 - SS-Sleeve	10 day									X																						
SL-592-SA6-SB-0.0-0.5	12/17/12 12:35	SO	None	1 - SS-Sleeve	10 day									X																						
SL-617-SA6-SB-0.0-0.5	12/18/12 13:10	SO	None	1 - SS-Sleeve	10 day									X																						
SL-576-SA6-SB-0.0-0.5	12/17/12 15:30	SO	None	1 - SS-Sleeve	10 day									X																						
SL-514-SA6-SB-0.0-0.5	12/17/12 09:45	SO	None	1 - SS-Sleeve	10 day									X																						
SL-590-SA6-SB-0.0-0.5	12/17/12 14:00	SO	None	1 - SS-Sleeve	10 day									X																						
SL-515-SA6-SB-0.0-0.5	12/17/12 09:00	SO	None	1 - SS-Sleeve	10 day									X																						
SL-518-SA6-SB-0.0-0.5MS	12/17/12 07:55	SO	None	1 - SS-Sleeve	10 day									X																						MS/MSD
SL-918-SA6-SB-0.0-0.5	12/17/12 08:00	SO	None	1 - SS-Sleeve	10 day									X																						
SL-622-SA6-SB-0.0-0.5MS	12/19/12 07:55	SO	None	1 - SS-Sleeve	10 day									X																						MS/MSD
SL-1022-SA6-SB-0.0-0.5	12/19/12 08:00	SO	None	1 - SS-Sleeve	10 day									X																						
SL-622-SA6-SB-3.5-4.5	12/19/12 08:15	SO	None	1 - 4 oz glass	10 day									X																						
SL-624-SA6-SB-0.0-0.5	12/19/12 08:50	SO	None	1 - SS-Sleeve	10 day									X																						
SL-624-SA6-SB-4.0-5.0	12/19/12 08:55	SO	None	1 - 4 oz glass	10 day									X																						
SL-623-SA6-SB-0.0-0.5	12/19/12 09:20	SO	None	1 - SS-Sleeve	10 day									X																						
SL-625-SA6-SB-0.0-0.5	12/19/12 09:50	SO	None	1 - SS-Sleeve	10 day									X																						

Page 2964 of 2969

J37202

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/19/2012
CarrierName: FedEx
AirbillNo: 794348579768

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121219-02
Cooler #: 1,2
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street
Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxanonitin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/19/2012	1300	[signature]	12-19-12	1630						

J37202

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/19/2012
CarrierName: FedEx
AirbillNo: 794348648761

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121219-05
Cooler #: 1
Lab: Test America Knoxville
Lab Phone: 865-291-3000
Lab Address: 5815 Middlebrook Pike Knoxville, TN 37921

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7470 (Water)	Mercury 7471 (Soil)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	PCBs/PCTs 8082	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	1,4 Dioxane 8260 SIM	VOCs 8260	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB1-121912	12/19/12 15:00	WQ	None	2 - 1 L Amber	10 day									X																							pH 6 Rcvd 1
EB2-121912	12/19/12 15:30	WQ	None	2 - 1 L Amber	10 day									X																							

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[illegible]	12/19/2012	1300	[illegible]	12/20/12	1030						

1 cooler Rec'd @ 1.9°C
with custody seal intact
[illegible] 12/20/12
1 cooler Fed X #
7943 4864 8761

1 of 1

SAMPLE DELIVERY GROUP

280-37204-1

J37204

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 12/19/2012
CarrierName: FedEx
AirbillNo: 794348579768

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

COC No: 20121219-03
Cooler #: 1
Lab: TestAmerica - Denver
Lab Phone: 303-736-0100
Lab Address: 4955 Yarrow Street Arvada, CO 80002

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	PAHs 8270 SIM	1,4 Dioxane 8270 SIM	Dioxins 1613	Perchlorate Confirm 6850/6860	Perchlorate 314.0/331	PCBs/PCTs 8082	pH 9045 (Soil)	pH 9040 (Water)	Hex Cr 7196/7199	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	TPH-EFH 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-504-SA3-SB-0.0-0.5	12/18/12 10:20	SO	None	1 - SS-Sleeve	10 day									X																							
SL-507-SA3-SB-0.0-0.5	12/18/12 07:50	SO	None	1 - SS-Sleeve	10 day									X																							
SL-508-SA3-SB-0.0-0.5	12/18/12 09:15	SO	None	1 - SS-Sleeve	10 day									X																							
SL-504-SA3-SB-3.5-4.5	12/18/12 10:45	SO	None	1 - 4 oz glass	10 day									X																							
SL-507-SA3-SB-3.0-4.0MS	12/18/12 08:15	SO	None	3 - 4 oz glass	10 day									X																							MS/MSD
SL-907-SA3-SB-3.0-4.0	12/18/12 08:25	SO	None	1 - 4 oz glass	10 day									X																							
SL-508-SA3-SB-3.5-4.5	12/18/12 09:30	SO	None	1 - 4 oz glass	10 day									X																							

Special Instructions:

Sampler: Mark Peters

Relinquished by	Date	Time	Received by	Date	Time	Relinquished by	Date	Time	Received by	Date	Time
[signature]	12/19/2012	1300	[signature]	12/20/12	1130						

Appendix G
Performance Evaluation Documentation

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Certified Reference Materials

6390 Joyce Drive
#100
Golden, CO 80403

PHONE 866-942-2978
FAX 866-283-0269
www.phenova.com

Gasoline in Soil — Lot #7048-96

NELAC Analyte Code	Analyte	Certified Value mg/kg	Acceptance Limits mg/kg	Acceptance Limits %
9408	Gasoline Range Organics	472	47.2 - 833	10.0 - 176

Certified Values = Study mean determined from interlaboratory study using promulgated methods for the preparation and analysis of a soil sample for the analytes listed. All values shown on a dry weight basis.

Acceptance limits = expected 99% confidence limits calculated from study specific and historical data.

Store at 4°C. Exp Date: 04/15 Catalog #: QC-GAS-SOIL

Preparation Instructions: The Phenova Gasoline in Soil standard is provided in two separate containers; a VOA vial containing approximately 12 g of Blank Soil Matrix and a 2 ml flame sealed ampule containing the Gasoline concentrate. The solvent for the Gasoline concentrate is methanol. Open the Blank Soil Matrix vial and transfer 5 g of the matrix into your sparger cell. Carefully open the ampule containing the Gasoline concentrate by snapping off the top at the narrow part of the neck. Transfer exactly 50 µL (micro liters) of the concentrate onto the Blank Soil Matrix in the sparger cell using a gas tight syringe. Add the spike below the surface of the matrix. Add 5 ml of organic free deionized water to the sparger cell containing the Blank Solid Matrix and concentrate. The standard is now ready for analysis per the selected method(s). For the purposes of calculations the percent moisture in the Soil Matrix is 0%.

Technical Assistance: If you require technical assistance with this standard, do not hesitate to call Phenova at 1-866-942-2978 and ask for Technical Assistance.

Approved by: AFL Reviewed by: ALG

Date: 08/12 Date: 08/12

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Certified Reference Materials

6390 Joyce Drive
#100
Golden, CO 80403

PHONE 866-942-2978
FAX 866-283-0269
www.phenova.com

Diesel in Soil — Lot #7048-100

NELAC Analyte Code	Analyte	Certified Value mg/kg	Acceptance Limits mg/kg	Acceptance Limits %
9369	Diesel	2330	709 - 2720	30.4 - 117

Certified Values = "100% true concentration" of each analyte as determined from gravimetric and volumetric measurements made during standard manufacture.

Acceptance limits = 99% confidence limits based on National Environmental Laboratory Accreditation Conference (NELAC) criteria (ref: 2009-01 NELAC PT FOT tables, NELAC PT Committee) and Certified Value.

Store at 4°C. Exp Date: 04/15 Catalog #: QC-DIES-SOIL

Preparation Instructions: The Wibby Environmental Diesel in Soil standard is packaged in two vials. Each vial contains 20.0 +/- 0.2 g of standard. Open one vial and quantitatively transfer the entire contents of the vial to your extraction apparatus. Rinse the vial thoroughly with extraction solvent and transfer the solvent to the extraction apparatus. Follow your normal procedures for extraction and analysis of a sample for Diesel in Soil. For the purposes of calculating your results, the percent moisture in the Diesel in Soil standard is 0% and the sample size is 20 g.

NOTE: A second identical vial containing 20.0 +/- 0.2 g of Diesel in Soil standard has been provided as a back up in the event you experience problems with the extraction or analysis of the initial vial. Store the second vial at 4°C.

Technical Assistance: If you require technical assistance with this standard, please do not hesitate to call Wibby Environmental at 866-WibbyPT (1-866-942-2978) and ask for technical assistance.

Approved by: ALG Reviewed by: CJ

Date: 07/12 Date: 07/12

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Certified Reference Materials

6390 Joyce Drive
#100
Golden, CO 80403

PHONE 866-942-2978
FAX 866-283-0269
www.phenova.com

NELAC Analyte Code	Analyte	Certified Value µg/kg	Acceptance Limits µg/kg	Acceptance Limits %
5500	Acenaphthene	260	30.0 - 324	11.5 - 125
5505	Acenaphthylene	237	30.0 - 329	12.7 - 139
5555	Anthracene	621	91.9 - 825	14.8 - 133
5575	Benzo(a)anthracene	140	40.2 - 176	28.7 - 126
5585	Benzo(b)fluoranthene	<10		
5600	Benzo(k)fluoranthene	341	106 - 438	31.1 - 128
5590	Benzo(g,h,i)perylene	217	21.7 - 312	10.0 - 144
5580	Benzo(a)pyrene	257	49.0 - 335	19.1 - 130
5855	Chrysene	211	43.9 - 277	20.8 - 131
5895	Dibenz(a,h)anthracene	102	22.9 - 150	22.5 - 147
6265	Fluoranthene	649	181 - 796	27.9 - 123
6270	Fluorene	420	84.0 - 534	20.0 - 127
6315	Indeno(1,2,3-cd)pyrene	427	68.2 - 538	16.0 - 126
6385	2-Methylnaphthalene	438	43.8 - 831	10.0 - 190
5005	Naphthalene	678	67.8 - 925	10.0 - 136
6615	Phenanthrene	882	227 - 1050	25.7 - 119
6665	Pyrene	377	104 - 490	27.6 - 130

Certified Values = "100% true concentration" of each analyte as determined from gravimetric and volumetric measurements made during standard manufacture.

Acceptance limits = 99% confidence limits based on National Environmental Laboratory Accreditation Conference (NELAC) criteria (ref: 2012-01 NELAC PT FOPT tables, NELAC PT Committee) and Certified Value.
NOTE: The percent moisture of the standard is 0%. All mg/kg values shown on a dry weight basis.

Store at 4°C. Exp Date: 04/14 Catalog #: QC-PAH-SOIL

Preparation Instructions: The Wibby Environmental PAHs in Soil standard is packaged in two vials. Each vial contains 30.0 +/- 0.2 g of standard. Open one vial and quantitatively transfer the entire contents of the vial to your extraction apparatus. Rinse the vial thoroughly with extraction solvent and transfer the solvent to the extraction apparatus. Follow your normal procedures for extraction and analysis of a sample for PAHs in Soil. For the purposes of calculating your results, the percent moisture in the PAHs in Soil standard is 0% and the sample size is 30 g.

NOTE: A second identical vial containing 30.0 +/- 0.2 g of PAHs-HPLC in Soil standard has been provided as a back-up in the event you experience problems with the extraction or analysis of the initial vial. Store the second vial at 4°C.

Technical assistance: If you require any technical assistance with this standard, please do not hesitate to call Wibby Environmental at 303-940-0033 and ask for Technical Assistance.

Approved by: AFL Reviewed by: MJM

Date: 05/12 Date: 05/12

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Certified Reference Materials

info@phenova.com • www.phenova.com • 1-866-942-2978

PCBs in Soil

Lot #7047-17

NELAC Analyte Code	Analyte	Certified Value mg/kg	Acceptance Limits mg/kg	Acceptance Limits %
8880	Aroclor 1016	<0.1		
8885	Aroclor 1221	<0.1		
8890	Aroclor 1232	<0.1		
8895	Aroclor 1242	<0.1		
8900	Aroclor 1248	<0.1		
8905	Aroclor 1254	<0.1		
8910	Aroclor 1260	25.5	5.98 - 32.6	23.5 - 128
-	Total PCBs	25.5	6.56 - 35.6	25.7 - 140

Certified Values = "100% true concentration" of each analyte as determined from gravimetric and volumetric measurements made during standard manufacture. All values are on a dry weight basis.

Acceptance limits = 99% confidence limits calculated using National Environmental Laboratory Accreditation Conference (NELAC) criteria (ref: 2012-01 NELAC PT FOPT tables, NELAC PT Committee) and Certified Value.

Preparation Instructions: The Wibby Environmental PCBs in Soil standard is packaged in two vials. Each vial contains 30.0 ± 0.2 g of standard. Open one vial and quantitatively transfer the entire contents of the vial to your extraction apparatus. Rinse the vial thoroughly with extraction solvent and transfer the solvent to the extraction apparatus. Follow your normal procedures for extraction and analysis of a sample for PCBs in Soil. For the purposes of calculating your results, the percent moisture in the PCBs in Soil standard is 0% and the sample size is 30 g.

NOTE: A second identical vial containing 30.0 ± 0.2 g of PCBs in Soil standard has been provided as a back up in the event you experience problems with the extraction or analysis of the initial vial. Store the second vial at 4°C.

Store at 4°C.

Exp Date: 01/15

Catalog #: QC-PCB-SOIL

Approved by: MJM

Date: 06/12

Reviewed by: AFL

Date: 06/12

RTC | Certificate of Analysis

Dioxins and Furans in Soil

Number SQC016-10G
Lot 019658
Solvent (Matrix) Soil
Hazard Irritant
Storage &Handling Store at room temperature.
Expiration Date See Sample Label
Certification Date: 7/26/2012
Certified By: Christopher Rucinski - QA Director

Analyte	*Units*	*Certified Value* [4]	*k* [5]	*Standard Deviation* [2]	*Acceptance Limits* [3]
1,2,3,4,6,7,8-Hpcdf 9420	pg/g	653 ± 22.3	1.96	99.6	354 to 952
1,2,3,4,7,8,9-Hpcdf 9423	pg/g	891 ± 20.3	1.96	135	485 to 1,300
1,2,3,4,6,7,8-Hpcdd 9426	pg/g	322 ± 12.3	1.96	50.0	172 to 472
Total Heptachlorodibenzo-p-dioxin (Total HPCDD) 9438	pg/g	322 ± 11.9	1.96	50.0	172 to 472
Total Heptachlorodibenzofuran (Total HPCDF) 9441	pg/g	1,540 ± 33.2	1.96	233	842 to 2,240
1,2,3,4,7,8-Hxcdd 9453	pg/g	207 ± 8.32	1.96	32.8	109 to 305
1,2,3,6,7,8-Hxcdd 9456	pg/g	300 ± 10.5	1.96	46.8	160 to 440
1,2,3,7,8,9-Hxcdd 9459	pg/g	521 ± 15.0	1.96	79.9	281 to 761
Hxcdd, total 9468	pg/g	1,030 ± 30.5	1.96	156	562 to 1,500
1,2,3,4,7,8-Hxcdf 9471	pg/g	522 ± 15.9	1.96	40.0	402 to 642
1,2,3,6,7,8-Hxcdf 9474	pg/g	51.6 ± 5.52	1.96	13.1	25.5 to 77.8
1,2,3,7,8,9-Hxcdf 9477	pg/g	485 ± 14.1	1.96	74.5	262 to 708
2,3,4,6,7,8-Hxcdf 9480	pg/g	185 ± 4.84	1.96	29.5	96.4 to 274
Total Hexachlorodibenzofuran (Total HxCDF) 9483	pg/g	1,290 ± 28.4	1.96	195	705 to 1,880
1,2,3,4,6,7,8,9-OCDF 9516	pg/g	397 ± 23.4	1.96	61.3	213 to 581
1,2,3,4,6,7,8,9-OCDD 9519	pg/g	711 ± 43.3	1.96	97.7	418 to 1,000
1,2,3,7,8-Pecdd 9540	pg/g	653 ± 21.2	1.96	99.6	354 to 952
1,2,3,7,8-Pecdf 9543	pg/g	79.4 ± 4.56	1.96	13.7	38.3 to 121
2,3,4,7,8-Pecdf 9549	pg/g	115 ± 3.71	1.96	19.0	57.9 to 172
Pecdf, total 9552	pg/g	194 ± 8.05	1.96	30.9	101 to 287
Pecdd, total 9555	pg/g	653 ± 21.0	1.96	99.6	354 to 952
2,3,7,8-TCDD 9618	pg/g	799 ± 16.2	1.96	122	434 to 1,160
2,3,7,8-TCDF 9612	pg/g	331 ± 13.0	1.96	51.4	177 to 485
TCDF, total 9615	pg/g	331 ± 12.4	1.96	51.4	177 to 485
TCDD, total 9609	pg/g	799 ± 16.3	1.96	122	434 to 1,160
PCDD, total 9660	pg/g	3,370 ± 223	2.07	507	1,850 to 4,890
PCDF, total 9657	pg/g	3,360 ± 177	2.07	505	1,840 to 4,880

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

ACLASS ACCREDITED TESTING

RTC
2931 Soldier Springs Road
Laramie, WY 82070
Phone: 307.742.5452
Fax: 307.745.7936
Web: www.RT-Corp.com

phenova™ A Phenomenex® Company
Certified Reference Materials

6390 Joyce Drive
#100
Golden, CO 80403

PHONE 866-942-2978
FAX 866-283-0269
www.phenova.com

Metals in Soil — Lot #7047-04

NELAC Analyte Code	Analyte	Certified Value mg/kg	Acceptance Limits mg/kg	Acceptance Limits %
1000	Aluminum	6130	4380 - 15300	71.5 - 250
1005	Antimony	281	28.1 - 309	10.0 - 110
1010	Arsenic	192	112 - 211	58.3 - 110
1015	Barium	191	117 - 210	61.3 - 110
1020	Beryllium	316	193 - 348	61.1 - 110
1025	Boron	541	169 - 595	31.2 - 110
1030	Cadmium	245	148 - 270	60.4 - 110
1035	Calcium	11900	10200 - 16600	85.7 - 139
1040	Chromium	303	177 - 333	58.4 - 110
1050	Cobalt	249	153 - 274	61.4 - 110
1055	Copper	93.0	56.3 - 102	60.5 - 110
1070	Iron	9630	2580 - 18600	26.8 - 193
1075	Lead	225	137 - 248	60.9 - 110
1080	Lithium	90.6	39.1 - 99.7	43.2 - 110
1085	Magnesium	5230	3270 - 5970	62.5 - 114
1090	Manganese	445	297 - 489	66.7 - 110
1095	Mercury	13.3	4.33 - 14.6	32.6 - 110
1100	Molybdenum	62.6	26.0 - 68.9	41.5 - 110
1105	Nickel	255	157 - 280	61.6 - 110
1125	Potassium	14200	8110 - 15600	57.1 - 110
1140	Selenium	112	48.6 - 124	43.4 - 111
1150	Silver	28.8	14.5 - 31.7	50.3 - 110
1155	Sodium	8160	4520 - 8970	55.4 - 110
1160	Strontium	387	227 - 426	58.7 - 110
1165	Thallium	233	129 - 256	55.4 - 110
1175	Tin	146	52.4 - 161	35.9 - 110
1180	Titanium	216	21.6 - 238	10.0 - 110
3035	Uranium	56.4	29.7 - 62.4	52.7 - 111
1185	Vanadium	177	83.4 - 195	47.1 - 110
1190	Zinc	314	184 - 346	58.6 - 110

Certified Values = "100% true concentration" of each analyte as determined from gravimetric and volumetric measurements made during standard manufacture.

Acceptance limits = 99% confidence limits based on National Environmental Laboratory Accreditation Conference (NELAC) criteria (ref: 2012-01 NELAC PT FOPT tables, NELAC PT Committee) and Certified Value.
NOTE: The percent moisture of the standard is 0%. All mg/kg values shown on a dry weight basis.

Preparation and Storage Instructions: Refer to the back of this Certification Sheet.

Store at 20-25°C. Catalog #: QC-MET-SOIL Exp Date: 01/15

Approved by: AFL Reviewed by: ALG

Date: 07/12 Date: 07/12

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Preparation Instructions: The Wibby Environmental Metals in Soil standard is provided as a whole volume standard that is ready for preparation and analysis as received. The standard should be stored at 20-25°C.

Technical assistance: If you require any technical assistance with this standard, please do not hesitate to call Phenova at 1-866-942-2978 and ask for Technical Assistance.