SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ YES

Sample ID SL-517-SASC-SB-0.0-0.5 Date/Time 04/19/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ ~~MH~~ ae MB 5.17.12 Geologist Registration # ~~7795~~ 63160 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	
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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10 YR 4/3

Percentage Fill (%) –

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-517	5C	19 April 2012 @1450	4.19.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR/hr 67 cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ Microf ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	48	SL-517-SASC-SB-0.0-0.5	1400	CL	CLAY: brown (10YR 4/3); 80% clay, hard, low plasticity; 20% w/SAND sand, pg, f-m, Trace coarse; dry→moist (dry right at surface; no odor.

Total depth of boring to 0.5 ft bgs. No GW encountered.

1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0

BORING LOG AND SAMPLING RECORD Page 1 of 1

Lawrence Miller PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-518-SA52-SB-9.0-10.0 Date/Time 6/11/2012 1029

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Nacolynn Begay

Sampler John Hatseth Sandy Do
6/11/12

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	X
	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	
	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) SD 06/11/12

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 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 NO

SD 06/11/12

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-518-SASC-SB-4.0-5.0 **Date/Time** 06/11/2012 / 0924

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 Nakalynn Bregman

Sampler ~~Jenna Hatseth~~ Sandra De (AT) 6/11/12

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	~~SB~~ 06/11/12
	Perchlorate Confirmation	EPA 6850/6860	X
	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	
	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 [signature] **PG Registration #** 7735

Additional Comments NO

SP 06/11/12

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DE-SIS	SC	06/11/2012 @ 0945	6.11.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA 6.11.12 SAES	10.0' bgs
GPS: ✓	Drill Method: NA 6.11.12 DPT	Depth Drilled into Bedrock:
Radiological Background: 12uR, 89 cpm	Borehole diameter: 2.25"	NA
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: cont.
Radiological Equipment Used:	Depth/Time GW after Drilling completed:	multi core
✓ MicroR ✓ Alpha/Beta ✓ Pancake		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0		Surface previously sampled on 06/11/12		ML	SILT: brown (10YR 4/3); 90% silt, non plas, ~~firm~~ friable, 10% sand, pg,f, dry, no odor
1.0			10/30				
	3.5/4					CL	clay, brown (10YR 4/3), 90% clay, low plas, very stiff, 10% sand, pg,f-m, moist,
2.0			10/38				
3.0			10/54				
4.0			10/48	SL-SIS-SAS-SB-4.0-5.0	0924		Same as above, except white (wt.) mottling & oxidation; 1% red brick fragments (silt variegated) (FILL)
5.0			10/36				
6.0	4/4		10/60				
7.0			10/66			SM	silty sand, yb (10YR 5/4) w/oxidation (10YR 5/6), 75% sand, pg,f-m, 25% fines, non-plas, soft, moist-wt, moist, no odor
8.0			10/48				
						SP	sand: same as above: 95% sand, 5% silt.
9.0	2/2		10/72	SL-SIS-SAS-SB-9.0-10.0	0925	CL	CLAY, lt ol brn (2.5y 5/4), 90% clay, low plas, firm, 10% sand, pg,f; crumbly silt, moist, no odor
10.0			10/78				

CDM Smith

BORING LOG AND SAMPLING RECORD

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SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ KS

Sample ID SL-SIB-SASC-SB-0.0-0.5 **Date/Time** 04/19/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ ae MBeaber Brosa MB 5.17.12 **Geologist Registration #** ~~7795~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	
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	

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

Check If Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10 YR 5/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-518	5C	4.19.2012 @ 1350	4.19.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 90 cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ Micro ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	60	SL-518-SA5C-SB-0.0-0.5	1400	ML	SILT: yellowish brown (10YR 5/4); 95% silt, non plastic, very hard, consolidated, weak cementation; 5% sand, pg, f, trace coarse, sr sa; trace asphalt toward surface, dry, no odor (FILL); TRACE gravel, pg, f, max ϕ = 0.25" (igneous).
							Total depth of borehole to 0.5 ft. bgs. NO GW encountered.

1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0

BORING LOG AND SAMPLING RECORD Page 1 of 1

Rb6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [✓]

Sample ID SL-520-SA5C-SB-0.0-0.5 **Date/Time** 04/23/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~MARGARET ROSA~~ MB 5.24.12 ~~Michael Hoffman~~ MB 5.24.12 **Geologist Registration #** ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
Herbicides	EPA 8151	
Pesticides	EPA 8081	

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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 2.5 Y 5/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID: DG-520	Subarea: 5C	Date Started: 04/23/2012	Date Completed: 04/23/12
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:		Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 70cpm		Borehole diameter: 2"	
PID Background: 0.0 ppm		Depth to GW: —	Sample Method: surface - slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	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	42	SL-520-SASC-SB-0.0-0.5	1415	ML / SM	Sand: H. ol brwn (2.5Y 5/4), wg, f-c, sa-r/sr. Sandy SILT: dyb (10YR 3/4); 65% silt, non plastic, firm; 25% sand, pg, f-m, sa-sr; 10% gravel (igneous + asphalt), f, pg, max ϕ = 0.75", moist, no odor. (FILL)

Total depth of boring = 0.5 ft. bgs

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

DG16360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL SASC-SB- 6.5-7.5 Date/Time 06/11/2012 1450

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 Naolynn Bigay

Sampler John Halseth

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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SI-SASC-SB-0.5-4.5 Date/Time 08/11/2012 1450

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.5

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 Naelynn Bigay

Sampler John Hairth

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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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	

Location ID:	Subarea:	Date Started:	Date Completed:
DE-520	SC	6.11.12	6.11.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA 6.11.12 SAES	7.8' 7.6' 7.9'
GPS:	Drill Method: NA 6.11.12 DPT	Depth Drilled into Bedrock: NA
Radiological Background: 10uR, 7cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	10	Sample surface 6.11.12		CL	3" asphalt (layers (carbon grey) 9" gravel (aggregates), pg, f-r, r-sa MAX Ø = 0.25" (FILL)
1.0			134				CLAY: dyb (10YR 3/4); 90% clay, low plas, strong hard, 10% sand, pg, f-m, mod; T red brick, moist, no odor. 6.11.12
2.0	3/4		130				
3.0			142				CLAY W/SAND: Color A; dyb (10YR 3/4); 85% clay, low plasticity, 15% sand, pg, f-m, hard, 6.11.12
4.0			146	SL-520-SB-SC-4.5-6.5 6.11.12			
5.0			154				oxidation at decomposed rock (sand)
6.0	4 3/4	6.11.12	142				oxidation, T. melting (ant), T. blk charcoal ?, T red brick.
7.0			148	SL-520-SB-SC-6.5-7.5	1450	SM	Silty Sand: yb (10YR 5/6), 80% sand, pg, f-m; 20% silt, non-plastic, 6.11.12 soft; moist, no odor. 6.5
8.0			160				8" refusal
9.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-521-SASC-SB-0.0-0.5 **Date/Time** 06/11/2012 1520

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 Naeelynn Bragay

Sampler John Helseth

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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 (%) 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 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 Walter Hoffman **PG Registration #** 7735

Additional Comments 3" of Asphalt, Red brick fragments found at 4'

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-S21-SASC-SB-4.0-5.0 Date/Time 06/11/2012 1525

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 Norwegian Bergen

Sampler Sam Hardesty

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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 (%)** 100 %
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 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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID 34-521-3A5C-SB-9.0-10.0 **Date/Time** 06/11/2012 1530

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Nicolynn Bergey

Sampler John Haisely

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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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

CL (M) 6/14/12

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 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 NONE

Location ID: DE-521	Subarea: SC	Date Started: 6.11.12	Date Completed: 6.11.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.1' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA, 6.11.12 SATS		
GPS: ✓	Drill Method: NA, 6.11.12 DPT		Depth Drilled into Bedrock: NA
Radiological Background: 12uR/h, 96cpm	Borehole diameter: 2.25"		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0		SL-521-SASC-SB-00-05	1520	CL	by dispenser clay - brown (10YR 4/3); 95% clay, mod plas, soft; 5% sand, vgf; very moist; no odor
1.0			11/30				
2.0	3/4		11/26				SAA color change: dyb (10YR 4/4)
3.0			10/22				
4.0			9/18	SL-521-SBSC-SB-4.0-5.0	1525		CLAYEY W/SAND: slt variegated, dyb (10YR 4/4) w/ mtrx (decomposing) oxidation; 85% clay, low plasticity, firm, weak - moderate cementation; 15% sand, vgf-f; moist; no odor 3.4 2. red rock frag. decomposed rock w/ oxidation staining
5.0			11/46				
6.0	4/4		10/45			SC	CLAYEY SAND: dyb (10YR 4/4); 75% sand, vgf-m, 25% clay (fines); low plas, soft; moist, no odor 6.0
7.0			10/84				
8.0			10/90			CL	clay w/SAND: dyb (10YR 4/4); 85% clay, mod-low plas; firm; 15% sand, vgf; moist; no odor 7.5
9.0	2/2		10/59	SL-521-SASC-SB-9.0-10.0	1533		
10.0		✓	10/60			↓	Same as above (SAA)

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-522-SASC-SB-0.0-0.5 **Date/Time** 04/25/2012 1120

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Bloisa MB 5.25.12 / ~~Michael Hoffman~~ PB 5.25.12

Geologist Registration # ~~7735~~ 63360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10YR 3/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID: DG-522	Subarea: 5C	Date Started: 04/25/12	Date Completed: 4.25.12
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: NA		Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 89cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: surface slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —		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	75	SL-522-SASC-SB-0.0-0.5	1120	ML	SILT: dyb (10YR 3/4), 95%, silt, soft, weak cementation, very low plasticity; 5%, sand, pg, f, sa-sr, trace gravel (igneous), pg, f, sa-sr, max Φ=0.75"; dry, no odor.

Total depth of borehole to 0.5 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Engineer Mian — PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-522-SA5C-SB-4.0-5.0 MS **Date/Time** 07/09/2012 1005

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 Naiolynn 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	X
	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	
	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 PH 7/2016
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 None

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-522-SA5C-SB-9.0-10.0 **Date/Time** 07/09/2012 1015

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 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	X
	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	
	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 _____ **PG Registration #** 7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-822-SASC-SB-4.0-5.0 **Date/Time** 07/09/2012 1030

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 SL-522-SASC-SB-4.0-5.0MS

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
7.9.12	~~Perchlorate~~	~~EPA 314.0/331~~	X
	Perchlorate Confirmation	EPA 6850/6860	X
	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	
	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 Mike Dobbinson **PG Registration #** 7735

Additional Comments None

Location ID:	Subarea:	Date Started:	Date Completed:
DG-522	5C	7/09/12 - MON. →	

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 2 SAFS	10.0' bgs
GPS:	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 86cpm	Borehole diameter:	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: DPT ~~slide hammer~~ 7.9.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		1.0	Surface sampled on 04/24/2012			CL	CLAY dyb (10YR 4/4); 90% clay, low plas. firm; 10% sand, pg, f-m; dry, no oder. Burrows + roots T. red brick fragments (FILL).
1.0		0.0	10/60				
2.0	3/4	0.0	10/64				
3.0		0.0	10/72				Same as above, except slt moist. SILT WITH SAND: 85% clay, 15% sand (FILL) 3.0
4.0		0.0	10/72	SL-522-SASC-SB-4.0-5.0MS	1005		
5.0		0.0	10/68	SL-522-SASC-SB-4.0-5.0	1030		SILT WITH SAND dyb (10YR 4/6), 80% clay, low plas, ~~firm~~ 7.9.12 firm, 20% sand, pg, f-m, mostly f, oxidation (orange + blk), slt. micaceous T.C, sa-sr moist, no oder.
6.0	4/4	0.0	10/64				
7.0		0.0	10/78				SANDY CLAY: same as above, except 60% clay, 40% sand. ~~stiff~~ firm 7.9.12 soft
8.0		0.0	10/72				
9.0	2/2	0.0	10/54	SL-522-SASC-SB-9.0-10.0	1015	SM	SILTY SAND dyb (10YR 3/4), 85% sand, pg, f-m, mostly m, 15% silt, non-plastic, soft, moist, no oder.
10.0		0.0	10/66				

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Mike Hoffman #7735

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Stephen Mercer

Sample ID SL-523-SASC-SB-4.0-5.0 Date/Time 07/09/2012 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 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	X
	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	
	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) Red brick		

Is Staining Present Yes (No)

Color 2.5Y 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 _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Steve Mercer

Sample ID SL-523-SA5C-SB-9.0-10.0 Date/Time 07/09/2012 1325

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 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	X
	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	
	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 Mike Hoffman **PG Registration #** 7735

Additional Comments None

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DB-523	SC	07/09/12	7/09/12

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.0'
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~	
GPS:	Drill Method: ~~NA~~	Depth Drilled into Bedrock: NA
Radiological Background: 12 mR, 88 cpm	Borehole diameter:	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	12/86	surface sampled on 04/25/2012		CL	CLAY: dyb (10YR 4/4); 95% clay, low plas, firm; 5% sand, pg, f-m; (only dry right at surface); slt. moist; no odor. T. red brick (FILL)
1.0			10/42				
2.0	3.5/4.0		10/34				
3.0			10/54				
3.0							CLAY WITH SAND dyb (10YR 3/4); 80% clay, low plas; hard, 20% sand, pg, f-m, T c, sa-r, T. red brick fragment; (FILL); moist, no odor.
4.0			10/54	SL-523-SASC-SB-4.0-5.0	1320		color change; lt. ol. brn (2.5Y 6/4), w/wt mottling oxidation, slt. variagated
5.0			10/64				
6.0	4.0/4.0		10/78				
7.0			10/66				
8.0			10/102				Same as above
8.5							
9.0			10/60	SL-523-SASC-SB-9.0-10.0	1325	SP-SM	~~7/9/12 SAND~~ SILTY SAND: dyb (10YR 3/4); 60% silt, non plas, soft, 40% sand, pg, f-m; moist, no odor; oxidation.
10.0			10/48				

CDM Smith

BORING LOG AND SAMPLING RECORD

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#7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ MM

Sample ID SL-523-SA5C-SB-0.0-0.5 Date/Time 04/25/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ Margaret Bloisa MB 5.25.12 Geologist Registration # ~~7735~~ 6360 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10 YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID: DG-523	Subarea: 5C	Date Started: 04/25/2012	Date Completed: 4.25.12
Client: DOE	Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 ' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 12 μR, 87 cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: Surface Slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —		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	95	SL-SASC-SB-0.0-0.5	1400	ML	SANDY SILT: brown (10YR 4/3), 70% silt, non-plastic, hard; 30% sand, pg, f-m, sa-sr; trace gravel (igneous, asphalt), pg, f, a-sa, max ϕ = 0.5"; dry, no odor.
							Total depth of borehole to 0.5 ft. bgs, No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Concepcion Pelson PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-524-SA5C-SB-0.0-0.5 **Date/Time** 04/24/2012 1510

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.25.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.25.12

Sampler NaciLynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10YR 3/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID: DG-524	Subarea: 5C	Date Started: 24 April 2012	Date Completed: 4/24/12
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: ✓	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 11 µR, 106 cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: surface slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —		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	65	SL-524-SASC-SB-0.0-0.5	1510	CL	CLAY WITH SAND: (10YR 3/4) : 80%. clay, low plas, stiff, weak cementation; 20%. sand, pg, f-m, sa-sr, trace gravel, pg, f, sa-sr, max ϕ: 0.25", (igneous + cement), dry, no odor
							Total depth of borehole to 0.5 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Engineer Mian PE 62360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal GC

Sample ID SL-524-SA5C-SB-4.0-5.0 **Date/Time** 06/19/2012 1300

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 Nacolynn Begay

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	
	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 2.5Y 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 Nikki Hoffman **PG Registration #** 7735

Additional Comments None

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-S24-SASC-SB-5.0 **Date/Time** 06/19/2012 1255

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Nacolynn Bragay

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 2.5Y 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 NONE

Location ID:	Subarea:	Date Started:	Date Completed:
DG-524	SC	06/19/2012 @ 1251	06/19/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 5.1' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ TZ	
GPS:	Drill Method: ~~NA~~ GP	Depth Drilled Into Bedrock: NA
Radiological Background: 10uR, 86cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
			Surface sampled on 04/24/2012			CL	CLAY WITH SAND: dyb (10YR 4/4); 80% clay, non-plas (DRY-slt. MOIST), hard-very hard; 20% sand, pg, f-md mostly med, T. crs; oxidation T. gravel (lignous), pg, f, r-sa, max ϕ= 0.5"; r-sa
1.0		0.0	10178				
2.0	3.5/4	0.0	10196				
3.0		0.0	10184				
4.0		0.0	10189	SL-524-SASC-SB-4.0-5.0	1300		SANDY CLAY: lyb (2.5Y 6/4); 70% clay, low plas, soft; 30% sand, pg, f-m; Trace ss & sltstone. slt. moist, no odor.
5.0	1/1	0.0	10160	SL-524-SASC-SB-5.0	1255	↓	Total depth of borehole to ~~6~~ 6.19.12 6 5.1' bgs. No GW encountered.
6.0							
7.0							
8.0							
9.0							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

PG#7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-525-SASC-SB-0.0-0.5 **Date/Time** 04/24/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BLOESA MB 5.25.12 Michael Hoffman **Geologist Registration #** MB 5.25.12 ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10YR 3/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID: DG-525	Subarea: 5C	Date Started: 24 April 2012	Date Completed: 4/24/2012
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: ✓	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 11uR, 97cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —		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	66	SL-SA5C-SB-0.0-0.5	1450	CL	SANDY CLAY: dyb (10YR 3/4); 70% clay, low plas. stiff, weak cementation; 30% sand, pg, m-c, sa-sr; trace of gravel, pg, f, sa-sr, max ϕ = 0.5" (igneous, concrete, asphalt).
							Total depth of borehole to 0.5 ft bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Rosemarie Shim PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal G T

Sample ID SL-525-SASC-SB-4.0-5.0 Date/Time 06/19/2012 1430

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 Nacolynn Begay

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	
	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) Red brick frag.		

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 Mike Hoffman **PG Registration #** 7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal C F

Sample ID SL-525-SA5C-SB-5.0 Date/Time 06/19/2012 1420

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Nacolynn Begay

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 (%)** 100

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

Asphalt	Metal	Plastic
Concrete	Wood	Glass
(Igneous/Metamorphic Gravel)		N/A
(Other) Red brick/pipe fragments		

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 MS 6-19-12

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal C-t

Sample ID SL-525-SASC-SB-9.0-10.0 Date/Time 06/19/2012 1435

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Nacolynn Begay

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	
	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 2.5Y 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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal G-C

Sample ID SL-525-SASC-SB-10.0 Date/Time 06/19/2012 1425

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

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 Naiolynn Begay

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 2.5Y 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 _____ **PG Registration #** 7735

Additional Comments NONE

Location ID:	Subarea:	Date Started:	Date Completed:
D6-525	5C	06/19/2012 @ 1412	06/19/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.1' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 12 SAFS	
GPS: 119	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 59cpm	Borehole diameter: 2.25"	
PID Background: 0.0ppm 6.19.12	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
			Surface sampled on 04/24/2012				SILT ~~CLAY~~ WITH SAND: dyb (10YR 4/6), 85% ~~fines~~ silt, ~~100~~ plas (when wet) firm, 15% sand, pg, f-m, T. gravel (igneous), pg, f, max ϕ = 0.5"; T. red brick fragments intermixed, T. ss; dry, no odor.
		0.0	10/78			ML	
2.0	4/4	0.0	10/96				
		0.0	10/54				same as above, except, 80% clay, 20% sand,
4.0		0.0	10/90	SL-525-SA5C-SB 4.0-5.0	1430		
				SL-525-SA5C-SB 5.0	1420		
5.0		0.0	10/60				5.5
6.0	4/4	0.0	10/66				Sandy Silt: lt. ol. brn (2.5Y 5/4) w/ oxidation; 60% fines, slt plas, firm, 40% sand, pg, f-m, slt moist, no odor. T red brick fragments ~0.25" ϕ
		0.0	10/96				~~Silt with sand:~~
						SM	~~Sand~~ Silty Sand. (2.5Y 5/4)
8.0		0.0	10/102				
						CL	CLAY lt. yb (2.5Y 6/4); 90% clay, low plas, stiff, 10% sand, pg, f, slt moist, no odor. oxidation
9.0		0.0	10/108	SL-525-SA5C-SB 9.0-10.0	1435		
		0.0	10/96	SL-525-SA5C-SB 10.0	1425		TD = 10.1' bgs
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

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P6#7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [X]

Sample ID SL-526 - SA5C-SB-0.0-0.5 **Date/Time** 04/25/2012 1435

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloisa MB 5.25.12 ~~Michael Hoffman~~ **Geologist Registration #** MB 5.25.12 ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10YR 3/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-526	5C	04/25/2012 @1433	4 25.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 14uR, 74cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: Surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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	82	SL-526-SASC-SB-0.0-0.5	1435	a	CLAY: db (10YR 3/3), 95% clay, low plasticity, soft, 5% sand, pg, f, sa-sr, trace gravel (igneous), pg, f, sa-sr, max ϕ = 0.25"; moist, no odor
0.5							Total depth of borehole to 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Rachael Bim PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal CA

Sample ID SL-526-SASC-SB-4.0-5.0 **Date/Time** 06/19/2012 1335

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 Nacolynn Begay

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	
	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 2.5Y 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 Nicole Hoffman **PG Registration #** 7735

Additional Comments NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-526-SA5C-SB-5.0 **Date/Time** 06/19/2012 1325

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Nacolynn Begay

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	

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 6/4

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 E. Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal C/S

Sample ID SL-526-SASC-SB-9.0-10.0 **Date/Time** 06/19/2012 1340

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Nacolynn Begay

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	
	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 2.5Y 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 Dillon **PG Registration #** 7735

Additional Comments None

NA – Not Applicable

SSFL Phase 3 -- Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortez

Sample ID SL-526-SASC-SB-10.0 **Date/Time** 06/19/2012 1330

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

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 Nacolynn Begay

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	

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 6/4

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 NONE

NA – Not Applicable

Location ID: DG-526	Subarea: 5C	Date Started: 06/19/2012 →	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.0' bgs 10.1' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: ~~NAZ~~ SAFS	
GPS:		Drill Method: ~~NAT~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 89cpm		Borehole diameter: 2.25"	
PID Background: 0.0ppm		Depth to GW: NA	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cm)	Sample Name	Sample Time	USCS	Description of Materials
			Surface sampled on 04/24/2012			~~CL~~ ML	~~6.19.12~~ w/SAND: dyb (10YR 4/4), 80% ~~clay~~ silt, non-plas, firm, 20% sand, pg. f-med, T. crs, r-sa; T. gravel (igneous) pg. f, sa-sr, max ~~Ø=.75~~ 1" ~~6.19.12~~ MB 6.19.12, dry, no odor. T. asphalt (FILL)
1.0		0.0	9/66				
	3/4 MB 6.19.12						
2.0	4	0.0	9/72				
3.0		0.0	9/78				
4.0		0.0	9/78	SL-526-SASC-SB-4.0-5.0	1335	CL	CLAY WITH SAND: 1y6 (2.5Y 6/4); 80% clay, low plas, hard; 20% sand, f-m, oxidation (slt. variegated) wt. moist, no odor. T. crs, sa-sr (granitic)
5.0		0.0	9/48	SL-526-SASC-SB-5.0	1325		
	4/4						
6.0		0.0	9/54				
7.0		0.0	9/78				
8.0		0.0	9/60				
9.0		0.0	9/64	SL-526-SASC-SB-9.0-10.0	1340		Same as above
10.0		0.0	9/96	SL-526-SASC-SB-10.0	1330		

CDM Smith

BORING LOG AND SAMPLING RECORD

TD = 10.1 ft. bgs No GW encountered.

PG# 7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-527-SASC-SB-0.0-0.5 Date/Time 04/25/2012 0840

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ Margaret Bloisa MBS.25.12 Geologist Registration # ~~7735~~ 63360 MBS.25.12

Sampler Nacolynn Bragay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	

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

Check if Fill Material Present [Y]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10 YR 4/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID: DG-527	Subarea: 5C	Date Started: 25 April 2012 @ 0835	Date Completed: 4.25.12
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: ✓	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 13 uR, 85 cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: Surface slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —		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	77	SL-527-SASC-SB-0.0-0.5	0840	ML	SANDY SILT, dyb (10 YR 4/6), 70% SILT, very low plasticity, soft, unconsolidated, weak cementation, 30% sand, pgif m-c sr, trace gravel (igneous), Pg, f, sr, dry, noodor.
							Total depth of borehole to 0.5 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Gregory Mion PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-527-SASC-SB-4.0-5.0 Date/Time 06/19/2012 1040

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 Nacolynn Begay

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	
	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 5/4

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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By V.C.K

Sample ID SL-527-SASC-SB-5.0 Date/Time 06/19/2012 1035

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Nacolynn Begay

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 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 NONE

NA -- Not Applicable

Location ID: DG-527	Subarea: 5C	Date Started: 6.19.12	Date Completed: 6.19.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 5.0
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS		
GPS:	Drill Method: ~~NA~~ DPT		Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 83cpm	Borehole diameter: 2.25"		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
			Surface sampled on 6/12/2012			TO DATE CL	CLAY w/SAND: dyb (10YR 3/4): 85% clay, low plas, hard, 15% sand, pgj, f-m (mostly m); T. red brick fragments, slt. moist, no odor. CFLL
1.0		0.0	10/148				
2.0	4/4	0.0	10/160				Same as above, except; 75% clay; 25% sand. slt. oxidation.
3.0		0.0	10/172				
4.0		0.0	10/154	SL-527-SASC-SB-4.0-5.0	1040		CLAY: yb (10YR 5/4); 90% clay, low plas, firm. 10% sand, pgjf, slt. moist, no odor.
5.0		0.0	10/160	SL-527-SASC-SB-5.0	1035		Total depth of bore hole to 5.0 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

PG 7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-528-SASC-SB-0.0-0.5 **Date/Time** 04/25/2012 0910

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Blasa MB 5.25.12 Michael Hoffman **Geologist Registration #** MB 5.25.12 ~~7735~~ 6360

Sampler NaeHynn Bergey

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	

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

Check if Fill Material Present [Y]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR 4/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
D6-528	5C	04/25/12 @ 0904	4.25.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 13 µR, 94 cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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	69	CL-528-SASC-SB-0.0-0.5	0910	CL	CLAY w/SAND: 4/6 (10YR 4/4); 85%, clay, very low plasticity, firm, weak cementation); 15% sand, pg, f, trace med., sa-sr, trace of gravel, pg, (igneous), f, sa sr.
							Total depth of borehole to 0.5' bgs. No GW encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Rodriguez Diaz RG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal GC

Sample ID 528-SL-SA5C-SB-4.0-5.0 MS Date/Time 06/19/2012 1000

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 Nacolynn Begay

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	
	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) Red brick / pipe fragments

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 #** PG #7735

Additional Comments NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-828-SA5C-SB-4.0-5.0 **Date/Time** 06/19/2012 ~~1000~~ 1010 6.19.12

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 SL-528-SA5C-SB-4.0-5.0 MS

Field Geologist Nacolynn Bergay

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	
	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) Red pipe fragments

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 #** 7735

Additional Comments NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Sk

Sample ID SL-528-SA5c-SB-5.0 MS Date/Time 06/19/2012 0955

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Nacolynn Begay

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 (%)** 100

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

Asphalt	Metal	Plastic
Concrete	Wood	Glass
(Igneous/Metamorphic Gravel)	N/A	
(Other) Red brick/pipe frags		

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 #** 7735

Additional Comments None

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal C

Sample ID SL-828-SASC-SB-5.0 **Date/Time** 06/19/2012 1005

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 SL-528-SASC-SB-5.0MS

Field Geologist Nacolynn Begay

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 (%)** 100

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

Asphalt	Metal	Plastic
Concrete	Wood	Glass
(Igneous/Metamorphic Gravel)		N/A
(Other) Red brick/pipe fragments		

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 #** 7735

Additional Comments

None

Location ID:	Subarea:	Date Started:	Date Completed:
DG-528	SC	06/19/2012 @ Tuesday	06/19/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS	5.1' bgs
GPS:	Drill Method: ~~NA~~ 6.19.12 DPT	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 83cpm	Borehole diameter: 2.25"	
PID Background: 0.0ppm	Depth to GW: NA	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
			Surface sampled on 04/25/2012			ML	SILT [dyb (10YR 4/4); 80% silt, non-plastic, firm; 20% SAND] sand, pg, f-m, T. red brick/pipe frags; dry, no odor. Slt. oxidation. (FILL) T. gravel (lignus) pg, f, sa-sr, max ϕ = 0.25".
1.0		0.0	10/34				
2.0	4/4	0.0	10/48				-slt. moist w/lt. brownish gray (2.5Y 6/2) - most is still dyb. (FILL)
3.0		0.0	10/64				
4.0		0.0	10/94	SL-528-SASC-SB-4.0-5.0MS	1000		
	1/1			SL-528-SASC-SB-5.0 MS	0955		
5.0		0.0	10/84	SL-828-SASC-SB-4.0-5.0MS	1005 6.19.12 10		Same as above (FILL)
				SL-828-SASC-SB-5.0	1005		Total depth of borehole to 5. ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

PG #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-529-SASC-SB-4.0-5.0 Date/Time 05/09/2012 1520

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.24.12

Geologist Registration # ~~7735~~ 6360 MB 5.24.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Red brick

Check if Staining [ ]

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-529-SA5C-SB-5 0 **Date/Time** 05/10/2012 0855

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5 0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.24.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.24.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10 YR 4/4

Percentage Fill (%) 100

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-529 (Round 2)	5C	5.9.12	5.10.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 79cpm	Borehole diameter: 4"	
PID Background: 0.0	Depth to GW: —	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	HA					ML	
1.0		0.0	69	—	—		SILT w/SAND: brown (10YR 4/3); 85% silt, non plastic, unconsolidated, soft; 15% sand, f-m, mostly f, sa-sr; trace of gravel (igneous / asphalt), pg, f, r-sa, max ϕ = 2.5"; dry, no odor (FILL)
2.0		0.0	92	—	—	2	SILT: brown (7.5YR 4/4); 90% silt, non-plastic, un-consolidated, soft; 10% sand, pg, f-m, sa-sr, moist, no odor; trace asphalt.
3.0		0.0	83	—	—	CL	CLAY w/SAND: dk b (10YR 4/4); 85% clay, medium plasticity, firm, moderate cementation; 15% sand, pg, f-m, mostly f, sa-sr; trace asphalt.
4.0		0.0	84	—	—		As above except, trace red brick and trace coarse sand, clay 80%; sand 20%.
5.0	✓ 0.5/0.5	0.0	88	SL-529-SASC-SB-4.0-5.0	1520 0855	CL	Same as above
				SL-529-SASC-SB-5.0 (on 5/10)			Total depth of borehole to 5' bgs. No GW encountered. Surface sample previously collected here.

CDM Smith

BORING LOG AND SAMPLING RECORD

PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-529-SA5C-SB-0.0-0.5 **Date/Time** 04/25/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ Margaret Bloisa MB 5.25.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
06-529	5C	04/25/2012 @0923	4.25.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 14 µR, 102 cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: soil fall slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —	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	78	SL-529-CASC-SB-0.0-0.5	0930	CL	CLAY: dyb (10YR 4/4); 90%. clay, very low plas, weak cementation, stiff, 10%. sand, pg, f, trace med., sa-sr; trace gravel (igneous), pg, f, sa-sr, max ϕ = 0.25"
0.5							Total depth of borehole to 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Nancy Begay PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ BY

Sample ID SL-530-SA5c-SB-0.0-0.5 Date/Time 04/25/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Blosa 5.25.12 Michael Hoffman MBS.25.12

Geologist Registration # ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10 YR 3/4

Percentage Fill (%) 100

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-530	5C	04/25/12	4.25.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 75 cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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	81	SL-530-SASC-SB-0.0-0.5	1030	ML	SANDY SILT: dyb (10YR 3/4); 70% silt, (fines), no plas, unconsolidated, soft; 30% sand, pg, f, sa-sr, trace gravel (igneous), pg, f, sr-sa; dry, no odor, trace brick (red)
							Total depth of borehole to 0.5 ft bgs.

CDM Smith

BORING LOG AND SAMPLING RECORD

Engineer Min PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-530-SA5C-SB-4.0-5.0 Date/Time 07/09/2012 0905

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 Stefanie Mysel

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	X
	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	
	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 Mike Hoffman **PG Registration #** 7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-530-SA5C-SB-9.0-10.0 Date/Time 07/09/2012 0920

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Stefanie Mysel

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	X
	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	
	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 10YR4/4

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 NONE

NA – Not Applicable

Location ID: DG-530	Subarea: 5C	Date Started: MON. 07/09/2012	Date Completed: 07/09/2012
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 9.8'
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: YES	Drill Method: DPT		Depth Drilled into Bedrock: NA
Radiological Background: 12/103	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: NA		Sampling Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	PG Review & No.:		Geologist: S. MYSEL

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	1	0.0	12/92			SW	F-M SAND w/SILT: 10YR4/4 (Dk Yellow Br) Some f-m gravel, loose, well graded, dry, no staining or odor
1.0	1		10/54			SP	F SAND w/SILT: 10YR4/4 (Dk Yellow Br) 20% silt, loose, P graded, dry, no staining or odor
2.0	1		10/48			SP	SAME AS ABOVE except medium hard.
3.0	0		10/48			-	NO RECOVERY
4.0	1		10/42	SL-530-SB5C-SB-4.0-5.0	0905	ML	SILT w/SOME F SAND + CLAY: 10YR4/4 (Dk Yellow Br), 10% sand+clay, medium hard, poorly graded, moist, no stain or odor
5.0	1		10/64			ML	SAME AS ABOVE
6.0	1		10/60			ML	SAME AS ABOVE
7.0	1		10/72			ML	SAME AS ABOVE
8.0	1		10/48			SP	8-8.5 SAME AS ABOVE. 8.5-9: F-M SAND w/some silt + f. gravel, loose, P graded, dry, no stain or odor
9.0	9.8		10/48	SL-530-SB5C-SB-9.0-9.8	0920	SP	SAME AS 8.5'-9'.
10.0							Total Depth = 10.0' bgs. No GW encountered

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

Mike Gibson #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-531-SA5C-SB-0.0-0.5 Date/Time 04/25/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ Margaret Blaisa MB 5.25.12 Geologist Registration # ~~7735~~ 63360 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	
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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10 YR 3/4

Percentage Fill (%) _____

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-531	Subarea: 5C	Date Started: 04/25/12	Date Completed: 4.25.12
Client: DOE	Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 ft.
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 98cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: surface slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —		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	77	SL-531-SASC-SB-0.0-0.5	1325	ML	SILT: dyb (10YR 3/4); 95%, silt, slight plasticity, firm, micaceous; 5% sand, pg, f, sa-sr; slightly moist, no odor.

Total depth of borehole to 0.5 ft. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Nancy Begay Print RG 10360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-531-SASB-SB-4.0-5.0 (SB corrected to SB 7-9-12) Date/Time 07/09/2012 1130

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 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	X
	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	
	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) Red brick fragments		

Is Staining Present Yes (No)

Color 2.5Y 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 _____ **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-531-SA5C-SB-9.0-10.0 **Date/Time** 07/09/2012 1135

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 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	X
	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	
	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 _____ **PG Registration #** 7735

Additional Comments None

Location ID: DE-531	Subarea: SC	Date Started: @1123 7/9/12 - Monday	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.2'
Company Name: CDM SMITH		Drill Contractor/Driller: ~~NA~~ 12 SAFS	
GPS:		Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 13MR, 77 cpm		Borehole diameter:	
PID Background: 0.0 ppm		Depth to GW: NA	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		1.0	13/94	Surface sample 041251	2012	CL	CLAY: dyb (10YR 4/4), 90% clay, low plas, firm, 10% sand, pg, f-m, mostly f, T red brick fragments, dry, no odor (FILL)
1.0		0.0	10/54				
2.0	3/4	0.0	10/78				
3.0		0.0	10/66				
4.0			10/96	SL-531-SASC-SB 4.0-5.0	1130	CL	CLAY WITH SAND: lt.y.bwn (2.5Y 6/4), 85% clay, low plas, hard, 15% sand, pg, f-m, T. c, sa-sr; oxidation, T silt stone; red brick (slt. variegated) (10R/orange); wt. mottling (FILL), moist, no odor
5.0			10/84				
6.0	4/4		10/78				
7.0			10/66				
7.5							SANDY CLAY: lt.ol.bwn (2.5Y 5/3); 70% clay, low plas; firm/soft; 30% sand, pg, f-m, mostly f; T. oxidation, moist no odor.
8.0			10/54			CL	
9.0	2/2		10/142	SL-531-SASC-SB 9.0-10.0	1135		
10.0			10/60				

CDM Smith

BORING LOG AND SAMPLING RECORD

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Mike Hoffman #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-532-SASC-SB-0.0-0.5 **Date/Time** 04/23/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ Margaret Bloisi MB 5.24.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.24.12

Sampler Narolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
Herbicides	EPA 8151	
Pesticides	EPA 8081	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete (Wood) Glass

(Igneous/Metamorphic Gravel)

(Other) paint chips (red)

Check if Staining [ ]

Color 2.5 Y 3/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
D6-532	5C	04/23/2012 @ 1315	4/23/12

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:	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 11uR, 71cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: surface - slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr) (cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	66	SL-532-SA5C-SB-0.0-0.5	1325	ML	SANDY SILT: dk ol. brwn (2.5 Y 3/3), 60% silt, non-plastic, soft, unconsolidated, micaeous; 35% sand, f-m, trace of coarse, sa-sr, 5% gravel, f-m, pg, sa-sr, max ϕ = 1"; (FILL) paint chips, wood, greens gravel, lot of roots, asphalt, slightly moist, no odor.

Total depth of borehole to 0.5 ft. bgs. No GW or run off in drainage channel. lots of rocks at surface.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Gregory Brion PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐

Sample ID SL-533SA5C-SB-0.0-0.5 **Date/Time** 04/23/2012 1515

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ Margaret Blose MB 5.24.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.24.12

Sampler Narolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DE-533	Subarea: 5C	Date Started: 04/23/12	Date Completed: 04/23/12
Client: DOE	Project Name/#: SSFL-66258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS:	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 69cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: surface slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —		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	48	SL-533-SA5C-SB-0.0-0.5	1515	ML	SILT and SAND: dyb (10YR 4/4); vangated y/lt ol brn (2.5Y 5/4); 85% silt, no plasticity, firm, weak cementation; 15% sand, pg, f-m, sa-sr; trace of gravel, pg, sa-sr, f, max Ø 1" (siltstone/sandstone), slightly moist, no odor
							Total depth of borehole to 0.5 ft. bgs.

CDM Smith

BORING LOG AND SAMPLING RECORD

Reviewed [illegible] PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL533-SA5C-SB-4.0-5.0 **Date/Time** 07/09/2012 1355

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 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	X
	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	
	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) Red brick frag.		

Is Staining Present Yes (No)

Color 2.5Y 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 #** 2235

Additional Comments None

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-533-SA5C-FB-9.0-10.0 **Date/Time** 07/09/2012 1400

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Nacolynn Beggy

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	X
	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	
	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 Mike Hoffman **PG Registration #** 7735

Additional Comments None

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DB-533	SC	7/09/12	7/09/12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 12 SAFS	10.1, 10.2' bgs
GPS:	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 90cpm	Borehole diameter:	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	~~10~~/82	Surface sample 04123/12	012	CL	CLAY WITH SAND; dyb (10YR 4/6); 80% clay, low plas, firm; 20% sand, pg, f-m, T. c, sa-sr; T. red brick frag. ss and siltstone; dry, no odor.
1.0			10/48				
2.0	4.0/4.0		10/78				CLAY: dyb 10YR 4/4; ~~TB~~ TB 7.9.12 95% clay, low plas, soft; 5% sand, pg. f, T. m; dry, no odor.
3.0			10/114				CLAY WITH SAND: db (10YR 3/3), 85% clay, low plas, hard, 15% sand, pg, f-m, mostly f. T. c, r-sa, 3.0
4.0			10/94	SL-533-SASC-SB-4.0-5.0	1355	SM	SAND (SILTY): lt. y. brn (2.5Y 6/4); 70% sand, pg. f-m, mostly m; 30% silt, non-plas, soft; oxidation. moist, no odor. T. wt. nothing. T. red brick, T. siltstone + ss blk. charcoal. (FILL) 4.0
5.0			10/90				
6.0	4.0/4.0		10/78				
7.0			10/72				
8.0			10/48			CL	CLAY: lt ol. brn, 90% clay, sticky when wet, firm to soft; 10% sand, pg, f-m, mostly f; oxidation (blk / orange) ~~T. charcoal~~, moist, no odor. color (2.5Y 5/3) TB 7.9.12 7.5
9.0	2.0/2.0		10/48	SL-533-SASC-SB-9.0-10.0	1400		Same as above.
			10/78				

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of ___

Mike Hoffman #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ MB

Sample ID SL-536-SA5C-SR-0.0-0.5 Date/Time 05108/2012 1125

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BLOISA MB 5.24.12 Michael Hoffman

Geologist Registration # MB 5.24.12 ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	X
Alcohols	EPA 8015	X
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10 YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-536	5C	05108/2012	05108/2012

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 99cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: Slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —	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	71	SL-536-SA5C-SB-0.0-0.5	1125	CL	CLAY W/SAND: dyb (10YR 4/4); 80% clay, firm, low plasticity; 15% sand, pg, f-m, trace of c, sa-sr; 5% gravel (igneous), pg, f, r-sa, max ϕ=1.25" (FILL); dry, no odor.
							Total depth of borehole to 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Geologist Signature PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐ GH

Sample ID SL-534SA5C-SB-0.0-0.5 Date/Time 06/05/2012 1355

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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 LLI
	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	X
	Alcohols	EPA 8015	X
	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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 2.5Y 5/3

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments 12" concrete (0.0'-1.0' bgs) - gravel base below concrete

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-539SASC-SB-6.0-7.0 Date/Time 06/05/2012 1405

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.0

End Depth 7.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Peterson Geologist Registration # 6360

Sampler John Halsetty

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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	X
	Alcohols	EPA 8015	X
	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

(SP) TB 6.5.12

Check if Fill Material Present ☐

Check if Staining ☐

Color 2.5 Y 5/6

Percentage Fill (%) 0

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-539-SA5C-SB-7.0 Date/Time 06/05/2012 1400

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloise Geologist Registration # 6760

Sampler John Halsey

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 5/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

6.5.12

Location ID: DE-539	Subarea: 5 & C	Date Started: 06/05/2012 @ 1353	Date Completed: 6.5.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 7.9', 5.8', 7'
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: DPT (Geoprobe 6600)		Depth Drilled into Bedrock: NA
Radiological Background: 7 uR, 169 cpm	Borehole diameter: 2.25"		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0					Concrete (0.0-1.0' bgs)
1.0			7154	SL-539-SASC-SB-00-0.5	1355	GP	GRAVEL w/ SAND: lt. ol. brwn (2.5Y 5/3), 80% gravel, pg (igneous), f; max φ = 2"; 20% sand, pg, f-m, T.C, sa-sr; moist, no odor (FILL - road base)
	2'/7.0						1.6
2.0			7136			CL	CLAY: brown (10YR 5/3), 90% clay, med. plas, strong; 10% sand, pg, f; slt. oxidation; moist, no odor
3.0			7166				~~CLAY WITH SAND~~ TB 06/06/12
4.0			7148	TB 6.5.12 SL-539-SASC-SB-4.0-5.0			
						4.2	CLAY WITH SAND: dy6 (10YR 4/6); clay 80%, low plas, firm (hard); 20% sand, pg, f; slt. oxidation, moist, no odor.
5.0			7142	SL-539-SASC-SB-5.0			5.2
							CLAY (flaky clay): slt. variegated gray; lt brown (2.5Y 5/2) lt ol. brwn (2.5Y 5/4); 95% clay, low plas, firm, 5% sand, pg, f; slt. moist, no odor; slt oxidation.
6.0	9'/9.4		7148	SL-539-SASC-SB-4.0-7.0	6.5.12 TB 1400 S		6.0
						SM SP	SAND: lt. ol. brwn (2.5Y 5/6); 95% sand, pg; f-m; 5% silt TB 6.5.12 very soft; moist, no odor.
7.0			7156	SL-539-SASC-SB-7.0	1400		7.4
8.0			7156				Hit refusal at 7.9' bgs (1ST attempt), Attempted 3x sampling final depth = 7' bgs. No GW encountered for samplers.
9.0							
10.0							~~CLAY (flaky) lt ol brwn (2.5Y 5/4) 95% clay, low plas, firm 5% sand, pg, f; slt. moist, no odor.~~ 6.05.12 9.0

CDM Smith

slt = slightly

BORING LOG AND SAMPLING RECORD

Page 1 of 1

PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check 59

Sample ID SL-542-SA5C-SB-0.0-0.5 Date/Time 05/09/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BLOISA MB 5.24.12 Michael Hoffman Geologist Registration # ~~7735~~ 63600 MB 5.24.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
Herbicides	EPA 8151	
Pesticides	EPA 8081	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood (Glass)

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 2.5Y 5/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-542-SA5C-SB-1.0-2.0 **Date/Time** 05/09/2012 0930

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BROOKS MB 5.24.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.24.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
Herbicides	EPA 8151	
Pesticides	EPA 8081	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 2.5Y 5/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-542	5C	9 May 2012 @ 0844	05/09/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 2.25' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: ~~NA~~ Hand Auger	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 78cpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: slide hammer-2"
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	83	SL-542-SA5C-SB-0.0-0.5	0900	CL	CLAY W/SAND: 1t.ol.brwn (2.5Y 5/3); 85% clay, low plasticity, hard; 15% sand, pg, f-m, sa-sr; trace of gravel(igneous), pg, f, r-sa, max ϕ = 0.25", trace of glass (green) shard, concrete pieces in gravel; dry, no odor.
1.0	HA						
1.5	0.5/0.5	0.0	75				Same as above, except 80% clay; 20% sand; no glass or concrete.
2.0	0.5/0.5	0.0	67	SL-542-SA5C-SB-1.0-2.0	0930		SANDY CLAY: Hyb (2.5Y 6/4), 70% clay, slight plasticity, unconsolidated, soft; 30% sand, pg, f-m, trace coarse, sa-sr; trace gravel (bedrock) (igneous), pg, f, r-sa, max ϕ = 0.75"; dry, no odor
2.5							Hit refusal at 2.25' bgs., Hit bedrock. No GW encountered
3.0							
3.5							
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Christopher Brion PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-543-SA5C-SB-0.0-0.5 Date/Time 06/05/2012 0840

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

~~6.5.12~~

Collection Method (circle one): ~~Surface Soil~~ (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Haleth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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)	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	X
	Alcohols	EPA 8015	X
	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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 2.5Y 5/2

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Road base

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments 10" concrete at surface

Gravel below concrete is road base.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-543-SASC-SB-~~4.0-5.0~~ 3.5-4.5 (6.5.12) Date/Time 06/05/2012 0847

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~4.0~~ (6.5.12) 3.5

End Depth ~~5.0~~ 4.5

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): ~~Surface Soil~~ (DPT) Hand Auger Trenching Sediment (6.5.12)

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil/Sediment	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Ex-Situ	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
	TPH-EFH	EPA 8015	X
	Glycols	EPA 8015	X
	Alcohols	EPA 8015	X
	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

Check if Fill Material Present ☐

Percentage Fill (%) Ø

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 5/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-543-SASC-SB-4.5 Date/Time 06/05/2012 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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments N/A

Location ID: DG-543	Subarea: SC	Date Started: 06/05/12 @ 0824	Date Completed: 6.5.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 4.3 ' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: /	Drill Method: DPT (Geoprobe 6600)		Depth Drilled into Bedrock: NA
Radiological Background: 10 uR 74 cpm	Borehole diameter: 2.25"		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							GRAVEL WITH SAND:
		0.0		SL-543-SASC-SB 0.0-0.5	0840	GP	10" concrete ~~SAND AND GRAVEL~~: grayish brown (2.5Y 5/2); 80% gravel (igneous), pg, f, r-sa, max ϕ=2"; 15% sand, pg, f, m, T. crs; 5% silt. FILL (appears to be base); moist, no odor.
1.0			7/54				
	2.5/4					SM	SILTY SAND: tan brn (2.5Y 5/6); 80% sand, pg, f-m; 20% silt, non plastic, soft; moist no odor.
2.0			7/66				
							contact at ~1.5'
3.0			7/60	SL-543-SASC-SB-3.5-4.5	0847		
4.0			7/66	SL-543-SASC-SB-4.5	0845	↓	Same as above.
							Hit refusal at 4.3 ft. bgs. No GW encountered. 3 attempts.
5.0							
6.0							
7.0							
8.0							
9.0							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

3.5'
3.10"
1.5'
2.0'
6.5.12

Borehole Location DG-543 PG0160

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-545-SA5C-SB-0.0-0.5 **Date/Time** 06/04/2012 1520

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID ____

Geologist Margaret Bloisa **Geologist Registration #** 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Metals	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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)	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	X
	Alcohols	EPA 8015	X
	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

Check if Fill Material Present ☑

Check if Staining ☐

Percentage Fill (%) 100

Color 10 YR 4/4

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(gneous/Metamorphic Gravel

(Other) Red brick

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-545-SA5C-SB-4.0-5.0 Date/Time 06/04/2012 1525

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID –

Geologist Margaret Blevins Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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)	X
		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	X
	Glycols	EPA 8015	X
	Alcohols	EPA 8015	X
	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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments FILL found at 9'0' bgs

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-545-SA5C-SB-5.0 Date/Time 06104/2012 1523

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 62360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
Sediments	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

Check If Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments FILL found at 9.0' bgs

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-545-SASC-SB-9.0-10.0 Date/Time 06/04/2012 1530

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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)	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	X
	Alcohols	EPA 8015	X
	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

Check if Fill Material Present ☑

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining ☐

Color 10YR 5/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐

Sample ID SL-545-SA5C-SB-10.0 Date/Time 06/04/2012 1528

MB 6.4.12

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~10.0~~ 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Bloom Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10 YR 5/6

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments NONE

Location ID: DG-545	Subarea: SC	Date Started: 04 June 2012	Date Completed: 6.4.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS: ✓		Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 10 uR, 93 cpm		Borehole diameter: 2.25"	
PID Background: 0.0 cpm		Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							3" asphalt
0	4/4	0.0	8154	SL-545-SASC-SB-0.0-0.5	1520	CL	CLAY: dyb (10YR 4/4); 90% clay, low plas, hard; 10% sand, pg, f, T. med; T. red brick frag / igneous gravel, pg, f-sr, r-sr, max Φ = 0.25"; moist, no odor. blk. charcoal
1.0							
2.0			8148			SM	SILTY SAND: yb (10YR 5/6); dyb (10YR 4/4); 70% sand, pg, f-m; 30% silt, no plas, soft; moist, no odor
3.0			8164				
3.5						CL	CLAY WITH SAND: 10YR 4/4; 90% clay, low plas, hard; 10% sand, pg, f-m; moist, no odor, oxidation.
4.0			8136	SL-545-SASC-SB-4.0-5.0	1525		
5.0	4/4		8130	SL-545-SASC-SB-5.0	1523		
6.0		0.1	8136				SILT WITH SAND: yb (10YR 5/4) 80% silt, no plas, soft; 20% sand, pg, f-m, moist, no odor.
7.0		0.0	8124				
8.0			8134				
9.0	2/2		8136	SL-545-SASC-SB-9.0-10.0	1530	CL	SANDY CLAY: yb (10YR 5/6); 75% clay, low plas, soft; 25% sand, pg, f-m, oxidation, T. weathered granite (crs. gn); very moist, no odor.
10.0			8142	SL-545-SASC-SB-10.0	1528		

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Maureen Bliss PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-546-SASC-SB-0.0-0.5 TB 6.6.12 Date/Time 06/06/2012 0920 TB 6.6.12

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID N/A

Geologist Margaret Bloss Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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)	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	X
	Alcohols	EPA 8015	X
	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	

1-1602

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 2.5Y 7/1

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments Road base under 0.4' concrete

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-546-SA5C-SB-4.0-5.0MS Date/Time 06/06/2012 0930

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID N/A

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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)	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	X
	Alcohols	EPA 8015	X
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Sediments	Organotin	NOAA Status and Trends, Krone et al	
	Methyl Mercury	EPA 1630	

2-1602

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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 5/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ No

Sample ID SL-546-SASC-SB-5.0 MS Date/Time 06/06/2012 0915

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) ~~FD~~ R FB TB 6.6.12

Parent Sample ID 6.6.12 SL-546-SASC-SB-5.0 N/A

Geologist Margaret Bloom Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) Ø

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 5/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-546-SA5C-SB-9.0-10.0 Date/Time 06/06/2012 0945

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID N/A

Geologist Margaret Bloss Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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)	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	X
	Alcohols	EPA 8015	X
	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	

1-1602

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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-546-SA5C-SB-10.0 Date/Time 06/06/2012 0938

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID N/A

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) Ø

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 5/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-846-SASC-SB-4.0-5.0 Date/Time 06/06/2012 0927

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): N (FD) R FB TB

Parent Sample ID ~~N/A~~ SL-546-SASC-SB-4.0-5.0MS 6.6.12

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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)	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	X
	Alcohols	EPA 8015	X
	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	

1-1602

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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color (10 YR 5/4) yellowish brown

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-846-SA5C-SB-5.0 **Date/Time** 06/06/2012 0918

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): ~~(N)~~ (FD) R FB TB

Parent Sample ID ~~N/A~~ 6.6.12 SL-546-SA5C-SB-5.0 MS

6.6.12

Geologist Margaret Bloisa **Geologist Registration #** 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

(3)

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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check If Staining ☐

Color 10YR 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments N/A

Location ID:	Subarea:	Date Started:	Date Completed:
DE-546	SC	6.6.12	6.6.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	10.1' bgs
GPS: ✓	Drill Method: DPT	Depth Drilled into Bedrock: N/A
Radiological Background: 8 uR, 79 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: N/A	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0		SL-546-SASC-SB-0.0-0.5 MS	0922		CONCRETE
				SL-546-SASC-SB-0.0-0.5	0928	GP	GRAVEL w/ SAND: (2.5Y 7/1) lt. gray; 80% gravel, pg-f, a-sr, max Ø = 1" (road base) - igneous; 20% sand, pg, f-m, dry, no odor. 0.4
1.0			8/54	6.6.12		CL	SANDY CLAY (10YR 5/6); 70% clay, low plas, firm; 30% sand, pg, f-m, moist, no odor, slt oxidation. 1.0
2.0	4/4		8/40				2.0
3.0			8/36			CL	CLAY: dk brwn (10YR 3/3); 90% clay, slt. plas, very hard, 10% sand, pg, f; blk stringers (charcoal?), T. red brick fragments; T. oxidation, moist, no odor.
4.0			8/42	SL-546-SASC-SB-4.0-5.0 MS	0930		4.2
5.0			8/72	SL-546-SASC-SB-5.0 MS	0915		CLAY w/ SAND: Yellowish brown (10YR 5/4); 80% clay, mod plas, hard, 20% sand, pg, f-m; slt. oxidation, moist, no odor.
				SL-546-SASC-SB-4.0-5.0	0927		
6.0	4/4		8/90	SL-546-SASC-SB-5.0	0918		
7.0			8/90				
8.0			8/78				
9.0	2/2		8/72	SL-546-SASC-SB-9.0-10.0	0945		
10.0			8/56	SL-546-SASC-SB-	0938		same as above

CDM Smith

BORING LOG AND SAMPLING RECORD

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10.0 6.6.12

Maureen Meier PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ MB

Sample ID SL-547-SASC-SB-0.0-0.5 **Date/Time** 05/08/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~MARGARET BLOISA~~ MB 5.24.12 ~~Michael Hoffman~~ **Geologist Registration #** MB 5.24.12 ~~7735~~ 6360

Sampler Nicolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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	X
Alcohols	EPA 8015	X
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 20

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
D6-547	SC	5/08/12 C1002	05/08/2012

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: /	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 84cpm	Borehole diameter: 2"	
PID Background: 0.0ppm	Depth to GW: —	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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	76	SL-547-SASC-SB-0.0-0.5	1010	CL	CLAY: vdgb (10YR 3/2); 80% clay, low plas, firm, 10% sand, pg, f-m, f. c; 10% gravel, (igneous, asphalt) pg, r-sa, f, max d = 0.75"; moist, no odor. (FILL)
0.5'							Total depth of bore hole to 0.5' bgs.

CDM Smith

BORING LOG AND SAMPLING RECORD

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PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ AM

Sample ID SL-548-SASC-SB-0.0-0.5 Date/Time 05/08/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BLOISA 5.24.12 Michael Hoffman Geologist Registration # 5.24.12 7735 6360

Sampler Nicolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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	X
Alcohols	EPA 8015	X
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	

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Margaret Bloisa PG 6360

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

Check if Fill Material Present [X]

Percentage Fill (%) ~15%.

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 2.5Y 3/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments Adjacent asphalt drainage ditch.

Location ID: DG-548	Subarea: SC	Date Started: 8 May 2012 @ 0934	Date Completed: 8 May 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: ✓		Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 54 cpm		Borehole diameter: 2"	
PID Background: 0.0 ppm		Depth to GW: -	Sample Method: slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake		Depth/Time GW after Drilling completed: -	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	66	SL-548-SASC-SB-0.0-0.5	0945	CL	CLAY: dark olive brown (2.5Y 3/3); 85% clay, low plasticity, firm; 15% sand, pg, m, trace c, sa-sr; moist, no odor. (Land fill) trace asphalt, gravel (igneous) pg, f, sa-sr. max ϕ = 0.75".
							Total depth of borehole to 0.5' bgs No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Meaghan Mion PG 6260

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-551-SA5C-SB-~~0.0-0.5~~ 4.0-5.0 5/5/2012 Date/Time 06/05/2012 1515

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~0.0~~ 4.0 6/5/2012

End Depth ~~0.5~~ 5.0 6/5/2012

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID ∅

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	✓
		EPA 6020	✓
		EPA 7471 (Soil)	✓
		EPA 7470 (Water)	
	Flouride	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	

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 SW 5/6/20

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color Sieyg 1 (5/1 5G4/1)

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [✓]

Sample ID SL-SSL-SASC-SB-5.0 Date/Time 06/05/2012 / 1512

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Ø

Geologist Margaret Bloise Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) N/A

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color ~~5G~~ Gley 1 (5/1 5GY)

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments N/A

05

Location ID: DE-551	Subarea: SC	Date Started: 06/04/2012 @ 1447	Date Completed: 6.4.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3rd = 2nd = 5.2' 5.3' 1st = NR
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: DPT		Depth Drilled into Bedrock: NA
Radiological Background: 7 uR 72 cpm	Borehole diameter: 2.25"		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: cont. macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0		SL-551-SAC6-SB-0.0-0.5	1510		CONCRETE
0.8							
1.0			7/60			GP	GRAVEL WITH SAND: greyish brown (10YR 5/2), 80% gravel, pg, f, max ϕ = 2" (igneous-road base); 20% sand, pg, f-m, r-cr; moist, no odor
1.4							
2.0	24		7/76			CL	CLAY WITH SAND: dgb (10YR 4/2); 85% clay, mod → high plasticity, very soft; 15% sand, pg, f; very moist, no odor.
							2.5 wet
3.0			7/30			CL	SANDY CLAY: GLEY 1 (5/1 5GY); 70% clay, low plas. strong; 30% sand, pg, f-m; moist, no odor.
4.0			7/30	SL-551-SA5C-SB-4.0-5.0	1515		
5.0			7/98	SL-551-SA5C-SB-5.0	1512	SM	SILTY SAND: dgb (10YR 4/6); 80% sand, pg, f-m; 20% silt, non, no plas; moist, no odor.
							Hit refusal at 5.3 ft. bgs. No GW encountered 3 attempts. No 10' sample collected here.
6.0							
7.0							
8.0							
9.0							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

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PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐ 1Q

Sample ID SL-552-SASC-SB-0.0-0.5 Date/Time 04/05/2012 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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloise Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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)	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	X
	Alcohols	EPA 8015	X
	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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10YR 6/6

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other ~~formation~~ SS TB

4.5.12

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments N/A

Location ID:	Subarea:	Date Started:	Date Completed:
DG-552	SC	06/05/2012 @ 0923	6.5.12

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 8"
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 10uR, 76cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0	1/4	0.0	10/84	SL-552-SASC-SB-0.0-0.5	0930	SM	3.5" asphalt Silty SAND: brownish yellow (10YR 6/6), 80% sand, pgr f-m; 20% silt, non plastic, soft, T. gravel (igneous, sc, siltstone), pg, f,
							Hit refusal at 1' bgs after 3 attempts. No GW encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Geologist/Logger RG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID RW SB SC-554-SA5C-SB-0.0-0.5 Date/Time 05/29/2012 1445

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Method		
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	
Herbicides	EPA 8151	
Pesticides	EPA 8081	

Method		
VOCs	EPA 8260	
1,4 Dioxane	EPA 8260 SIM	
TPH-GRO	EPA 8015	
TPH-EFH	EPA 8015	X
Glycols	EPA 8015	X
Alcohols	EPA 8015	X
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10 YR - 4/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments NONE

Location ID:	Subarea:	Date Started:	Date Completed:
SL-554	5C	05/29/12	05/29/12

Client: DOE	Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3	Total Depth: 2.0
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method:	Depth Drilled Into Bedrock: 0
Radiological Background: 10/14 µR/cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: macro - core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: ~~N.Begay~~ R Cuccaro

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0		0.0	10/14	SL-554-SB5C-SB-0.0-0.5	1445	SP-SM	3" Asphalt Poorly graded sand w/ silt + gravel Brown (10YR-4/3) - Dense, moist, non-plastic. Gravels: 1/4" to 1" asphalt, concrete, igneous rock → likely artificial fill
1.0	2/4	0.0	10/60				
2.0		0.0	10/12				Refusal at 2.0 ft TD = 2.0 ft bgs NO GW Encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

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R Cuccaro PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check PW

Sample ID SL-555-SA5C-SB-0.0-0.5 Date/Time 05/29/12 1412

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist MARGARET BLOUSA Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Analyte	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	
Herbicides	EPA 8151	
Pesticides	EPA 8081	

Analyte	Method	Analyze
VOCs	EPA 8260	
1,4 Dioxane	EPA 8260 SIM	
TPH-GRO	EPA 8015	
TPH-EFH	EPA 8015	X
Glycols	EPA 8015	X
Alcohols	EPA 8015	X
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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining ☐

Color 10YR 5/8

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐

Sample ID SL-555-SA5C-2.5-3.5 Date/Time 05/29/2012 1414

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Blosa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	X
Alcohols	EPA 8015	X
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10YR - 6/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐

Sample ID SC-555-SA5C-SB-3.5 Date/Time 05/29/2012 1413

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 63160

Sampler Sindy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10YR - 6/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments NONE

Location ID:	Subarea:	Date Started:	Date Completed:
SL-555	5C	05/29/2012	05/29/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT	Depth Drilled Into Bedrock: 0
Radiological Background: uR/cm 10/41	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: N/A	Sample Method: macro-core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: ~~N.Begay~~ R WOOD

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	3.5/4	0.0	10/44	SL-555-SA5C-SB 0.0-0.5	1412	SP-SM	3" Asphalt Poorly graded SAND w/ silt and gravel yellowish brown (10YR-5/6) - Dense, dry, non-plastic, some pieces of asphalt, concrete and igneous rock, sand fine grained, no odor, no discoloration, likely non-native fill.
1.0			10/60				
				SL-555-SA5C-SB-2.5-3.5	1414		
2.0			10/48				
				SL-555-SA5C-SB	1413	ML	Sandy Silt - pale brown (10YR 6/3) very dense, dry, non-plastic, pieces of weathered bedrock, no odor no discoloration.
3.0			10/84	3.5			
			10/54				
4.0							Refusal at 3.5' bgs TD = 3.5' No GW Encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Page ___ of ___

Engineering Manager PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ QA

Sample ID SL-556A-SASC-SB-0.0-0.5 **Date/Time** 04/24/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloisa / ~~Michael Hoffman~~ **Geologist Registration #** PB 5.25.12 / ~~7735~~ 63600

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete (Wood) Glass

(Igneous/Metamorphic Gravel)

(Other) Red brick fragments

Check if Staining [ ]

Color 10 YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-556A	5C	04/24/2012	4/24/2012

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 85 cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: Surface, Slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	WA	SL-556A-SA5C-SB-0.0-0.5	1110	CL	SANDY CLAY: dyb (10YR 4/4), 70% clay, low plasticity, stiff; 30% sand, pg, f-m, sa-sr; trace of asphalt + red brick fragments ~wood; moist, no odor.
0.5							Total depth of borehole to 0.5 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Greegory Mion PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SV

Sample ID SL-556A-SASC-SB-0.5-1.0 Date/Time 05/15/2012 0955

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.5

End Depth 1.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ Margaret Blaisa MBS.29.12

Geologist Registration # ~~7735~~ 6360 MBS.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 5/4

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Red brick

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments Concrete found around 1' bgs

Location ID: DG-556 A	Subarea: SC	Date Started: 15 May 2012	Date Completed: 05/15/2012
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 1.0 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: hand auger		Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 68 cpm	Borehole diameter: 4" (auger bucket 3")		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0	0.25/0.5	0.0	82	Surface collected on 04/24/12 SL-556A-SASC-SB-0.5-1.0	0955	ML	SILT W/SAND: 7.5YR 5/4), 85%, silt, non-plastic, hard, mostly unconsolidated "/"clasts" that are very hard; 15%. sand, pg, f-m, sa-sr; trace asphalt, concrete pg, f, but have large chunks in hole 3" diameter; dry, no odor. Rd brick Hit refusal at 1.0 ft. bgs. No GW encountered
2.0							
3.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

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PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-556B-SA5C-SB-2.0-3.0 Date/Time 05/15/2012 0900

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MICHAEL HOFFMAN MB 5.29.12

Geologist Registration # ~~7735~~ 6360 PB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil/Sediment	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil/Sediment	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	
Tissue	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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10 YR 4/4

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-556B	5C	15 May 2012 @ 0839	15 May 2012

Client: DOE — Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3		Total Depth: 3 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: hand auger	Depth Drilled Into Bedrock: NA
Radiological Background: 12 µR, 72 cpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	NA			Sampled surface on 04/24/12		ML	SILT W/SAND: dark yellowish brown (10YR 4/4), 85% silt, no plasticity, soft, unconsolidated; 15% sand, pg, f, trace med., sa-sr; trace of gravel (igneous - granite & asphalt), pg, f, r-sa, max Ø = 0.5"; dry, no odor.
1.0		0.0	86				
1.2							3" piece of asphalt @ 1.4' bgs - harder drilling. 1.2
		0.0	63			CL	CLAY W/SAND: brown (10YR 4/3); 85% clay (fines) slt plasticity, firm to hard; 15% sand, pg, f, T, med sa-sr; dry, no odor; trace red brick pieces, gravel (same as above).
2.0		0.0	64	SL-556B-SA5C-SB-2.0-3.0	0900		Same as above, except; slightly moist. (FILL) color Δ: dy6 (10YR 4/4).
3.0	0.25/0.5						
							Total depth of borehole to 3.0 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-556B-SA5C-SB-0.0-0.5 Date/Time 04/24/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ Margaret Blaisa MB 5.25.12 Geologist Registration # ~~7735~~ 63160 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10 YR 3/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-556B	Subarea: 5C	Date Started: 04/24/2012	Date Completed: 4.24.12
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: ✓	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 11 uR, 81 cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: surface. slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —		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	78	SL-556B-SASC-SB-0.0-0.5	1255	CL	SAND WITH CLAY: dyb (10YR 3/4); 80% clay, low plasticity, hard; 20% sand, pg, f-m, trace of coarse, sa-sr, moist, no odor; trace of gravel, fine, pg, sa-sr, max ϕ = 0.25".
							Total depth of borehole to 0.5 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Geologist Name RG 63360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-556C-SASC-SB-2.0-3.0 Date/Time 05/15/2012 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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET HOKA MB 5.29.12

Geologist Registration # ~~7795~~ 6360 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Red brick

Check if Staining [ ]

Color 10 YR 3/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-556C	SC	05/15/2012 @1015	05/15/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: hand auger	Depth Drilled into Bedrock: NA
Radiological Background: 12 uR, 77 cpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	HA	0.0	90	surface collected on 04/24/2012		ML	SILT W/SAND: dybwn (10YR 4/4); 70% silt, non-plastic, soft, unconsolidated; 25% sand, pg, f-m, sa-sr; 5% gravel (igneous), pg, f-m, r-sa, max ϕ = 3" (granite + asphalt); dry, no odor.
1.0		0.0	60				Same as above, except; dark bwn (10YR 3/3) moist.
2.0		0.0	78	SL-556C-SA5C-SB-2.0-3.0	1030	CL	CLAY W/ SAND: dyb (10YR 3/4); 80% clay, low plasticity, firm; 20% sand, pg, f-m, sa-sr; trace gravel (igneous), pg, f, sa-sr, max ϕ = 0.5", moist, no odor, red brick fragments
3.0	0.4/0.5						Total depth of borehole to 3.0 ft bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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PG6320

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓ ~~KK~~

Sample ID SL-556C-SA5C-SB-0.0-0.5 **Date/Time** 04/24/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Bloise 5.25.12 / ~~Michael Hoffman~~ **Geologist Registration #** 5.25.12 / ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10 YR 3/4

Fill Description (circle one)

(Asphalt) Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID: DG-556C	Subarea: 5C	Date Started: 24 April 2012	Date Completed: 4/24/2012
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: ✓	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 11uR, 88cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —		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	72	SL-556C-SA5C-SB 0.0-0.5	1340	CL	SANDY CLAY; dyb (10 YR 3/4); 60% clay, silt, no plasi 35% sand, m-c, mostly med., pg, sa-sr; 5% gravel (igneous/asphalt/concrete) pg, f, sa-sr, max ϕ = 1", slightly moist, tender.
							Total depth of borehole to 0.5 ft bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Reviewed by PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-556D-SA5C-SB-0.0-0.5 MS **Date/Time** 04/24/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffmart~~ Margaret Blasa 5.25.12 **Geologist Registration #** ~~4735~~ 6260 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☑

Check if Staining ☐

Color 10 YR 3/4

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Red brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-856D-SA5C-SB-0.0-0.5 Date/Time 04/24/2012 1430

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): N (FD) R FB TB

Parent Sample ID SL-556D-SA5C-SB-0.0-0.5 MS

Geologist ~~Michael Hoffman~~ Margaret Bloisa MB 5.25.12 Geologist Registration # ~~7735~~ 6360 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☑

Check if Staining ☐

Color 10 YR 3/3

Percentage Fill (%) 100

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

DUPLICATE MS

Location ID: DG-556D	Subarea: 5C	Date Started: 24 April 2012 @ 1411	Date Completed: 4.24.12
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: ✓		Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 91cpm		Borehole diameter: 2"	
PID Background: 0.0 ppm		Depth to GW: —	Sample Method: (Surface) slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/ppm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	72	SL-556-SASC-SB-0.0-0.5MS SL-856-SASC-SB-0.0-0.5	1420 1430	CL	CLAY/SAND: dyb (10 YR 3/4); 80% clay, hard, moderate-weak cementation, low plasticity. 20% sand, pg, f-m, sa-sr, trace of coars gn.; dry, no odor, trace of gravel (concrete, igneous, red brick, pg-f, sg-sr, max ϕ = 0.5". (FILL) 0.5 Total depth of boring to 0.5 ft bgs. No GW encountered. Concrete has high sand concrete.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Geologist Signature — RG 6260

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-5560-SA5C-SB-2.0-3.0 MS Date/Time 05/15/2012 1105

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ Margaret Blosa FB 5.29.12

Geologist Registration # ~~7735~~ 6360 FB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameter	Method	Analyze?
Inorganics	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	X
Inorganics	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	
	TPH-EFH	EPA 8015	
	Glycols	EPA 8015	
	Alcohols	EPA 8015	
	Terphenyls	EPA 8015	
Inorganics	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	
	NDMA	EPA 1625	
Biological	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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

(Other) tar like substance

Check if Staining [ ]

Color 10YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments Small tar 100King pieces - sheeny - no odor ~1" in length.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐

Sample ID SL-556D-SA5C-SB-2.0-3.0 Date/Time 05/15/2012 1110

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): N (FD) R FB TB

Parent Sample ID SL 556D-SA5C-SB-2.0-3.0 MS

Geologist ~~Michael Hoffman~~ Margaret Blosa MB 5.29.12

Geologist Registration # ~~7735~~ 6360 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Inorganics	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
Biological	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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/3

Fill Description (circle one)

(Asphalt) Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

(Other) tar

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-556 D	5C	05/15/12 - Tues.	5.15.12

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: HA	Depth Drilled into Bedrock: NA
Radiological Background: 12 uR, 8 kcpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0	HA	0.0	78	Surface collected on 04/24/2012 —		ML	SILT w/SAND: brown (10YR 4/3); 70% silt, non plastic, soft, unconsolidated; 25%, sand: pg, f-med, sa-sr; <1% gravel (1 grams) pg, f, sa-sr, max ϕ = 0.75"; slightly moist, no odor.
2.0		0.0	76	—			Same as above, except, ashalt/tar? 3" concrete (black/shiny) @ 1.8' bgs + asphalt (concrete) no odor
	0.25 0.5			SL-556D-SASC-SB-2.0-3.0 MS	1105		
3.0	0.25 0.5	0.0	60	SL-856D-SASC-SB-2.0-3.0	1110		Same as above; no tar
							Total depth of borehole to 3' bgs. No GW.

CDM Smith

BORING LOG AND SAMPLING RECORD

PG 6360

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

FSDS QC Check ☑ BM

Sample ID SL-557A-SA5C-SB-0.0-0.5 **Date/Time** 04/24/2012 0835

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Blosa MB 5.25.12 ~~Rachael Hoffman~~ **Geologist Registration #** MB 5.25.12 7735 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10 YR 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-557A	Subarea: 5C	Date Started: 04/24/2012 0830	Date Completed: 4.24.12
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: ✓ moved by Tina * MWH		Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 11uR, 87 cpm		Borehole diameter: 2"	
PID Background: 0.0 ppm		Depth to GW: —	Sample Method: SURFACE slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.25	0.5 / 0.5	0.0	72	SL-557A SA5C-SB-0.0-0.5	0835	ML	SANDY SILT: yellowish brown (10YR 5/4), 70% silt, non plastic, soft, unconsolidated, dry; 30% sand, m-c, pg, sa-sr, dy, no odor; trace of gravel (igneous), sa-sr, f, pg, max ϕ = 0.5" bgs. 0.2
0.5						SM	SILTY SAND: (10YR 5/4), 70% sand, pg, f, sa-sr, 25% sand pgf-m, mostly m, trace of coarse, sa-sr, + of rounded, slightly moist, no odor. 5% gravel, pg, f, sa-r, max ϕ = 0.5". 0.45
						ML	SILT: dyb (10YR 3/4); 95% silt, non-plastic, soft, unconsolidated, micaceous; 5% sand, pg, f, sa-sr, moist, no odor.

Total depth of bore hole to 0.5 ft. bgs No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Engineer Brian PE 63760

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-557A-SA5C-SB-2.0-3.0 Date/Time 05/15/2012 1505

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Blasa MB 5.29.12 ~~Michael Hoffman~~ Geologist Registration # MB 5.29.12 ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyte?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil/Sediment	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10 YR 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-557A	5C	Tues. 05/15/2012	05/15/2012

Client: DOE — Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3		Total Depth: 3' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: HA	Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr)	Sample Name	Sample Time	USCS	Description of Materials
1.0	HA	0.0	68	Surface collected on 04/24/2012		CL	CLAY w/SAND: dyb (10YR 4/4), 80% clay, low plas, firm; 20% sand, pg, f-med. crsgn, mostly med., trace gravel (igneous) pg, f, r-sa, max ϕ = 1", sl. moist, no odor.
		0.0	79	—			med. plasticity
2.0		0.0	64	SL-557A-SA5C-SB-2.0-3.0	1505		SANDY CLAY: Same as above, except; 70% clay, low plas, 30% sand.
3.0	0.5/0.5						Total depth of borehole to 30 ft. bgs. NO GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ KM

Sample ID SL-557B-SA5C-SB-0.0-0.5 **Date/Time** 04/24/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ Margaret Bloise MB 5.25.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR 4/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID: DG-557B	Subarea: 5C	Date Started: 04/24/2012 @ 0900	Date Completed: 04/24/2012
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: ✓		Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 11uR, 93cpm		Borehole diameter: 2"	
PID Background: 0.0 ppm		Depth to GW: —	Sample Method: surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	1260	SL-557B-SA5C-SB-0.0-0.5	0900	ML	SILT W/SAND; brown (10YR 4/3); 85% silt, low plasticity/no plasticity, soft, unconsolidated, micaceous; 15% sand, pg, f, sa-sr, trace of gravel, pg, f, sa (igneous), slightly moist, no odor.
							Total depth of borehole to 0.5 ft bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Reviewed by [signature] PG 10360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-557B-SASC-SB-2.0-3.0 Date/Time 05/15/2012 1440

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ Margaret Blaisa MB 5.29.12 Geologist Registration # ~~7735~~ 6360 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Solids	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Liquids	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	
Sediments	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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10 YR 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Red brick or concrete

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-557B	5C	05/15/2012 - Tues.	5.15.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	3' bgs
GPS: ✓	Drill Method: HA	Depth Drilled into Bedrock:
Radiological Background:	Borehole diameter: 4"	NA
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method:
Radiological Equipment Used:	Depth/Time GW after Drilling completed:	slide hammer
✓ MicroR ✓ Alpha/Beta ✓ Pancake	NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr)	Sample Name	Sample Time	USCS	Description of Materials
0	HA	0.0	69	Surface sample collected on 04124/2012		ML	SANDY SILT: dyb (10YR 4/4), 70%. silt (fines), non-plastic, soft, unconsolidated, 30%. sand, pg, f-m, sa-sr, t. gravel (igneous), pg, f, r-sa, max ϕ = 0.75", sH. moist, no odor. (FILL – tile pieces).
1.0		0.0	81	–		CL	CLAY w/SAND: dyb (10YR 4/4), 75%. clay, low plas, firm; 25%. sand, pg, f-m, mostly med, t. crs, sa-sr, trace, red brick or rcd concrete; moist, no odor
2.0		0.0	69	–			SANDY CLAY: same as above, except 70%. clay; 30%. sand.
3.0	0.5 / 0.5			SL-557B-SASC-SB-2.0-3.0	1440		Same as above
							Total depth of boring to 3 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-5576:A&C-SB-0.0-0.5 **Date/Time** 04/24/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Bloisa MB 5.25.12 ~~Michael Hoffman~~ **Geologist Registration #** MB 5.25.12 ~~7735~~ 6260

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [Y]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Red brick

Check if Staining [ ]

Color 10 YR 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-557C	Subarea: 5C	Date Started: 04/24/2012	Date Completed: 04/24/2012
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: ✓		Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 11 μR, 94 cpm		Borehole diameter: 2"	
PID Background: 0.0 ppm		Depth to GW: —	Sample Method: surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	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	94	SL-557C-SASC-18-0.0-0.5	0940	ML	SANDY SILT: yb (10YR 5/4), 60% silt, nv plasticity, soft - firm, unconsolidated, 45% sand, pg, m-c, sa-sa, 2% gravel, pg, f, sa-sr, max Φ = 1", dry, no odor — mix concrete, red brick — 0.4
0.5'						CL	CLAY WITH SAND: brown (10YR 4/3), 80% clay, hard, low plasticity; 20% sand, pg, f-m, sa-sr, moist, no odor.
							Total depth of borehole to 0.5 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Concurrence Action PG63360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SV

Sample ID SL-557C-SA5C-SB-2.0-3.0 Date/Time 05/15/2012 1400

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Rosa MB 5.29.12 (Michael Hoffman MB 5.29.12) Geologist Registration # ~~7735~~ 6360 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil/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	

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

Check if Fill Material Present [X]

Check If Staining [ ]

Color 10YR 4/4

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-557C	5C	05/15/2012	05/15/12

Client: DOE	Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3	Total Depth: 3' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: HA	Depth Drilled into Bedrock: NA
Radiological Background: 2uR, 48 cpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
				surface sampled 04/24/2012		ML	SANDY SILT: dkbwn. (10YR 3/3); 65%, silt, no plasticity, firm → soft, unconsolidated; 30%, sand, pg, f-c, mostly med., SA-SR; 5%, gravel (igneous/concrete) pg, f-r-sa, max ϕ = 3"; slighty moist, no odor.
		0.1	78	—			
1.0						CL	CLAY W/ SAND: dyb (10YR 4/4); 75%, clay, low plas.; firm, moderate cementation; 25%, sand, pg, m-c, mostly crs, T. gravel, pg, f, r-sa, max ϕ = 0.5" (igneous/concrete); moist, no odor.
		0.0	74	—			
2.0							
	0.4	0.0	78	SL-557C-SA5C-SB-2.0-3.0	1400		Same as above.
3.0	0.5						
							Total depth = 3.0'. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-557D-SASC-SB-0.0-0.5 **Date/Time** 04/24/2012 1030

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.25.12 **Geologist Registration #** 63160

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID: DE-557D	Subarea: 5C	Date Started: 04/24/2012 @1027	Date Completed: 4.24.12
Client: DOE	Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 'bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 11uR, 82 cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —		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	96	SL-557-SA56-SB-0.0-0.5	1030	ML 0.3 CL	SANDY SILT: dyb (10YR 4/4); 60% silt, no plasticity, soft, weak cementation; 40% sand, pg, m-c, sa-sr, dry, no odor, T gravel (igneous), f, pg, mD = 0.5" — 0.3 CLAY WITH SAND: 10YR 4/3; 80% clay, low plas, hard, 20% sand, pg, f-m, sa-sr, dry, weak cementation, no odor, T gravel (igneous) No GW encountered. Total depth of borehole to 0.5' bgs.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Geologist Signature PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-557D-SASC-SB-2.0-3.0 Date/Time 05/15/2012 1315

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Eloisa MB 5.29.12 Michael Hoffman

Geologist Registration # MB 5.29.12 ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 3/4

Fill Description (circle one)

(Asphalt) Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
D6-5570	5C	15 May 2012@1300	05/15/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 3' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: hand auger	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 79cpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	HA	0.0	66	sampled surface on 04/24/2012		CL	SANDY CLAY: dyb (10YR 3/4); 70% clay, slight → low plasticity, firm → soft, slightly micaceous; 30% sand, pg-f-m, T.C, mostly med, sa-sr; sl. moist, no odor T. gravel (igneous), pg, f, sr-sa, max Φ = 0.75". asphalt/concrete aggregate
1.0		0.1	78				CLAY W/SAND: Same as above, except; 85% clay; 15% sand. -floor tile? (cream colored)
2.0	0.25/0.5	0.3	75	SL-5570-SASC-SB-2.0-3.0	1315		Same as above, except max consolidated, firm-hard clay.
3.0		0.0	75				Total depth = 3' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒ QC

Sample ID SL-561-SA5C-SB-0.0-0.5 Date/Time 06/05/2012 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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?	
Metals	EPA 6010	X	
	EPA 6020	X	
	EPA 7471 (Soil)	X	
	EPA 7470 (Water)		
Flouride	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	LL1
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	X	4oz
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	X
	Alcohols	EPA 8015	X
	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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-561-SASC-SB-5.5-6.5 Date/Time 06/05/2012 1025

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.5

End Depth 6.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
Herbicides	EPA 8151	
Pesticides	EPA 8081	

LLI

4oz

	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	X
	Alcohols	EPA 8015	X
	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

Check if Fill Material Present ☐

Check if Staining ☐

Color 2.5Y 6/4

Percentage Fill (%) N/A

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐

Sample ID SL-561-SA5C-5B-~~5.5~~ 6.5 (6.5.12) Date/Time 06/05/2012 1022

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.5

End Depth 6.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 6/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments N/A

Location ID: DG-561	Subarea: SC	Date Started: TUESDAY 6.5.12 @ 1012	Date Completed: 6.5.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 6.7', 6.6', 6.0'
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS: ✓		Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 10 uR/hr		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.2		SL-561-SASC-SB-0.0-0.5	1020	CL	3" asphalt CLAY: dark brown (10YR 3/3); 90%. clay, low plas, firm; 10%. sand, pg, f; slt. moist, no odor.
1.0			9/34				
2.0	4/4		9/54				color A: dyb (10YR 4/4)
3.0			9/36				
3.6						SC	SANDY CLAY: lt. ol. brwn (2.5Y 5/4); 70%. clay, low plas, firm; 30%. sand, pg, f-m; oxidation; slt. moist, no odor.
4.0			9/60	SL-561-SASC-SB-4.0-5.0	6.5.12		
5.0	2.7/4	0.0	9/42	SL-561-SASC-SB-5.0		SP-SC	SAND WITH CLAY: lt. ol. brwn (2.5Y 5/6); 90%. sand, pg, f-m, mostly m; 10%. clay, low plas, soft; slt. moist, no odor.
5.0							grayish-laminated
6.0			9/48	SL-561-SASC-SB-5.5-6.5	1025	CL	CLAY WITH SAND: lt. y. brwn (2.5Y 6/4); 85%. clay, 15%. sand, pg, f-m; wt intermixed with siltstone (weathered siltstone?), slt, plas, soft; low firm, slt. moist, no odor
6.2							
7.0				SL561-SASC-SB-6.5	1022		Hit refusal at 6.7' bgs (3 attempts). No GW encountered. No SD' sample collected.
8.0							
9.0							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

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PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-564-SASC-SB-0.0-0.5 Date/Time 06/04/2012 ~~1030~~ 1130 MB 6.4.12

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6760

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?	
Metals	EPA 6010		
	EPA 6020		
	EPA 7471 (Soil)		
	EPA 7470 (Water)		
Flouride	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	4oz
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	

* PAH & 8oz PCBs

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

Check if Fill Material Present ☑

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick fragment

Check if Staining ☐

Color 10YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒ QC

Sample ID SL-564-SA5C-SB-4.0-5.0 Date/Time 06/04/2012 ~~1035~~ 1135 MB 6.4.12

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Blasa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?	
	Metals	EPA 6010		
		EPA 6020		
		EPA 7471 (Soil)		
		EPA 7470 (Water)		
	Flouride	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	4oz
	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	

* 8oz

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

Check if Fill Material Present [✓]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick frag.

Check If Staining [ ]

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-564-SA5C-SB-9.0-10.0 Date/Time 06/04/2012 1037 1137 HB 6.4.12

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Blasa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?	
	Metals	EPA 6010		
		EPA 6020		
		EPA 7471 (Soil)		
		EPA 7470 (Water)		
	Flouride	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	1402
	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	

* 1402

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

Check if Fill Material Present [✓]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 5/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick frag.

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-564	Subarea: SC	Date Started: 6.4.12 @ 1117	Date Completed: 6.4.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.0' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS:		Drill Method: DPT	Depth Drilled Into Bedrock: NA
Radiological Background: 10uR, 67cpm		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW: NA	Sample Method: cont. macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.1		SL-564-SASC-SB-0.0-0.5	~~1030~~ 1130 MB 6.4.12	CL	" asphalt CLAY WITH SAND: brown (10YR 4/3); 85% clay, med. plasticity, firm; 15% sand, pg, f-m; T. red brick fragments, moist, no oder.
1.0			8/36				1.2
2.0	4/4		8/66				SANDY CLAY: dyb (10YR 4/4); 75% clay, low plas, hard; 25% sand, pg, f-m, T. coarse, sa-sr; T. red brick oxidation
3.0			8/78				3.0
4.0			8/90	SL-564-SASC-SB-4.0-5.0	~~1035~~ 1135 MB 6.4.12	ML	same as above, except; 70% ~~clay~~ silt 30% sand; T. gravel (igneous), pg, f, sa-sr, max ϕ=0.25"; no → low plasticity.
5.0			8/30				5.5
6.0	4/4		8/38				6.0 SANDY SILT: dyb (10YR 4/4); 70% silt, no → low plas, soft; 30% sand, pg, f-m; oxidation; T. red brick,
7.0			8/36				
8.0			8/32				8.0 ~~MB~~ 6.4.12 ~~CLAY~~ SILT W/ SAND: slt. variegated, HK, yb (10YR 5/6) + same as above, except. silt 80%; sand 20% (10YR 5/4) T. red brick (FILL)
9.0	2/2	0.0	8/60	SL-564-SASC-SB-9.0-10.0	MB 6.4.12 ~~1037~~ 1137		
10.0			8/72				

CDM Smith

BORING LOG AND SAMPLING RECORD

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RG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒ MR

Sample ID SL-565-SA5C-SB-0.0-0.5 Date/Time 06/04/2012 1327

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6260

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
	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	

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 6% 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

Check if Fill Material Present ☑

Check if Staining ☐

Percentage Fill (%) 100

Color 10 YR 4/3

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick fragment

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments Igneous gravel found at 4' bgs.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-565-SA5C-SB-4.0-5.0 Date/Time 06/04/2012 1330

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 63360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
	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	

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

Check if Fill Material Present ☑

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining ☐

Color 10 YR 6/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-565-SA5C-5B-9.0-10.0 Date/Time 06/04/2012 1335

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloom Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 6/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-565	5C	06/04/2012 @ 1313	6.4.12

Client: DOE — Project Name/#: SSFL-65258-63378.1203.002.223.02231.SSPH3		Total Depth: 10.1' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT cont	Depth Drilled into Bedrock: NA
Radiological Background: 10 µR, 79 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: ~~cont.~~ macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							6.4.12
0		0.0		SL-565-SASC-SB-0.0-0.5	1327	ML	SILT: ~~4" asphalt~~ brown (10YR 4/3); 90% silt, no plast. firm; 10% sand, pg, f, T. med; dry, no odor. T. red brick frag.
1.0			9/42				sft. moist — 1.0
						CL w/SAND	CLAY: brown (10YR 4/3), 85% clay, low plas, hard; 15% sand, pg, f-m; T. red brick fragments; moist, no odor.
2.0	4/4		9/44				
3.0			9/60				
							SAND ~~y SILT~~ : Hyb (10YR 4/4), 70% silt, non-plas, hard, moderate cementation; 30% sand, pg, f-m; T. oxidation & mottling (wt.); T. gravel (ignems), pg, f, sa-sr, max ϕ = 0.25"; slightly moist, no odor. — 3.5
4.0			9/54	SL-565-SASC-SB-4.0-5.0	1330	ML	
5.0			9/66				
6.0	4/4		9/72				
7.0			9/48				
8.0			9/60				SILT w/SAND Same as above, except: 80% silt, 20% sand, oxidation.
9.0	2/2		9/34	SL-565-SASC-SB-9.0-10.0	1335		
10.0			9/42				

CDM Smith

BORING LOG AND SAMPLING RECORD

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Total depth of borehole to 10.1' bgs. No GW encountered.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-566-SASC-SB-0.0-0.5 Date/Time 05/08/2012 1440

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist MARGARET BLOISA MB 5.24.12 Michael Hoffman

Geologist Registration # MB 5.24.12 27351 03360

Sampler Nicolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	
Pesticides	EPA 8081	

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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/3

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-566	5C	05/08/12 @ 1427	8 May 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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 63cpm	Borehole diameter: 2 "	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr) (cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	63	SL-566-SA5C-SB-0.0-0.5	1440	CL	SANDY CLAY: brown (10YR 4/3); 60% clay, low plasticity, soft; 30% sand, pg, f-m, mostly m, trace of coarse, sa-sr; 10% gravel, pg, f, r-sa, max ϕ = 1" (igneous); trace of asphalt; moist, no odor.

Total depth of borehole to 0.5 ft bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-566-SA5C-SB-4.0-5.0 Date/Time 06/04/2012 1412

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
	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	

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	6/4/2015 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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/4

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-566-SA5C-SB-9.0-10.0 Date/Time 06/04/2012 1415

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 63160

Sampler John Haleth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
	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	

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

Check if Fill Material Present ☑

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-566	SC	06/04/2012 @ 1358	06/04/2012
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.1 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS:	Drill Method: DPT cont.		Depth Drilled into Bedrock: NA
Radiological Background: 12 uR, 60 cpm	Borehole diameter:		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA		Geologist: N.Begay

Depth (feet bgs)	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0		sampled on 051081	surface 2012	ML	SANDY SILT: dyb (10YR 4/4); 70% silt, no-low plasticity, firm, moderate cementation; 30% sand, pg, f-m, T. crs; T. gravel (igneous), pg, f, r-sr, max ϕ = 0.5"; T. asphalt, moist, no odor; (FILL).
1.0			1136				
	3.4/4						
2.0			9154				2.0
						CL	CLAY WITH SAND: db (10YR 3/3) w/ intermixed sand (yb 10YR 5/4), 80% clay, ~~low~~ medium plasticity, firm-soft; 20% sand, pg, f-m, mostly f; oxidation, T. gravel (igneous), pg, f, r-sr, max ϕ = 0.25"; T. red brick frags, moist, no odor
3.0			9166				
4.0			9160	SL-566-SASC-SB-4.0-5.0	1412		4.0 CLAY: dyb (10YR 4/4); 90% clay, low plas, hard; 10% sand, pg, f-m, T. crs; T. gravel (igneous), pg, f, r-sr, max ϕ = 0.25"; moist, no odor. mottling, oxidation.
5.0			9160				
	4/4						
6.0			9160				
7.0			9160				
8.0			9184				same as above.
9.0	2/2		9151	SL-566-SASC-SB-9.0-10.0	1415		
10.0			9154				

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Total depth of borehole to 10.1 ft. bgs. No GW encountered.

PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒ SB

Sample ID SL-567-SASC-SB-0.0-0.5 Date/Time 06/05/2012 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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID NA

Geologist MARGARET BLOUSA Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?	
	Metals	EPA 6010		
		EPA 6020		
		EPA 7471 (Soil)		
		EPA 7470 (Water)		
	Flouride	EPA 300.0/9056		
	SVOCs	EPA 8270		
	TIC	EPA 8270		
	PAHs	EPA 8270 SIM	X	4oz
	1,4 Dioxane	EPA 8270 SIM		
	Dioxins	EPA 1613	X	4oz
	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	

2 4oz entered

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

Check if Fill Material Present ☑

Check If Staining ☐

Color 10 YR 5/6

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other Red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments N/A

Entered

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-567-SA5C-SB-3.0-4.0 Date/Time 06/06/2012 0834

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID NA

Geologist MARGARET BLOISA Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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)	
	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	

2402 entered

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

Check if Fill Material Present ☑

Check if Staining ☐

Percentage Fill (%) 100

Color 10 YR 5/6

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments N/A

Entered

Location ID:	Subarea:	Date Started:	Date Completed:
DE-567	SC	Wed. 06/06/12 @ 0822	6.6.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: ~~3.4~~ 1ST: 3.8', 3.9', 3.7'
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT (Geoprobe 6600)	Depth Drilled into Bedrock: NA
Radiological Background: 8 uR, 68 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0		SL-567-SASC-SB-0.0-0.5	0830		CONCRETE
0.5						CL	CLAY W/SAND: yellowish brown (10YR 5/6); low plas, hard, 85% clay; 15% sand, pg. f; slt moist, no odor, oxidation; T. red brick fragments.
1.0	3.9/4		8/36				
2.0			8/42				SANDY CLAY: same as above, except. 70% clay 30% sand.
2.6						SM	SILTY SAND: yellowish brown (10YR 5/6); 80% sand pg. f; 20% silt, non plastic, firm, slt. moist, no odor; oxidation, red brick frag.
3.0			8/50	SL-567-SASC-SB-3.0-4.0	0834		
4.0			8/72				Hit refusal at 3.9" bgs (3 attempts). No GW encountered, ~~no plas, firm~~ MS 6.5.12
5.0							
6.0							
7.0							
8.0							
9.0							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Mary Jean Mion PG 6360

E

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-568-SASC-SB-0.0-0.5 Date/Time 06/06/2012 1045

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID N/A

Geologist Margaret Bleiss Geologist Registration # 6360

Sampler John Halsey

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X ✓
	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	X ✓
	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	X ✓
	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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color brown (7.5 Y 5/4)

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments 8" concrete – gravel base below concrete

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐

Sample ID SL-568-SA5C-SB-4.0-5.0 Date/Time 06/06/2012 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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID NA

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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	X
	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	X
	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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐ 6.6.12

Sample ID SL-568-SASC-SB-9.0-10.0 Date/Time 06/06/2012 1125

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID N/A

Geologist Margaret Bloss Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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	X
	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	X
	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

Check If Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments N/A

Location ID: DE-568	Subarea: SC	Date Started: 06/06/12 @ 1035	Date Completed: 6.6.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.1', 10.1', 10.2'
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: DPT		Depth Drilled into Bedrock: N/A
Radiological Background: uR, cpm	Borehole diameter: 2.25"		
PID Background: ppm	Depth to GW: N/A		Sample Method: macro core
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed:		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0		SL-568-SASC-SB-0.0-0.5	1045		concrete - 8"
			8/86			CP	0.7
1.0						CL	~~CLAY W/SAND~~ SANDY CLAY: lt. ol. brwn (2.5Y 5/4); 70% clay, low plas, firm; 30% sand, pg, f-m, moist, no odor. 1.4
2.0	3/4		8/60			ML	2.0 SILT: brwn (10YR 4/3); 40% silt, no plasticity, firm-soft (mod cementation), 10% sand, pg, f; moist, no odor micaceous
3.0			8/54				
						CL	3.5 CLAY W/SAND: y. brwn (10YR 5/4), 80% clay, med. plasticity, hard; 20% sand, pg, f-m, slt oxidation moist, no odor; ↑ mottling (wt).
4.0			8/102	SL-568-SASC-SB-4.0-5.0	1100		
5.0			8/48				
6.0	4/4		8/66				6.0 SANDY CLAY same as above.
7.0			8/42			SM	SILTY SAND: lt. y. brwn (2.5Y 6/4); ~~85%~~ 75% sand pg, f-m; 25% silt, non plas, soft; slt. moist, no odor. T. formation (SS) weak cementation. 6.6.12 7.6
8.0			8/54			CL	CLAY W/SAND: 10YR 5/4, 80% clay, med, plas, hard; 20% sand, pg, f-m, oxidation, moist
9.0	2/2		8/42	SL-568-SASC-SB-9.0-10.0	1125		
10.0			8/50				Same as above

CDM Smith

BORING LOG AND SAMPLING RECORD

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Engineer Colleen Allen PG6360 TD=10.2' bgs

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐ JP

Sample ID SL-569-SA5C-SB-0.0-0.5 Date/Time 06/04/2012 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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloise Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
	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	

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

Check if Fill Material Present [Y]

Check if Staining [ ]

Color 10 YR 4/4

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-569-SASC-SB-4.0-5.0 Date/Time 06/04/2012 1455

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 63160

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DE-569	5C	06/04/2012 @ 1443	6.4.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 5.1 ft bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 10 µR, 79 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: macro core - cont.
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0		SL-569-SASC-SB-0.0-0.5	1450	CL	3" asphalt CLAY WITH SAND: dyb (10YR 4/4), 80% clay, mod. plasticity, firm; 20% sand, pg, f-m; T. gravel (igneous/asphalt), pg, f, sr-sa, max ϕ = 0.5"; moist, no odor.
1.0			8172				1.0
						SM	~~SAND~~ 6.9.12 SILTY SAND: 70% sand, pg, f-m; 30% silt, no plas, soft; moist, no odor.
2.0	4/4		8142				2.0
						ML	SILT: brown (10YR 4/3); 90% silt, no plas, soft; 10% sand, pg, f, T. med; oxidation; moist, no odor.
3.0			8190				
4.0	1/1		8148	SL-569-SASC-SB-4.0-5.0	1455	CL	CLAY: dyb (10YR 4/4); 90% clay, low plas, hard; 10% sand, pg, f-m; moist, no odor.
			8172				
5.0							Total depth of borehole to 5. ft. bgs. No GW encountered.
6.0							
7.0							
8.0							
9.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Project Geologist Nelson PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ XX

Sample ID SL-570-SASC-SB-0.0-0.5 Date/Time 04/18/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MICHAEL BLOCK 5.17.12 Geologist Registration # ~~7735~~ 6200 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10 YR 4/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-570-SA5C-SB-2.0-3.0 Date/Time 04/18/2012 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): Surface Soil DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET CROSA MB 5.17.12

Geologist Registration # ~~7735~~ 6360 CMB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 2.5Y 5/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

4/18

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [X] ady

Sample ID SL-570-SASC-SB-~~0.5~~ 00 1.5 (~~MB~~ 05/01/2012) Date/Time 05/01/2012 1030

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MB 5.24.12 MARGARET BLOCK Geologist Registration # ~~7735~~-60360 MB 5.24.12

Sampler ~~Nacolynn Begay~~ (MB 05/01/2012) Andy Grosel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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?
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	

516, 570, 579, 580

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100%

Color 2.5Y 5/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-570	5C	18 April 2012 @0853	~~4-18-12~~ 05/011/12 TP 06/01/12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 3.6 ft bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: ~~NA~~ HA	Depth Drilled Into Bedrock: NA
Radiological Background: 14 uR, 7 cpm	Borehole diameter: ~~3"~~ 4"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer 2" / HA 4" SD
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	84	SL-570-SASC-SB-0.0-0.5	0900	SM	SILTY SAND: dyb (10YR 4/4), 70% sand, pg, m-c, sa-sr; 25% silt, no plasticity, soft, unconsolidated; 5% gravel, pg, f, sr-sa; max ϕ = 1"; moist, no odor. igneous/siltstone (2.5Y 7/2)
1.0	HA	0.0	36				1' 70% sand; 30% silt, color Δ: lt ol.brn (2.5Y 5/4) As above, except sand is mostly fm trace of coarse medium; trace of gravel (as above)
1.5				SL-570-SASC-SB-1.5	1030 05/01/12		
2.0		0.0	74			SM	
2.5		0.0	66				As above
3.0	0.5/1.0	0.0	78	SL-570-SASC-SB-2.0-3.0	1030		Same as above
3.5		0.0	54				3.5 rock (refusal)
4.0							Total depth of borehole to 3.6' bgs. HA from 0.5-3.5' 1ST refusal 3.5' bgs; 2nd 3.6'; 3rd 3.0 No GW encountered
4.5							
5.0							

BORING LOG AND SAMPLING RECORD Page 1 of 1

Boring location PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-571-SASC-SB-0.0-0.5 Date/Time 04/26/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ Margaret Bloisa MB 5.25.12 Geologist Registration # ~~7735~~ 63601 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	X
Alcohols	EPA 8015	X
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/4

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) → Wet

Additional Comments _____

Location ID: DG-571	Subarea: 5C	Date Started: 4.26.12	Date Completed: 4.26.12
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: NA		Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 07cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: Surface Slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	78	SL-571-SASC-SB-0.0-0.5	0845	CL	CLAY w/SAND, dyb (10YR 4/4): 85% clay, low plasticity, hard; 15% sand, pg, f-m, sa-sr, wet at surface (raining/rained overnight), moist, no odor, trace of asphalt (adjacent road).
							Total depth of borehole to 0.5' bgs. No GW encountered. Soil wet at surface due to rain.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Bridgett Mim PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-572-SA5C-SB-0.0-0.5 Date/Time 06/19/2012 0855

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 Nacolynn Begay

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	
	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	X
	Alcohols	EPA 8015	X
	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 3/4

Odor

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

None (Slight) Strong

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

Organic (Petroleum) Chemical

N/A Other asphalt

Moisture Condition (circle one)

Dry (Moist) Wet

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

Additional Comments Asphalt + road base to ~3" bgs.

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal yC

Sample ID SL572-SASC-SB-4.0-5.0 MS (6.19.12) Date/Time 06/19/2012 0910

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 Narolynn Begay

Sampler Vidal Cortez

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	
	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	X
	Alcohols	EPA 8015	X
	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 2.5Y 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 Johnson **PG Registration #** 7735

Additional Comments NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal GA

Sample ID SL-572-SA5C-SB-5.0 MS **Date/Time** 06/19/2012 0900

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Nacolynn Begay

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 2.5Y 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 Nick Hoffman **PG Registration #** 7735

Additional Comments NO

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal GL

Sample ID SL-872-SASC-SB-4.0-5.0 **Date/Time** 06/19/2012 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 SL-872-SASC-SB-4.0-5.0MS

Field Geologist Nacolynn Begay

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	
	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	X
	Alcohols	EPA 8015	X
	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 6/4

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 NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal C

Sample ID SL-872-SASC-SB-5.0 **Date/Time** 06/19/2012 0905

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 6.19.12 SL-872-SASC-SB-5.0 MS

Field Geologist Nacolynn Begay

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 2.5Y 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 NO

Location ID:	Subarea:	Date Started:	Date Completed:
DB-572	SC	6.19.12 @0852	6.19.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAES	5.4, 5.2' 5.3'
GPS:	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 72cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: N/A	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
				SL-572-SASC-SB-00-0.5	0855	CL	3" asphalt / road base gravel (igneous) / CLAY: dyb (10YR 3/4), 90% clay, mod plas, firm; 10% sand, pg, f-m, T. crs; T. red brick/pipe fragments, moist, sticky, no odor.
1.0		0.0	9/42				1.2
2.0	4/4	0.0	9/30				CLAY w/SAND: yb (10YR 5/6); 80% clay, low plas, firm (then crumbles); 20% sand, pg, f-m; oxidation, slt. mottling
3.0		0.0	9/46				3.0
4.0		0.0	9/48	SL-572-SASC-SB-4.0-5.0MS	0910	SM	~~SILTSTONE~~ ~~SAND/CLAY~~ SILTY SAND: SA-SI; 1yb (2.5Y 6/4), 30% clay, no plas; soft; 70% sand, pg, f-m, T. crs (decomposed Ss) clasts of sandstone (Ss) and siltstone; oxidation
	12/4			SL-572-SASC-SB-5.0 MS	0900		Same as above
5.0		0.0	9/48	SL-572-SASC-SB-4.0-5.0	0915		Total depth of borehole is 5.4 bgs. Hit refusal. No 10' sample, no GW encountered.
	NR			SL-572-SASC-SB-5.0	0905		
6.0							
7.0							
8.0							
9.0	0/2						
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

PG# 735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐

Sample ID SL-573-SA5C-SB-0.0-0.5 Date/Time 06/04/2012 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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X 4oz
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	X
	Alcohols	EPA 8015	X
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	X
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al	
	Methyl Mercury	EPA 1630	

all others - 16oz

4oz LLI

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

Check if Fill Material Present ☑

Check if Staining ☐

Percentage Fill (%) 100

Color 10 YR 4/4

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments 3" asphalt at surface

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐

Sample ID SL-573-SA5C-SB-4.0-5.0 Date/Time 06/04/2012 1040

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X 4oz
	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	X
	Alcohols	EPA 8015	X
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	X 4oz
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al	
	Methyl Mercury	EPA 1630	

all others 16oz

4oz B PB 6.4.12

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒ AM

Sample ID SL-573-SA5C-SB-9.0-10.0 Date/Time 06/04/2012 1045

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOISA Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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	X
	Alcohols	EPA 8015	X
	Terphenyls	EPA 8015	
	Nitrates	EPA 300.0/9056	
	Energetics	EPA 8330	
	Cyanide	EPA 9012	
	Formaldehyde	EPA 8315	X 1oz
	NDMA	EPA 1625	
Sediment	Organotin	NOAA Status and Trends, Krone et al	
	Methyl Mercury	EPA 1630	

1oz 8 PB6/4/12 all others 8oz. 16 PB 6.4.12

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-573	5C	06104/2012 - Mon.	6.4.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	10.0' bgs
GPS: ✓	Drill Method: DPT - cont.	Depth Drilled into Bedrock:
Radiological Background: 10 uR, 79 cpm	Borehole diameter: ~~2.25"~~ 6.4.12 2.25"	NA
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method:
Radiological Equipment Used:	Depth/Time GW after Drilling completed:	macro core
✓ MicroR ✓ Alpha/Beta ✓ Pancake	NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	8/18	SL-573-SASC-SB-0.0-0.5	1030	CL	3" asphalt CLAY: dyb (10YR 4/4); 90% clay, low plas, hard; 10% sand, pg, m-c, sa-sr; moist, no odor. T. red brick frag (FILL). T. wt. mottling.
1.0			8/18				
	4/4						
2.0			8/42				SANDY CLAY: yb (10YR 5/4); 75% clay, low plas, hard; 25% sand, pg, f-m, sa-sr; T. oxidation; moist, no odor.
3.0			8/66				
						ML	SANDY SILT: slt. variegated: yb (10YR 5/4) → brn (10YR 5/6); 75% silt, no plasticity, firm → soft; 25% sand, pg, moist, no odor; T. oxidation — 3.2
4.0		0.0	8/36	SL-573-SASC-SB-4.0-5.0	1040		same as above, except sand: f-m, mostly f.
5.0			9/60				
	4/4						
6.0			9/84				
7.0			9/84				same as above.
8.0			9/84			CL	CLAY w/SAND: dyb (10YR 4/4) w/oxidation (10YR 5/6), 85% clay, low plas, hard; 15% sand, pg, f-m; oxidation mottling; moist, no odor. — 8.0
9.0	2/2		9/48	SL-573-SASC-SB-9.0-10.0	1045		
10.0			9/54				

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Gregory Mim PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By John W

Sample ID SL-[illegible]-SASC-SB-9C-10.0 **Date/Time** 06/14/2012 1130

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Nachyma Begay

Sampler John Halseth

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	X
	Perchlorate Confirmation	EPA 6850/6860	X
	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	
	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) Red brick fragments		

Is Staining Present Yes (No)

Color 10 YR 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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By John

Sample ID SL-SFA-SACC SB 4.0-5.0 **Date/Time** 08/11/2012 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 Nacchyan Beggy

Sampler John Halseth

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	X
	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	
	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	

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) Red brick fragments		

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 – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DB-574	SC	06/11/2012 @ 1114	6/11/12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA / 6111 SAES	10.0'
GPS: /	Drill Method: NA / DPT	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 70cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: cont. macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0		Sampled surface on 6/11/2012			
1.0			10/58			CL	CLAY: dyb (10YR 4/4), 90% clay, low plas, firm, mod-cementation, 10% sand, pg/f; dry, no odor.
2.0	3/4		10/42				same as above moist; strong, T. red brick (FILL)
3.0			10/54				
4.0		0.0	10/64	SL-574-SMSC-SB-4.0-5.0	1125		Same as above, color L. brown 10YR 4/3 — 4.5
5.0			10/72				CLAY w/SAND: yb (10YR 5/4) wt mottling, oxidation, slt. variegated, 85% clay, low plas, strong, 15% sand, pg/f, T med; slt. moist, no odor. bike specs. T. red brick.
6.0	4/4		10/72				
7.0			10/96				
8.0			10/54				clay: yb (10YR 5/6), 90% clay, low plas, firm, 10% sand, pg/f; slt moist, no odors, oxidation, T. bike specs (clearcoat?). — 8.0
9.0	1/2		10/96	SL-574-SMSC-SB-9.0-10.0	1130		
10.0			10/42				

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ KH

Sample ID SL-574-SA5C-SB-0.0-0.5 Date/Time 04/20/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOCK 5.17.12 Geologist Registration # ~~7735~~ 6360 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10 YR 3/2

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-574	SC	4/20/2012 @ 1255	4.20.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 82cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroI ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	66	SL-574-SA5C-SB-0.0-0.5	1300	CL	CLAY : vdgb (10YR 3/2); 95% clay, low plasticity, stiff; 5% sand, pg, f, sa-sr; trace gravel (igneous/gravel), pg, f, sa-sr; moist, no odor. (FILL)
1.0							Total depth of borehole to 0.5 ft bgs. No GW encountered.
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							

BORING LOG AND SAMPLING RECORD Page 1 of 1

Nancy Begay PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ MM

Sample ID SL-575-SA5C-SB-0.0-0.5 Date/Time 04/19/2012 1115

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Micheal Hoffman~~ MARGARET BROSA MB 5.17.12 Geologist Registration # ~~7735~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X	
	EPA 6020	X	
	EPA 7471 (Soil)	X	
	EPA 7470 (Water)		
Flouride	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	X	
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	
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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 2.5Y 3/2

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-575	5C	19 April 2012 @1007	4.19.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 11 µR, 77 cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ Microf ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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	54	SL-575-SASC-SB-0.0-0.5	1115	CL	(CLAY): vdgb (2.5 Y 3/2), % clay, low plas, soft; % sand, pg, f, sa-sr; moist, no odor, plant roots.
							Total depth of borehole to 0.5 ft bgs. No GW encountered.

BORING LOG AND SAMPLING RECORD Page 1 of 1

PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Stephanie Lupe L

Sample ID SL-575-SA5C-SB-4.0-5.0 Date/Time 06/25/2012 1030

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 R Wood

Sampler S 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	X per 06/25/12
	Perchlorate Confirmation	EPA 6850/6860	X
	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	
	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
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 N/A

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

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

Additional Comments No sample collected at 6.0 to 7.0 due to refusal at 7.2 ft then 2nd refusal at 6.1 ft.

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
05-575	5C	06/25/2012	06/25/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 7.2 ft bgs
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ EW 062512	
GPS: Yes	Drill Method: ~~NA~~ EW 062512 Hand Auger	Depth Drilled into Bedrock: NA
Radiological Background: aM/pm 12/80	Borehole diameter: 2 inches	
PID Background: 0.0 ppm	Depth to GW: N/A	Sample Method: Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N.Begay~~ P. Ward

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/78			ML	silt w/SAND - Brown (10 YR 4/3) - medium stiff, dry, non-plastic, 20% sand, poorly graded, very fine to fine, common grass roots, no staining, no discoloration - native topsoil
1.0		0.0	12/90				
2.0		0.0	12/90			CL	lean clay w/sand - Brown (10 YR 4/3) - stiff, moist, slightly plastic, 20% sand, poorly graded, few roots, no staining, no discoloration
3.0		0.0	12/102				
4.0		0.0	13/66	SL-575-SA5C-SB 4.0-6.0	1030	ML	Sandy SILT - Dark Yellowish Brown (10 YR 4/4) stiff, moist, non-plastic, 20% sand, poorly graded, no roots, no staining, no discoloration - appears to be the upper-most layer of weathered bedrock.
5.0		0.0	12/72				
6.0		0.0	12/90				
7.0		0.0	13/102				Refusal at 7.2 ft bgs No GW encountered

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-577-SASC-SB-0.0-0.5 Date/Time 04/17/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ Michael Bosa PB 5.17.12 Geologist Registration # ~~7735~~ 6360 PB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/2

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-577	5C	17 April 2012	4.17.12

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: NA	Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 2"	
PID Background: 1.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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	59	SL-577-SA5C-SB-0.0-0.5	1330	ML	SILT: vdgb (10YR 3/2); 95% silt/clay (fines), low plasticity, stff, 5% sand, f, pg, SA-SR, mnst, no odor.
0.5							Total depth of borehole to 0.5 ft. bgs. No GW encountered.

1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0

CDM Smith

BORING LOG AND SAMPLING RECORD

Kathryn Begay PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐

Sample ID SL-57B-SA5C-SB-0.0-0.5 **Date/Time** 04/17/2012 1135

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOISA BMJ 5.17.12 **Geologist Registration #** ~~7735~~ 6360 BMJ 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	
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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Percentage Fill (%) 0%

Color 10YR 3/2

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-578	5C	17 April 2012 @ 1127	4.17.12

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: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12μR, 60cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —	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	48	SL-578-SA5C-SB-0.0-0.5	1135	ML	SILT: vdgb (10YR 3/2), 90% silt, low plasticity, soft, unconsolidated, 10% sand, pg, f, sa-sr, moist, no odor. Plant roots
1.0							Total depth of borehole to 0.5 ft. bgs ♡ No groundwater.
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Geologist PG6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By S. Mercer

Sample ID SL-578-SA5C-SB-4.0-5.0 Date/Time 06/27/2012 1015

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 R. Wood

Sampler S. 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	X
	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	
	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

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 None

Location ID: DG-578	Subarea: 5C	Date Started: 06/27/2012	Date Completed: 06/27/2012
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 5.2 ft bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: Yes	Drill Method: ~~NA~~ Hand Auger		Depth Drilled into Bedrock: NA
Radiological Background: 14 µR/cpm 18/79	Borehole diameter: 2 in		
PID Background: (ppm) 0.0	Depth to GW: N/A		Sample Method: Slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: N.~~Begay~~ Elwood

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							Surface: Cut grasses
		0.0	18/75			ML	silt w/ SAND - Dark yellowish brown (10YR 4/4) very stiff, dry, non-plastic, 20% sand, poorly graded, fine-grained, common roots, no staining, no odor, likely topsoil material
1.0		0.0	15/132				
2.0		0.0	14/108				- Becomes moist at 2.0' bgs
3.0	N/A	0.0	13/102			ML	Sandy SILT - Pale brown - (10YR 6/3) stiff, moist, non-plastic, 40% sand, poorly graded, fine-grained, no roots,
4.0		0.0	12/90	SL-578-SASC-SB-4.0-5.0	1015	SM	no staining, no odor, weathered bedrock zone
5.0		0.0	13/72				silty SAND - Yellowish Brown (10YR 5/4) stiff, moist, non-plastic, 60% sand, 40% silt, SAND: Poorly graded, fine grained no roots, no odor, weathered bedrock.

Refusal at 5.2 feet
NO GW encountered

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-579-SA5C-SB-0.0-0.5 Date/Time 04/18/2012 1404

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BECKA 5.17.12 Geologist Registration # ~~7735~~ 6360 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analysis?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
Herbicides	EPA 8151	
Pesticides	EPA 8081	

Parameter	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	X
NDMA	EPA 1625	
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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 2.5Y 3/3

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

4/18

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒ ags

Sample ID SL-579-SA5C-SB-5.0 Date/Time 05/01/2012 0940

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

MB 5.24.12 MB 5.24.12

Geologist ~~Michael Hoffman~~ MARGARET BROSH Geologist Registration # ~~7735~~ 60360

05/01/2012

Sampler ~~Nacolynn Begay~~ Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Encore	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-579-SASC-SB-4.0-5.0 **Date/Time** 04/18/2012 1430

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MICHAEL BLOVA 5.17.12 **Geologist Registration #** ~~7735~~ 6360 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
D6-579	5C	18 April 2012	~~4/18/12~~ 05/01/12 (TD 05/01/12)

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	5ft. bgs
GPS: ✓	Drill Method: ~~NA~~ Hand Auger	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 78cpm	Borehole diameter: 3" 4"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE / SHB SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroI ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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	90	SL-579-SASC-SB-0.0-0.5	1404	ML	SILT: dark olive brwn (2.5Y 3/3); 65%, silt, soft, low-no plasticity, soft, unconsolidated, 30% sand, pg, f-m, trace c, sa-sr; 5%. gravel, pg, f, max ϕ-0.5" (igneous); moist, no odor
1.0	HA	0.0	60				same as above except trace of gravel: 70%. silt, 30%. sand; igneous gravel w/biotite; unconsolidated. trace of coarse
1.5							
2.0		0.0	58				
2.5							2.3 Sandy lms SM 70%. sand, 30%. silt
3.0		0.0	42				as above except: 80%. silt, 20%. sand; no gravel, no coarse gn sand, unconsolidated
3.5							unconsolidated
4.0	0.4/0.5	0.0	72				SANDY SILT dkb (10YR 4/4); 80%. silt, 20%. sand, pg, slightly moist. hard, no plasticity,
4.5	0.5/0.5	0.0	72	SL-579-SASC-SB-4.0-5.0	1430		
5.0		0.0		SL-579-SASC-SB-5.0	0440 05/01/12		Total depth of bore hole to 5ft bgs, NO GW encountered

BORING LOG AND SAMPLING RECORD Page 1 of 1

Rebecca Reed Allen PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-580-SA5C-SB-0.0-0.5 **Date/Time** 04/18/2012 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) (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one) (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MB 5.17.12 MARGARET BOYD **Geologist Registration #** ~~7735~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one) (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 2.5Y 3/3

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-580-SA5C-SB-4.0-5.0 **Date/Time** 04/18/2012 1130

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ al MARGARET GLOSA GNB 5.17.12 **Geologist Registration #** ~~7735~~ AT 6360 CNB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 5/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

4/18

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒ 08

Sample ID SL-580-SA5C-SB-5.0 Date/Time 05/01/2012 0910

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BLOCK MB 5.24.12 Geologist Registration # ~~7735~~ 6360 MB 5.24.12

Sampler ~~Nacolynn Bogay~~ Andy Greazel 05/01/2012

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 5/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-580	5C	18 Apr 2012 @ 1054	4.18.12 — 05/01/12 (RP 06/01/12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	5 ft. bgs
GPS: ✓	Drill Method: ~~NA~~ HA	Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer 2" / HA 4"
Radiological Equipment Used: ✓ MicroF ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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 HA	0.0	67	SL-580	1100	ML	SILT · d.ol bwn (2.5Y 3/3); 95% silt (fines), low plas, soft, unconsolidated; 5% sand, pg, f, sa-sr; trace gravel, pg, f, sa-sr, max Φ=0.25"; moist, no odor. igneous, + asphalt, silt stone
1.0		0.0	64			CL	CLAY; d.ol. bwn (2.5Y 3/3); 100% clay, low-med plasticity, soft; trace of sand, pg, f, sa-sr, moist, no odor.
1.5							
2.0		0.0	60				As above, except clay, firm, low plasticity, 95% clay, 5% sand
2.5							
3.0		0.0	66			CL	CLAY: brown (10YR 4/3); 90% clay, low plasticity, hard, 10% sand, f-m, T. coarse, pg, sa-sr, T. brick fragments, moist, no odor.
3.5		0.0	54				SANDY CLAY:
4.0		0.0	48				Same As above, except 80% clay; 20% sand/silt stone (lt. gray (2.5Y 7/2) m-c
4.5	0.5/1.0			SL-580-SASC-SB-5.0	0410 05/01/12		SANDY CLAY: ltol bwn (2.5Y 5/3); 70% clay, low plas, firm, 30% sand/silt stone
				SL-580-SASC-SB-4.0-5.0	1130		
5.0		0.0					Total depth of borehole to 5 ft. bgs.

BORING LOG AND SAMPLING RECORD Page 1 of 1

Rabeya Begum PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ AM

Sample ID SL-581-SA5C-SB-0.0-0.5 Date/Time 04/17/2012 1440

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Micheal Hoffman~~ ae MH 5.17.12 Geologist Registration # ~~7735~~ 6360 MH 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/2

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-581	5C	17 April 2012	4.17.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 72 cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5 / 0.5	0.0	48	SL-581-SASC-SB-0.0-0.5	1440	ML	SILT: olive gray (10YR 3/2) 95% fines, very low plasticity, soft, unconsolidated; 5% sand, pg, f, sa-sr. moist, no odor
0.5							Total depth of borehole to 0.5 ft. bgs
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Nancy Begay PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Stef Mysell

Sample ID SL-581-SA5C-SB-5.0-5.0-WMS-20130613 **Date/Time** 06/26/2012 1030

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 _____

Field Geologist R. Wood

Sampler S. Mercer

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 (%)** 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 10 YR 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 None

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Stef Mysel

Sample ID SL-581-SA5C-SB-4.0-5.0+MS Date/Time 06/26/2018 1031

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

Field Geologist R. Wood

Sampler S. 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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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	X
	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 (%) 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 10 YR - 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 _____ **PG Registration #** 7735

Additional Comments None

NA – Not Applicable

Location ID: ~~SL 581~~ SMW2012 DG-581	Subarea: 5C	Date Started: 06/26/2012	Date Completed: 06/26/2012
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 5 ft
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: Yes	Drill Method: ~~NA~~ Hand Auger		Depth Drilled into Bedrock: NA
Radiological Background: ~~uR/cpm~~ 14/77	Borehole diameter: 2 inch		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA		Geologist: ~~N.Begay~~ RWOOI

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							1" of Fragmented asphalt on surface
		0.0	14/75			ML	Silt w/ SAND - Brown (10 YR - 4/3) Dry to moist, med stiff to stiff, non-plastic to slightly plastic, 20% sand, poorly graded, fine-grained, common roots, no staining, no odor.
1.0		0.0	14/84				
2.0		0.0	13/72				
				SL-581-SMSC-SB-4.0-5.0-MS SMW2012	1031		
3.0		0.0	13/78				
				SL-581-SMSC-SB-5.0-MS SMW2012	1030		
4.0		0.0	14/84	SL-881-SMSC-SB 4.0-5.0	1033	ML	Silt w/ SAND - Light yellowish brown (10 YR 6/4) very stiff, moist, non-plastic, 20% sand, poorly graded, fine grained no roots, no staining, no odor, weathered bedrock zone - native
5.0		0.0	14/78	SL-881-SMSC-SB 5.0	1032		

TD = 5.0 ft bgs NO GW encountered

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Stephen Mydel

Sample ID SL-881-SA5C-SB-5.0 Date/Time 06/26/2012 1032

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 SL-581-SA5C-SB-5.0MS

Field Geologist R. Wood

Sampler S. Mercer

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 (%)** 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 10 YR 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 None

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Stephen Mupel

Sample ID SL-881-SA5C-SB-4.0-5.0 **Date/Time** 1033 06/26/2012

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 SL-581-SA5C-SB-4.0-5.0MS

Field Geologist R. WOOD

Sampler S. Merced

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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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	X
	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
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 6/4

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 Nila Hoffman **PG Registration #** 7735

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-583-SA5C-SB-0.0-0.5 Date/Time 07/24/2012 0730

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	
	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	
	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

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-583-SASC-SB-4.0-5.0 Date/Time 07/24/2012 0735

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 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	
	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	
	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 _____ **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

Location ID: DG-583	Subarea: 5C	Date Started: 7.24.12 - Tues (0726)	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 5.3
Company Name: CDM SMITH		Drill Contractor/Driller: SAFS	
GPS: ✓		Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12μR, 101		Borehole diameter: 2.75"	
PID Background: 0.0 ppm		Depth to GW: NA	Sampling Method: DPT
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		0.0	12/99	SL-583-SASC-SB-0.0-0.5	0730	SW SM SC CL	2" Asphalt. Gravel (igneous) pg, f, mod g-1", a-sg. SAND WITH SILT: yellowish brown (10YR 5/4) 85% sand, pg, f; 15% silt, no plas, very soft.
1		0.0	10/42		7.24.12	CL	CLAY: brown (10YR 4/3); 85% clay, low plas, firm; WITH SAND 15% sand, pg, f, T. m; moist, no odor.
2		0.0	10/54				2.0
3	5/5	0.0	10/42				color change: dyb (10YR 3/4): CLAY: 95% clay, med. plas, firm; 5% sand, pg, f; moist, no odor. ↓ soft
4		0.0	10/92	SL-583-SASC-SB-4.0-5.0	0735		
5		0.0	10/72				As above.
6							Total depth of borehole to 5.0 ft. bgs. No GW encountered.
7							
8							
9							Mike Hoffman #7735

10

CDM Smith

BORING LOG AND SAMPLING RECORD

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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

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-584-SASC-SB-0.0-0.5 Date/Time 5/3/12 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MB 5.24.12 Geologist Registration # ~~7735~~ 6360 MB 5.24.12

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	

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

Check If Fill Material Present ☐

Percentage Fill (%) 5 %

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

Igneous/Metamorphic Gravel

Other charcol (may be from wildfire)

Check If Staining ☐

Color 10 YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No odor or staining

Location ID:	Subarea:	Date Started:	Date Completed:
SL-584	5C	5/3/12	5/3/12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	0.5
GPS: NA	Drill Method: NA 5.14.12	Depth Drilled into Bedrock: NA
Radiological Background: 68	Borehole diameter: 2 in	
PID Background: 0.0	Depth to GW: not encountered	Sample Method: slide Hammer / ~~split spoon~~ 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: Andy Greazel

12/12

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5	0.0	81	SL-584-SASC-SB-0.0-0.5	1000	ML	SILT with SAND: very dark grayish brown (10YR 3/2); 80% silt, soft, dry, dense, medium plasticity; 15% sand, fine to coarse, well graded, subrounded; 5% gravel, fine to coarse, well graded, subangular to subrounded, max diameter = 3/4".
0.5		0.0	90				

CDM Smith

BORING LOG AND SAMPLING RECORD

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Reviewed JMim PG6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-584-SA5C-SB-4.0-5.0 **Date/Time** 06/21/2012 1035

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 Sandy Do

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 (%)** 0

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other n/a

Is Staining Present Yes (No)

Color 10YR 6/3

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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal G K

Sample ID SL-584-SASC-SB-5.0 **Date/Time** 06/21/2012 1030

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

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

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

Parent Sample ID N/A

Field Geologist Sandy Do

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 6/3

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 NONE

Location ID:	Subarea:	Date Started:	Date Completed:
DG-584	SC	06/21/2012	06/21/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 5.0 ft
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS SD 06/21/2012	
GPS: √	Drill Method: ~~NA~~ DPT SD 06/21/2012	Depth Drilled into Bedrock: ~~NA~~ SD 06/21/2012
Radiological Background: 12 µR, 89 cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N. Begay~~ S. Do SD 06/21/2012

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1	4/4	0.0	11/40	SL-584-SASC-SB-0.0-0.5 collected on 05/03/2012		SC	Brush at surface. Fill Clayey SAND: Dark brown (10YR 3/3) Moist, loose, 80% sand, fine-grained, pg; 20% clay, no odor
2			11/54			CL	CLAY with sand: Dark brown (10YR 3/3) Moist, hard, 80% clay, 20% sand, fine-grained, no odor
3			11/66				color change to dark yellowish brown (10YR 3/4)
4	1/1		11/84	SL-584-SASC-SB-4.0-5.0	1035	CH	Native CLAY: Pale brown (10YR 6/3) Moist, soft, 95% clay, 5% silt, elastic, with pockets of sand with clay (CSP-SC)
5			11/42	SL-584-SASC-SB-5.0	1030		Total depth = 5.0 ft. No groundwater encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓ KEG

Sample ID SL-585-SA5C-SB-0.0-0.5 Date/Time 5/2/12 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BOYA MB 5.24.12 Geologist Registration # ~~7735~~ 6360 MB 5.24.12

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments ~~NOA~~ 9/12/12 No staining, odor or fill.

Location ID: SL-585	Subarea: 5C	Date Started: 5/2/12	Date Completed: 5/2/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: N/A	Drill Method: NA ~~HSA~~ 5.14.12		Depth Drilled into Bedrock: NA
Radiological Background: 86	Borehole diameter: 2 + in		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: Slide Hammer ~~split spoon~~ 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: Andy Graizel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5	0.0	63	SL-585-SASL-SB-00-0.5	1400	ML	SILT with SAND; dark brown (10 YR 3/3); 85% silt, soft, moist, dense, low plasticity; 15% sand, fine to coarse, ~~poorly~~ as 5/2/12 well graded, subrounded.
0.5		0.0	90				
1.0							Total Depth = 0.5

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Reviewed/Min PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-585-SA5C-SB-4.0-5.0 Date/Time 06/21/2012 0025

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 Sandy Do

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	
	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		

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 #** _____

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortez

Sample ID SL-585-SA5C-SB-5.0 Date/Time 06/21/2012 0820

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

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

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

Parent Sample ID N/A

Field Geologist Sandy Do

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 (%)** 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 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 #** _____

Additional Comments NONE

Location ID:	Subarea:	Date Started:	Date Completed:
DG-585	5C	06/21/2012	06/21/2012

Client: DOE — Project Name/#: SSFL-65258-63378.1203.002.223.02231.SSPH3		Total Depth: 5.0 ft
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS SD 06/21/2012	
GPS: ✓	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: ~~NA~~ 0.4 ft SD 06/21/2012
Radiological Background: 12 µR, 83 cpm	Borehole diameter: 2¼"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used:	Depth/Time GW after Drilling completed:	Geologist: ~~N.Begay~~ S. Do SD 06/21/2012
✓ MicroR ✓ Alpha/Beta ✓ Pancake	N/A	

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1		0	10/36	SL-585-SMSC-SB-0.0-0.5 collected on 06/21/2012		SC	Fill. Brush at surface Sandy CLAY: Dark yellowish brown (10YR 3/4) Dry, loose, 60% sand, fine to med-grained, 40% clay, pg, no odor, abundant rootlets. Medium dense at 1 ft. Asphalt pieces encountered (max size 1/3") at 1.2 ft.
2	4/4	0	10/72			CL	CLAY with sand: Dark brown (10YR 3/3) Moist, hard, clay (85%), 15% sand, fine-grained, no odor, asphalt and red brick encountered at 2.5 ft. color change to dark yellowish brown (10YR 3/6) at 3 ft. Oxidation beginning at 3 ft.
3		0	10/36				
4		0	10/54	SL-585-SMSC-SB-4.0-5.6	0825	SC	~~Clayey SAND~~ ~~SAND~~ ~~CLAY~~ SD 06/21/2012 Dark yellowish brown (10YR 4/4) Moist, medium dense, 60% sand, fine to med-grained, 40% clay, elastic, oxidation. Pockets of clay from 4' to 4.6'.
5	1/1	samples collected above interface w/ bedrock 0	10/64	SL-585-SMSC-SB-5.0	0820	SP	Sandstone bedrock. Light olive brown (2.5Y 5/3)
							Total depth = 5 ft. No groundwater encountered.

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [JRH]

Sample ID SL-586-SASC-SL-0.0-0.5 **Date/Time** 05/07/2012 1045

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Blaisa RB 5.24.11 ~~Michael Hoffman~~ **Geologist Registration #** RB 5.24.11 ~~77356360~~

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 25

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID: DG-586	Subarea: SC	Date Started: 7 May 2012	Date Completed: 5.7.12
Client: DOE	Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 ' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓ Moved 9' downslope	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: None encountered		Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	92	SL-586-SASC-SB-0.0-0.5	1045	ML	SILT w/SAND: vdgb (10YR 3/2), 80% silt, slight plasticity, soft, unconsolidated; 20% sand, pg, f-m, sa-sr; trace of gravel, pg, f, max ϕ = 0.25"; moist, no odor
							Total depth of borehole to 0.5' bgs. No GW encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

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SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-586-SA5C-SB-4.0-5.0 **Date/Time** 07/11/2012 0840

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 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	X
	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) Red brick fragments		

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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-586-SA5C-SB-4.5 Date/Time 07/11/2012 0839

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 NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

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 (%)** 100

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 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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-586-SA5C-SB-9.0-10.0 **Date/Time** 07/11/2012 0845

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 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	X
	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 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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-586-SA5C-SB-9.5 Date/Time 07/11/2012 0844

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.5

End Depth 9.5

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	
		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 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 NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-586	SC	7/11/12 Wed. @0832	7/11/12

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.1, 10.0 ' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAES ~~NS 7.11.12~~	
GPS: 2' N. (down grad) fr/original	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 66 cpm	Borehole diameter: 2.75"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/91	Surface sampled on 05/07/12			Asphalt/Concrete = 3.5"
1		0.0	10/48			CL	~~CLAY SILT~~ WITH SAND: dyb (10YR 4/4); 80% clay, ~~silt~~, non-plas, ~~NS 7.11.12~~ soft; 20% sand, pg, f-m; slt. moist, no odor. NS 7.11.12
2	3/4	0.0	10/48				
3		0.0	10/54				clay 85%.; sand 15%. Same as above, except T. crs gn; T. red brick fragments (FILL) still slt. moist. clay = hard.
4		0.0	10/66	SL-586 SASC-SB 4.0-5.0	0840		
5		0.0	10/36	SL-586 SASC-SB 4.5	0839		
6	2/4	0.0	10/48				CLAY: brown (10YR 4/3); 90% clay, low plas, very hard; 10% ~~silt~~ NS 7.11.12 sand, pg, f. T. m; slt. moist, no odor. T. oxidation. T.C; SA-SR
7		0.0	10/66				
8		0.0	10/84				
9	2/2	0.0	10/54	SL-586 SASC-SB 9.0-10.0	0845		Same as above.
10		0.0	10/66	SL-586 SASC-SB 9.5	0844		

CDM Smith

BORING LOG AND SAMPLING RECORD

Mike Hoffman #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-587-SA5C-SB-0.0-0.5 Date/Time 5/2/12 1135

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.24.12 Geologist Registration # ~~7735~~ 63160 MB 5.24.12

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 7.5 YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments No staining, odor, or fill.

Location ID: SL-587	Subarea: 5C	Date Started: 5/2/12	Date Completed: 5/2/12
Client: DOE	Project Name/#: SSFL-66258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: NA	Drill Method: NA HB 5.14.12		Depth Drilled into Bedrock: NA
Radiological Background: 74	Borehole diameter: 2+ in		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: Slide Hammer ~~split spoon~~ PB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: Andy Greazel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5	0.0	76	SL-587-SASC-SB-0.0-0.5	1135		SANDY SILT: dark brown (7.5YR 3/2); 60% silt, moist, soft, dense, low plasticity; 40% sand, fine to coarse, well graded, subangular to subrounded; trace gravel, coarse, poorly graded, angular to subangular, max diameter = 1".
0.5		0.0	96				Total depth = 0.5ft

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Grace Quiroz PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-587-SA5C-SB-4.0-5.0MS Date/Time 06/20/2012 1405

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 Sandy Do

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?
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 n/a		

Is Staining Present Yes (No)

Color 10YR3/4

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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal gb

Sample ID SL-587-SA5C-SB-5.0MS Date/Time 06/20/2012 1350

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Sandy Do

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	

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 n/a		

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 Willie E. Hoffman **PG Registration #** 7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Ortz

Sample ID SL-887-SA5C-SB-4.0-5.0 Date/Time 06/20/2012 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 SL-587-SA5C-SB-4.0-5.0 MS

6/20/12 V.C.

Field Geologist Sandy Do

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?
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 N/A		

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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-887-SA5C-SB-5.0 SM082012 MS Date/Time 06/20/2012 1400

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 SL-587-SA5C-SB-5.0 ~~MS~~ MS SM082012 ~~SM082012~~

V.C. 6/21/12

Field Geologist Sandy Do

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 (%)** 100

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

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

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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal G E

Sample ID SL-587-SA5C-SB-~~9.0-10.0~~ 8.5-9.5 6/20/12 F.C. Date/Time 06/20/2012 1410

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~9.0~~ 8.5 V.i. 6/20/12

End Depth ~~10.0~~ 9.5

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 Sandy Do

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	~~X~~ SD 06/20/12
	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 n/a		

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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes V.C. 6/20/12

Sample ID SL-587-SA5C-SB-~~10.0~~ 9.5 Date/Time 06/20/2012 1355

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~10.0~~ 9.5 V.C. 6/20/12

End Depth ~~10.0~~ 9.5

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 Sandy Do

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	

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 n/a		

Is Staining Present Yes (No)

Color 10YR5/6

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 NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-587	5C	06/20/2012	06/20/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 9.7 ft.
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS SD 06/20/2012	
GPS: ✓	Drill Method: ~~NA~~ DPT SD 06/20/2012	Depth Drilled into Bedrock: ~~NA~~ SD 06/20/2012 &
Radiological Background: 13 µR, 84 cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N. Begay~~ S. D. SD 06/20/2012

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cm)	Sample Name	Sample Time	USCS	Description of Materials
0				SL-587-SASC-SB-0.0-0.5 Sampled on 06/20/2012		SM	Light brush at surface Fill Very dark brown (7.5 YR 2.5/3) Silty SAND: Moist, loose, 75% sand, fine to med-grained, pg, 25% clay, top soil odor/organic odor, abundant rootlets
1		0.0	12/48			CL	CLAY with sand: Dark brown (7.5 YR 3/2) Moist, soft to firm, 85% clay, 15% sand, fine to med-grained, oxidation, no odor SD 06/20/2012
2	4/4		12/54			SC	Clayey SAND: Dark brown (10 YR 3/3) Moist, medium dense, 60% sand, fine-grained, pg, 40% clay
3			12/66				3" clay pocket at 3.2 ft. sand is fine to med-grained at 3.5 ft.
4			12/96	SL-587-SASC-SB-4.0-5.0MS	1405		Granite Difficult to advance. Damaged shoe 2.5Y 5/1 Grny and 2.5Y 7/2 light gray. 2¼" core
				SL-587-SASC-SB-5.0MS	1350	CL	CLAY: Very dark gray (10YR 3/1). Moist, firm, 95% clay, 5% sand, fine- to med-grained, no odor
				SL-887-SASC-SB-4.0-5.0	1415		
5	3.5/4		12/36	SL-887-SASC-SB-5.0	1400	SC	Clayey SAND: Dark yellowish brown (10YR 3/4) Moist, loose, 85% sand, fine-grained, pg, 15% clay, with oxidation from 5 to 5.5 ft, no odor
6			12/72				Color change to brown (7.5 YR 4/4)
7			12/36			SM	Silty SAND: Brown (7.5 YR 4/4) Moist, loose, 80% sand, fine-grained, 20% silt, no odor, pg
8			12/54 SD 06/20/2012 ~~SL-587~~			SP-SM	Fill SAND with silt: Yellowish brown (10YR 5/6) Moist, loose, 90% sand, fine to med-grained, 10% silt, pg, no odor
				SL-587-SASC-SB-8.5-9.5	1410		
9	2.2/3		SL-587 12/66	SASC-SB-9.5	1355		
				~~SL-587-SASC-SB-9.0-10.0~~	SD 06/20/2012		
10			12/48	~~SL-587-SASC-SB-10.0~~	SD 06/20/2012		

Total depth = 9.7 ft. NO groundwater encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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PG #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ (✓ QC'd)

Sample ID SL-588-SA5C-SB-0.0-0.5 **Date/Time** 05/07/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Blojsa MB 5.24.12 ~~Michael Hoffman~~ **Geologist Registration #** ~~7735~~ 63160 MB 5.24.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	
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	

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	

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

Check if Fill Material Present ☑

Check if Staining ☐

Color 10YR 3/2

Percentage Fill (%) 25

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DB-588	5C	5.7.2012	7 May 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: ✓ (moved location 10.3' fr/original)	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 13 μR, 84 cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: None encountered	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0							
	0.5/0.5	0.0	79	SL-588-SASC-SB-0.0-0.5	1000	GP	GRAVEL (2" bgs): (2.5Y 4/1) & (10YR 4/2); 100% gravel, pg, f, sa, max ϕ = 1"; dry, no odor; industrial gravel from outfall.
0.5						ML	SILT w/ Sand: ydgb (10YR 3/2); 75% silt, no plasticity, soft, unconsolidated; trace of gravel, pg, f, max ϕ = 0.25"; moist, no odor. 0.5
							Total depth of borehole to 0.5' bgs. No GW encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

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PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-588-SA5C-SB-4.0-5.0 Date/Time 07/11/2012 0810

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 Nacolynn Begay

Sampler Steve Mercer

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	X
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 (%)** ϕ
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 Linda Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-588-SA5C-SB-9.0-10.0 **Date/Time** 07/11/2012 0815

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Nacolynn Begay

Sampler Steve Mercer

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	X
	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 (%)** 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 Natalie Hoffman **PG Registration #** 7735

Additional Comments NONE

Location ID: DG-588	Subarea: SC	Date Started: Wed. 7/11/12 @ 0757	Date Completed: 7/11/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.1, 10, 10.1' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: ~~NA~~ SAFS 7.11.12	
GPS: ✓		Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12μR, 79cpm		Borehole diameter: 2.75"	
PID Background: 0.0 ppm		Depth to GW: NA	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	Surface sampled on 12/77	07/11/2012			SILT WITH SAND: brown (10YR 4/4); 75% silt, no plasticity, soft; 25% sand, pg, f-m; T. gravel (igneous) at surface only; moist, no odor.
1		0.0	10/54			ML	
2	4/4	0.0	10/60				CLAY: v.d.g.b (10YR 3/2); 90% clay, soft, low plas; to med 10% sand, pg, f; moist, no odor — 2.0
3		0.0	10/72			CL	
4		0.0	10/102	SL-588-SASC-SB-4.0-5.0	0810		
5		0.0	10/42				— 5.6
6	4/4	0.0	10/84			CL	CLAY WITH SAND: yb (10YR 5/4); 80% clay, low plasticity, hard; 20% sand, pg, f-m, mostly f; T. cr sa-sr; moist, no odor.
7		0.0	10/90			SP	— 6.9 SAND: yb (10YR 5/6); 95% sand, pg, m-c, mostly m; SA-SR; 5% silt, non-plastic, very soft; appears oxidized, moist, no odor. (micaedus)
8		0.0	10/48				
9	2/2	0.0	10/102	SL-588-SASC-SB-9.0-10.0	0815		
10		0.0	10/66				Same as above.

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ KM

Sample ID SL-589-SASC-SB-0.0-0.5 **Date/Time** 05/07/2012 1115

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ Margaret Bjorsa MB 5.24.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.24.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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)	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	
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) <5%. (trace of)

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR 3/2

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-589	5C	7 May 2012	7 May 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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 11uR, 84cpm	Borehole diameter: 2"	
PID Background: 1.0 ppm	Depth to GW: None encountered	Sample Method: slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —	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	84	SL-589-SA5C-SB-0.0-0.5	1115	CL	CLAY w/SAND: vdgb (10YR 3/2); 85% clay, low plasticity, soft, mostly unconsolidated; 15% sand, pg f-m, mostly f, sa-sr, trace of gravel, pg, f, sa, max Φ = 0.25", moist, no odor.
1							Total depth of borehole to 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Engineer Name PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL ~~DE~~-589-SASC-SB-4.0-5.0 Sm 7/11/12 Date/Time 07/11/2012 1010

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 Nicolynn Begay

Sampler Steven 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	
	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	
	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 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 _____ **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
D6-589	5C	7/11/12 Wed.	7/11/12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS ~~NB 7.11.12~~	5.1, 5.2' bgs
GPS: ✓	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 98 cpm	Borehole diameter: 2.75"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	12/100	Sampled Surface on 05/07/2012		ML	SANDY SILT: ~~70% silt no low plas, ~~~~80% clay, low plas~~ ~~NB 7.11.12~~ dyb (10YR 4/4); ~~CLAY WITH SAND~~ ~~NB 7.11.12~~ plas, soft; 30% sand, pg.f-m; T. gravel from surface (igneous, pg.f, max ϕ- 0.75", sa-sr); moist no odor. (FILL)
1		0.0	10/72				
2	3/4	0.0	10/84				~~rock~~ ~~NB 7.11.12~~ ~~514~~ ~~NB 7.11.12~~ CLAY WITH SAND: dyb (10YR 4/4); 80% clay, low plas, hard; 20% sand, pg. f-m, T. c; moist, no odor.
3		0.0	10/68			CL	
							3.2 CLAY: db (10YR 3/3); 95% clay, low plasticity, very hard; 5% sand, pg. f-m; sl. moist, no odor.
4	1/1	0.0	10/54	SL-589-SASC-SB-4.0-5.0	1010		
5		0.0	10/54				Total depth of borehole to 5.1 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Willie Hoffman #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐

Sample ID SL-591-SASC-SB-00-0.5 Date/Time 5/2/12 1525

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Heffman~~ MARGARET ROSA MBS:5.24.12 Geologist Registration # ~~7739~~ 6360 MBS:5.24.12

Sampler Andy Greaze 1

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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)	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	
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments No fill, odor, or staining.

Location ID: SL-591	Subarea: 5C	Date Started: 5/2/12	Date Completed: 5/2/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 ft
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: NA	Drill Method: NA BS 5.14.12		Depth Drilled into Bedrock: NA
Radiological Background: 64	Borehole diameter: 2 in		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: slide Hammer / ~~split spoon~~ BS 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: Andy Greazel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	~~0.0~~ 0.5	0.0	~~76~~ 105 5/2/12	SL-591-SASC-SB-0.0-0.5	1525	ML	SILT with SAND: dark brown (10YR 3/3); 80% silt, moist, low plasticity, dense; 20% sand, fine to medium, poorly graded, subrounded.
0.5							
0.5		0.0	78				

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Andy Greazel 5.24.12
PG 6760

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-591-SA5C-SB-4.0-5.0 Date/Time 07/11/2012 0950

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 Nawlynn 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	
	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	
	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 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 #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID: DG-591	Subarea: SC	Date Started: Wednesday 7/11/2012 @ 0945	Date Completed: 7/11 @ 0954
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 5.1
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS 7.11.12		
GPS: ✓	Drill Method: ~~NA~~ DPT		Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 75cpm	Borehole diameter: 2.75"		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
			13/82	Sampled surface on 05/07/12		CL	CLAY: db (10YR 3/3); 90% clay, low plas, very soft; 10% sand, pg,f,T.m; T. igneous gravel; red brick + SS pieces; pg,f, sa-cr, max ϕ = 0.5", moist, no odor (FILL). Mixed soil. T. crs sand, sa-cr.
1		0.0	10/60				
	4/4						
2		0.0	10/66				+ color change: vdgb (10YR 3/2); 95% clay, med plas, soft; 5% sand, pg,f; moist, no odor.
3		0.0	10/78				
						CL	
4		0.0	10/72	SL-591-SASC-SB-4.0-5.0	0950		
	1/1						Same as above.
5		0.0	10/60				
							Total depth of borehole to 5.1 ft. bgs. No GW sampled.

CDM Smith

BORING LOG AND SAMPLING RECORD

Mike Hoffman #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-592-SASC-SB-0.0-0.5 Date/Time 05/09/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.24.12 Geologist Registration # ~~7735~~ 63160 MB 5.24.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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	
	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?
Soil	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) —

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-592-SA5C-SB-0.5 Date/Time 05/07/2012 0910

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.5

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BOISA LBS.24.12 Michael Hoffman

Geologist Registration # ~~7735~~ 6360 LB 5.24.12

Sampler Nicolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

VOCs	EPA 8260	X
1,4 Dioxane	EPA 8260 SIM	X
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) —

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-592	SC	7 MAY 2012	5.7.12

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: NA	Depth Drilled into Bedrock: NA
Radiological Background: 14 uR, 8 kcpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: None encountered	Sample Method: Side hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	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	19.6	77	SL-592-SASC-SB-0.0-0.5	0900	ML	SANDY SILT: dyb (10YR 4/4); 65%. silt, slight plasticity, soft, unconsolidated; 35%. sand, pg. f-m, T. of C., sars r; moist, no odor. No staining.
1							Total depth of borehole to 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Reviewed Mion PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-591-SA5C-SB-5.0-6.0 **Date/Time** 07/11/2012 0735

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 6.0

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 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	
	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)	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	
	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 4/4

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 NONE

NA – Not Applicable

Location ID: DG-592	Subarea: 5C	Date Started: 7/11/2012 @0723	Date Completed: 7/11/2012 @0740
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 6.2, 6.2, 6.1' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS 7.11.12		
GPS:	Drill Method: ~~NA~~ DPT		Depth Drilled into Bedrock: NA
Radiological Background: 12μR, 85cpm	Borehole diameter: 2.95"		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	12/96	Surface sampled 05/07/2012		ML	SANDY SILT: dyb (10YR 4/4); 70% silt, non-plas, firm; 30% sand, pg, f-m; T. gravel @ surface only (igneous, pg, f, r-sa, max ϕ = 0.5"); dry; no odor. (FILL).
1		0.0	10124				
2	3/4	0.0	10130				
3		0.0	10154				
4		0.0	10172				Same as above, except; T. crs, gn sand, sa-sr, sl. moist.
5		0.0	10118	SL-592-SASC-SB-5.0-6.0	0735		
6	2/4	0.0	10160				Same as above
7	NR						Hit refusal at 6.2' bgs. No 10' sample collected. No GW encountered. 6.2
8							
9							

10

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortez

Sample ID SL-594-SA5C-SB-0.0-0.5 Date/Time 06/21/2012 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 N/A

Field Geologist Sandy Do

Sampler Vidal Cortes

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	X
	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	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 n/a

Is Staining Present Yes (No)

Color 7.5YR 2.5/3

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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sandy Do

Sample ID SL-594-SA5C-SB ~~0.0-0.5~~ -2.5 V.C. 6/21/12 Date/Time 06/21/2012 14:30

Matrix (circle one): (Soil) Sediment Water

Start Depth 2.5

End Depth 2.5

Depth Units (circle one): Inches (Feet)

Collection Method (circle one)

Check if Composite ☐ (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

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

Parent Sample ID N/A

Field Geologist SANDY DO 6.21.12

Sampler VIDAL COLON

VOID

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 (%)** 100

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

Asphalt	Metal	Plastic
Concrete	Wood	Glass
~~Igneous/Metamorphic Gravel~~		N/A
Other n/a		

Is Staining Present (Yes) No

Color GLEY 1 3/1 10Y

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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal C

Sample ID SL-594-SA5C-SB-~~4.0-5.0~~ 5.0-6.0 Date/Time 06/21/2012 1400

6.21.12

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~4.0~~ 5.0

End Depth ~~5.0~~ 6.0

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 Sandy Do

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	X
	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	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 n/a		

Is Staining Present (Yes) No

Color 2.5Y 3/1

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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-594-SA5C-SB-5.0 ~~6.0~~ Date/Time 06/21/2012 ~~1355~~ 1345

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~5.0~~ 6.0

End Depth ~~5.0~~ 6.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

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

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

Parent Sample ID N/A

Field Geologist Sandy Do

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	X
	1,4 Dioxane	EPA 8260 SIM	X
	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 (%)** 100

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

Asphalt	Metal	Plastic
Concrete	Wood	Glass
(igneous/Metamorphic Gravel)		N/A
Other n/a		

Is Staining Present (Yes) No

Color 2.5Y/3/1

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 Nick Hoffman **PG Registration #** 7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal 9/4/12

Sample ID SL-594-SASC-SB-6.0 **Date/Time** 06/21/2012 1345

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.0

End Depth 6.0

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 Sandy Do

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 (%)** _____

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 GLEY1 2.5/1 10Y

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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal G-C

Sample ID SL-594-SA5C-SB-9.0-10.0 Date/Time 06/21/2012 1415

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Sandy Do

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	X
	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	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 2/1

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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-594-SA5C-SB-9.0 Date/Time 06/21/2012 1350

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 9.0

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 Sandy Do

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	X
	1,4 Dioxane	EPA 8260 SIM	X
	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 (%)** 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~~ Shallow Zone 2/1

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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal C

Sample ID SL-594-SASC-SB-10.0 Date/Time 06/21/20XX 14:00

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

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 Sandy Do

Sampler Vidal Cortes

10.0 to 11.2'

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 (%)** 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 2/1

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 NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-594	5C	06/21/2012	06/21/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 10.0 ft
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS SD 06/21/2012	
GPS: ✓	Drill Method: ~~NA~~ DPT SD 06/21/2012	Depth Drilled into Bedrock: ~~NA~~ SD 06/21/2012 ☒
Radiological Background: 12 µR, 86 cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N.Begay~~ S. Do SD 06/21/2012

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0				SL-594-SA5C-SB-0.0-0.5	1405		5" concrete slab. Fill
1	3.5/4	0.0	12/166			CL	Sandy CLAY: Very dark brown (7.5YR 2.5/3) Moist, firm, 65% clay, 35% sand, fine-to med-grained, no odor, oxidation, trace of course gravel, max diam = 1", asphalt pieces (3/4") at 1 ft.
2			12/90	PH 6/21/12 SL-594-SA5C-SB-2.5	1430	CH	CLAY: ~~Very dark brown (7.5YR 2.5/3)~~ Very dark greenish gray (GLEY 1 3/1 10Y) SD 06/21/2012 Moist, hard, 90% clay, elastic, 5% sand, fine-grained, contained in pockets; 5% gravel, fine grained, subangular, no odor
3			12/120				
4			12/96	SL-594-SA5C-SB-5.0-6.0	1410	SC	Clayey SAND: Very dark gray (2.5Y 3/1) Moist, medium dense, 75% sand, pg, fine to med-grained, 25% clay; trace of fine and course gravel, subrounded, no odor oxidation at 4 to 4.5 ft.
5	4/4		12/~~48~~	SL-594-SA5C-SB-5.0 PH 6/21/12	1355		color change at 5.5 ft to greenish black (GLEY 1 2.5/1 10Y)
6			12/102	SL-594-SA5C-SB-6.0	1345	SP-SM	SAND with silt: Dark olive gray (5Y 3/2) Moist, loose, 90% sand, fine-to med-grained, 10% silt, no odor, pg. Becomes med-grained at 6.6 ft.
7			12/108			CH	CLAY with sand: very dark gray (10YR 3/1) Moist, firm, 85% clay, elastic, 15% sand, fine to med grained. no odor,
8	2.5/2.5		12/108				
9			12/84	SL-594-SA5C-SB-9.0	1350		color change at 8.5 ft to black (10YR 2/1) Hard at 9 ft.
				SL-594-SA5C-SB-9.0-10.0	1415		color change at 9.5 ft. 100% clay at 9.5 ft.
10			12/102	SL-594-SA5C-SB-10.0 PH 6/21/12	1400		Total depth = 10 ft. No groundwater encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

#7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-595-SA5C-SB-1.0-2.0 **Date/Time** 05/07/2012 1345

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BEOISA 5.24.12 MB 5.24.12 **Geologist Registration #** ~~7735~~ 16360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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)	
	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	
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) TRACE

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10 YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-595-SASC-SB-2.0-3.0 **Date/Time** 05/07/2012 1350

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.24.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.24.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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)	
	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	
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) TRACE

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-595	5C	7 May 2012 @ 1330	7 May 2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3.0' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: ~~NA~~ HA	Depth Drilled into Bedrock: NA
Radiological Background: 15uR, 67cpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	HA	0.0	85	—	—	ML	SANDY SILT: dyb (10YR 4/4); 65%. silt, slight plasticity, soft, unconsolidated, 35% sand, pg.f-m, mostly f, sa-sr, moist, no odor, trace of gravel, pg.f, r-sa, max ϕ = 1". (lignous)
1.0		0.0	88	—		0.8	CLAY w/SAND: vdgb (10YR 3/2); 80%. clay, soft, low plasticity, unconsolidated, 20%. sand, pg, f-m, mostly f, sa-sr, trace of gravel (lignous) + asphalt, pg.f, sr-sa, max ϕ = 0.25"; moist, no odor. 0.8
1.5		0.4	81	—			
2.0	0.5 / 0.5			SL-595-SASC-SB-1.0-2.0	1345		As above, except no gravel, firm clay. +85%. clay; 15%. sand.
2.5	HA	0.0	83	SL-595-SASC-SB-2.0-3.0	1350		same as above.
3.0		0.0	54				Total depth of borehole to 3' bgs HA & slide hammer. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Lorelei Brien PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-596-SA5C-SB-~~0.0 0.5~~ 2.0 - 3.0 05/03/12 Date/Time 5/3/12 1400

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~0.0~~ 2.0 as 5/3/12

End Depth ~~3.5~~ 3.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOCK MB 5.24.12 Geologist Registration # ~~7735~~ 6360 MB 5/24/12

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	
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	

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

Check if Fill Material Present ☑

Percentage Fill (%) 5

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other limestone gravel (roadbase)

Check if Staining ☐

Color 10 YR 3/2

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments No staining or odor

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-596-SA5C-SB-2.0-5.0 (3.0-4.0) Date/Time 5/3/12 1405

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): Surface Soil | DPT | Hand Auger | Trenching | Sediment

QC Type (circle one): N | FD | R | FB | TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BROSA MB 5.24.12

Geologist Registration # ~~77356~~ 3360 PB 5/10/24

Sampler ~~Nacolynn Bogay~~ Andy Greene

Organization (circle one): CDM Smith | EPA

Analysis

	Parameter	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
	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?
Soil	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	

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

Check if Fill Material Present ☑

Percentage Fill (%) 5

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other limestone gravel (road base)

Check if Staining ☐

Color 10 YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments No staining or odors.

Location ID: SL-596	Subarea: 5C	Date Started: 5/3/12	Date Completed: 5/3/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: N/A	Drill Method: ~~NA~~ 5.14.12 Hand auger		Depth Drilled into Bedrock: NA
Radiological Background: 80	Borehole diameter: ~~4~~ 5.14.12 4 inches		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: ~~Auger~~ 5.14.12 split spoon slide hammer ~~5.24.12~~
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA		Geologist: Andy Breazeal

15/15

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	85				
0.5	1.0					SW-SM	SAND with SILT; black (2.5Y 2.5/1); 70% sand, fine to coarse, well graded, subrounded; 15% silt, soft, dense, moist; 15% gravel, coarse, poorly graded, angular, max diameter = 1¼" (road base).
1.0		0.0	72	~~SL-596-SA-SC-18 20-30~~			
1.5	1.0					SW	SAND; dark grayish brown (10YR 3/2); 90% sand, fine to coarse, well graded, subrounded; 5% silt, moist; 5% gravel, coarse, poorly graded, angular, max diameter = 1".
2.0		0.0	72	SL-596-SASC-SB 20-30			
2.5					1400	SW	
3.0		0.0	96	SL-596-SASC-18 ~~20-30~~ 3.0-4.0 ~~05/03/12~~		SW	Same as above
3.5					1405		Total depth = 3.5 ft
4.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Engineer/Mission Registered

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ JDA

Sample ID SL-599-SASC-SB-0.0-0.5 Date/Time 5/2/12 1445

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MB 5.24.12 ~~Michael Hoffman~~ MARGARET BROSA Geologist Registration # MB 5.24.12 ~~7735~~ 63760

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	~~X~~
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	

cw 5/2/12

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No staining, odor, or fill.

Location ID: SL-599	Subarea: 5C	Date Started: 5/2/12	Date Completed: 5/2/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: N/A	Drill Method: NA ~~HB 5.14.12~~		Depth Drilled into Bedrock: NA
Radiological Background: 62	Borehole diameter: 2 in		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: side Hammer / ~~split spoon~~ HB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: Andy Grazel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
00	0.5	0.0	70	SL-599-SASC-SB-00-0.5	1445	ML	SAND with SILT: dark brown (10YR 3/3); 85% silt, very firm, dry, dense, low plasticity; ~~10~~ 15% sand, fine, poorly graded; ~~5%~~ gravel, coarse, poorly graded, angular, max diameter = 1 inch. + trace 5/2/12
05	~~0.5~~ 5/2/12	0.0	60				

CDM Smith

BORING LOG AND SAMPLING RECORD

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Professional Geologist PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-599-SA5C-SB-4.0-5.0 Date/Time 06/21/2012 10:00

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 Sandy Do

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

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other nbg

Is Staining Present Yes (No)

Color 10 YR 6/3

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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By VPG tm

Sample ID SL-599 -SASC-SB-5.0 Date/Time 06/21/2012 0955

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Sandy Do

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 (%)** (0)

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

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other n/a

Is Staining Present Yes (No)

Color 10 YR 6/3

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 NONE

Location ID:	Subarea:	Date Started:	Date Completed:
DG-599	5C	06/21/2012	06/21/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 5 ft
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS SD 06/21/2012	
GPS:	Drill Method: ~~NA~~ DPT SD 06/21/2012	Depth Drilled into Bedrock: ~~NA~~ SD 06/21/2012
Radiological Background: 13 µR/105cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N.Begay~~ S. Do SD 06/21/2012

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1	4/4	0.0	12/42	SL-599-SASC-SB-0.0-0.5 sampled on 05/02/2012		SC	Brush Fill. Clayey SAND. Dark brown (7.5YR 3/3) Moist, loose, 80% sand, fine-grained, 20% clay, pg, roots from surface to 0.5 ft.
2			12/66			CL	Sandy CLAY. Dark yellowish brown (10YR 3/6) Moist, soft, 60% clay, 40% sand, fine-to med grained Firm at 2.6 ft.
3			12/78				
4	1/1		12/96	SL-599-SASC-SB-4.0-5.0	1000	SP-SC	Native Sand with clay: Pale brown (10YR 6/3) Moist, loose, 90% sand, pg, fine-grained, 10% clay; with pockets of CH, fat clay from 3.2 ft to 4.2 ft, no odor. Oxidation from 3.5 ft to 4 ft.
5			12/60	SL-599-SASC-~~SB~~ SD 06/21/12 SB-5.0	0955		Total depth = 5.0 ft. No groundwater encountered

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-600-SASC-SB-0.0-0.5 Date/Time 5/2/12 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MB 5.24.12 ~~Michael Hoffman~~ MARGARET PROKA Geologist Registration # MB 5.24.12 ~~7735~~ 63760

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 7.5YR 2.5/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No

Location ID: SL-600	Subarea: 5C	Date Started: 5/2/12	Date Completed: 5/2/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 ft
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: N/A	Drill Method: NA HB 5/14/12		Depth Drilled into Bedrock: NA
Radiological Background: 72	Borehole diameter: 2 in		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: slide Hammer / ~~split spoon~~ HB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: Andy Greazel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0		0.0	59	SL-600-SASC-SB-0.0-0.5	1415	ML	SILT; very dark brown (7.5 YR 2.5/2); 90% silt, moist, firm, dense, low plastic; 10% fine to medium sand, poorly graded, subrounded.
0.5		0.0	48				
1.0							Total Depth = 0.5 ft

CDM Smith

BORING LOG AND SAMPLING RECORD

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Reviewed Mim PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cs

Sample ID SL-600 - SA5C - SB - 4.0-5.0 Date/Time 06/21/2012 ~~0835~~ 0935 V. C.

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 Sandy Do

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	X
	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		

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 [signature] **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-600-SA5C-SB-5.0 **Date/Time** 06/21/2012 0930 ~~0830~~ P.C.

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Sandy Do

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 (%)** 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 5/6

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 NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-600	5C	06/21/2012	06/21/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 4.9 ft.
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS SD 06/21/2012	
GPS: ✓	Drill Method: ~~NA~~ DPT SD 06/21/2012	Depth Drilled into Bedrock: ~~NA~~ ⊘ SD 06/21/2012
Radiological Background: 13 µR, 83 cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N. Begay~~ S. Do SD 06/21/2012

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1	4/4	0.0	12/42	SL-600-SA5C-SB-0.0-0.5 sampled on 05/02/2012		SC	Brush at surface. Fill. Clayey SAND: Dark brown (7.5YR 3/4) Dry, loose, 60% sand, fine-grained, pg, 40% clay, trace of rootlets, topsoil odor/organic odor
2			12/66			CL	SD 06/21/2012 ~~Sandy~~ CLAY with sand: Dark yellowish brown (10YR 3/4), Moist, hard, 75% clay, 25% sand, fine-grained, no odor
3			12/78			SP-SM	Fill SAND with silt: Yellowish brown (10YR 5/6) 10% ~~40%~~ Moist, loose, ~~60%~~ SAND, fine to med-grained, ~~12%~~ SD 06/21/2012 silt, trace of fine gravel, max diam = 1/3", subangular
4	1/1	SD 06/21/2012	12/96	SL-600-SA5C-SB-4.0-5.0	0935 ~~0835~~ SD 06/21/2012		
5			12/60	SL-600-SA5C-SB-5.0	0930 ~~0830~~ SD 06/21/2012		Total depth = 4.9 ft. No groundwater encountered. Refusal on bedrock, 4 pushes made.
6							
7							
8							
9							
10							

#735

CDM Smith

BORING LOG AND SAMPLING RECORD

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SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ VDM

Sample ID SL-602-SA5C-SB-0.0-0.5 Date/Time 5/2/12 1550

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Michael Hoffman ~~MARGARET PROSA~~ PB 5.24.12 Geologist Registration # ~~7735~~ 6360 PB 5.24.12

Sampler Andy Greaze

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	X
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	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No staining, odor or fill.

12

Location ID: SL-602	Subarea: 5C	Date Started: 5/2/12	Date Completed: ~~5/2~~ 5/2/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: N/A	Drill Method: NA ~~MB~~ 5/14/12		Depth Drilled into Bedrock: NA
Radiological Background: 84	Borehole diameter: 2 x in		
PID Background: 0.0	Depth to GW: N/A not encountered		Sample Method: slide hammer / ~~split spoon~~ MB 5.24.12
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: Andy Gregel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5	0.0	100	SL-602-SASC-SB-0.0-0.5	~~5/2/12~~ 5/2/12 1550	ML	SANDY SILT: very dark grayish brown (10YR 3/2); 60 % silt, dry, dense, soft, low plasticity; 40 % sand, fine to coarse, well graded, subangular to subrounded
0.5		0.0	72				

CDM Smith

BORING LOG AND SAMPLING RECORD

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Rocketdyne Main — Pg 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-602-SA5C-5B-4.0-5.0 Date/Time 06/21/2012 11:35

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 Sandy Do

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

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-602-SA5C-SB-5.0 Date/Time 06/21/2012 11:30

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Sandy Do

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 (%)** 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 5/6

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 NONE

Location ID:	Subarea:	Date Started:	Date Completed:
DG-602	5C	06/21/2012	06/21/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 5ft
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS SD 06/21/2012	
GPS: ✓	Drill Method: ~~NA~~ DPT SD 06/21/2012	Depth Drilled into Bedrock: ~~NA~~ SD 06/21/2012
Radiological Background: 13 µR, 83 cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N.Begay~~ SD SD 06/21/2012

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
				SL-602-SASC-SB-0.0-0.5 sampled 0570 SD 06/21/2012	SD 06/21/2012	SC SM	Brush. Fill Clayey SAND: Dark brown (7.5YR 3/3) Dry to moist, loose, 70% sand, fine to med-grained, 30% clay, trace of fine gravel, subrounded, no odor, pg, rootlets
1		0.0	12/28				
2	3/4 ~~4/4~~ SD 06/21/2012		12/66			CL	CLAY with sand: Brown (7.5YR 4/3) Moist, hard, 80% clay, 20% sand, fine-grained, no odor.
3			12/54				Trace of fine gravel, subrounded at 3ft.
4			12/72	SL-602-SASC-SB-4.0-5.0	1135		Oxidation at 4 ft.
5	1/1		12/72	SL-602-SASC-SB-5.0	1130	SM	Silty SAND: Yellowish brown (10YR 5/6) Moist, loose, 60% sand, fine to med grained, 40% silt, pg, no odor, trace of clay.
							Total depth = 5.0 ft. No groundwater encountered

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-603-SA5C-SB-0.0-0.5MS Date/Time 5/3/12 0915

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MB 5.24.12 ~~Michael Hoffman~~ MARGARET BOYLE Geologist Registration # MB 5.24.12 ~~7735~~ 63600

Sampler Andy Greaze l

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments No staining, odor, or fill

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ LM

Sample ID SL-903-SASC-SB-00-0.5 Date/Time 5/3/12 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): N (FD) R FB TB

Parent Sample ID SL-603-SASC-SB-0.0-0.5MS

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.24.12 Geologist Registration # ~~7735~~ 6360 MB 5.24.12

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments No staining, odor, or fill

Location ID: SL-603	Subarea: 5C	Date Started: 5/3/12	Date Completed: 5/3/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: N/A aaj 5/3/12	Drill Method: NA MB 5/14/2012		Depth Drilled into Bedrock: NA
Radiological Background: ~~49~~ 68	Borehole diameter: 2"		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: slide Hammer/~~split spoon~~ MB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA		Geologist: Andy Gregzel

12/12

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0		0.0	~~54~~ aaj 5/3/12 85	SL-603-SASC-SB-0.0-0.5MS	0915		SANDY SILT: brown (10YR 4/3); 60% silt, moist, soft, low plastic; 40% sand, fine to ~~medium~~ coarse, aaj 5/3/12 well graded, subangular.
0.5		0.0	60	SL-903-SASC-SB-0.0-0.5 (Duplicate)	0920 (Duplicate)		
1.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

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Rachelle Brim RG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By ~~Vidal~~ Sandy Do

Sample ID SL-603-SA5C-SB-40-5.0 Date/Time 06/21/2012 1105

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 Sandy Do

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 (%)** 0

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

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other n/a

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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-603-SASC-SB-5.0 **Date/Time** 06/21/2012 1100

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Sandy Do

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 (%)** 0
3. **Fill Description (circle all that apply)**

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel (N/A)

Other N/A

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 NONE

Location ID:	Subarea:	Date Started:	Date Completed:
DG-603	5C	06/21/2012	06/21/2012

Client: DOE — Project Name/#: SSFL-66258-63376.1203.002.223.02231.SSPH3		Total Depth: 5.0 ft
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAES SDO 6/21/2012	
GPS: ✓	Drill Method: ~~NA~~ DPT SDO 6/21/12	Depth Drilled into Bedrock: ~~NA~~ SDO 6/21/2012 ☒
Radiological Background: 13 µR, 83 cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~A Begay~~ S. DO SDO 6/21/2012

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
				SL-603-SASC-SB-0.0-0.5 sampled on 05/03/2012		SC	Brush. SDO 6/21/2012 Fill. ~~Dark brown~~ Clayey SAND: Dark brown (10YR 3/3), moist, loose, 65% sand, fine-grained, pg. 35% clay, no odor
1	4/4	0.0	12/72			CL	CLAY with sand: Dark brown (10YR 3/3) Moist, hard, 85% clay, 15% sand, fine-grained, no odor
2			12/78				Trace of gravel, fine grained, subangular to subrounded, max diam = 1/4" at 2 ft. Increased sand to 30% sand, fine to coarse-grained. Oxidation at 2.5 ft and red brick fragments encountered
3			12/102			SC	Clayey SAND: Dark yellowish brown (10YR 5/6) Moist, loose, 80% sand, fine to coarse-grained, well graded, 20% sand, red brick fragments present
4	1/1		12/60	SL-603-SASC-SB-4.0-5.0	1105	ML CH	Siltstone Light grayish brown (2.5Y 6/2). Native Pale brown (10YR 6/3) CLAY: Moist, firm, 95% clay, 5% silt, elastic, no odor
5			12/54	SL-603-SASC-SB-5.0	1100	SP-SC	Sand with clay: Light olive brown (2.5Y 5/6) Moist, loose, Sand (88%), fine-grained, 12% clay, no odor
							Total Depth = 5.0 ft. No groundwater encountered

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

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SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [AMY]

Sample ID SL-604-SASL-SB-0.0-0.5 Date/Time 5/2/12 1155

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MB 5.24.12 ~~MH~~ MB 5.24.12

Geologist Registration # ~~7735~~ 6360

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analysis
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
1,4 Dioxane	EPA 8270 SIM	
Dioxins	EPA 1613	
PCBs/PCTs	EPA 8082	X
Perchlorate	EPA 314.0/331	X 5/2/12
Perchlorate ~~Confirmation~~	EPA 6850/6860	X
pH	EPA 9045 (Soil)	X
	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	
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	

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	(circled) 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

Check if Fill Material Present [X]

Percentage Fill (%) ~~None~~ Trace or 5% 5/2/12 ads

Check If Staining [ ]

Color 7.5 YR 5/2

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt (Metal) Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments A nail was encountered in the surface sample.

Location ID: SL-604	Subarea: 5C	Date Started: 5/2/12	Date Completed: 5/2/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: N/A	Drill Method: NA ~~HB~~ 05/14/2012		Depth Drilled into Bedrock: NA
Radiological Background: 60	Borehole diameter: 2in		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: Slide Hammer ~~split spoon~~ MBS: 24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA		Geologist: Andy Kreuzer

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5	0.0	82	SL-604-SASC-SB-0.0-0.5	1155	ML	SILT with SAND: dark brown (7.5 YR 3/2); 85% silt, moist, soft, dense; low plasticity; 15% sand, fine, poorly graded, sub-rounded.
0.5		0.0	~~76~~ 96				
1.0							Total depth = 0.5 ft

CDM Smith

BORING LOG AND SAMPLING RECORD

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PG 6260

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal C

Sample ID SL-604-SA5C-SB-4.0-5.0 Date/Time 06/20/2012 1510

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 Sandy Do

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	
	PCBs/PCTs	EPA 8082	X
	Perchlorate	EPA 314.0/331	
	Perchlorate Confirmation	EPA 6850/6860	X
	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

PG#7735

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 Natalie Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-604-SA5C-SB-5.0 Date/Time 06/20/2012 1505

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Sandy Do

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 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 Mike Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-604	5C	06/20/2012	06/20/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 5.1 ft
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS SD 06/20/2012	
GPS: √	Drill Method: ~~NA~~ DPT SD 06/20/2012	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR/102 cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N.Begay~~ S. Pe SD 06/20/2012

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0				SL-604-SASC-SB-0.0-0.5 sampled on 5/02/12		SC	Fill Clayey SAND: Brown (7.5YR 4/2) Dry to moist, medium dense, 70% sand, fine to med-grained, pg, 30% clay, abundant rootlets, trace of fine gravel, subangular, no odor
1		0.0	12/54				
2	4/4		12/60			CH	Native CLAY: Dark brown (10YR 3/3) Moist, very hard, 95% clay, ~~10%~~ SD 06/20/2012 5% sand, fine-grained, no odor
3			12/72				CLAY with sand, 85% clay, 15% SD 06/20/2012 sand, fine to med-grained at 3 ft Color change to dark yellowish brown at 3.2 ft (10YR 3/6)
4	1/1		12/54	SL-604-SASC-SB-4.0-5.0	1510	SM	Silty SAND: Yellowish brown (10YR 5/6) Moist, loose, 80% sand, fine-to med-grained, 20% silts, no odor, pg
5		↓	12/48	SL-604-SASC-SB-5.0	1505		Total Depth = 5.1 feet. No groundwater encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

PG # 7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-606-SA5C-SB-0.0-0.5 Date/Time 5/3/12 1130

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BLOKA MB 5/24/12 Geologist Registration # ~~7735~~ 6360 MB 5/24/12

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No fill, staining, or odor.

Location ID: SL-606	Subarea: 5C	Date Started: 5/3/12	Date Completed: 5/3/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: NA	Drill Method: NA ~~MB 05/14/2012~~		Depth Drilled into Bedrock: NA
Radiological Background: 81	Borehole diameter: 2 x in		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: Slide Hammer / ~~split spoon~~ MB 5/24/12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: Andy Greazel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5	0.0	79	SL-606-SA5L-SB-0.0-0.5	1130	SM	SILTY SAND: dark brown (10YR 3/3); 60% sand, fine to coarse, well graded, angular to subrounded; 35% silt, dry, soft, dense; 5% gravel, fine to coarse, well graded, angular to subangular max diameter = 1½".
0.5		0.0	66				
1.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Greg Lee Miller RG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-607-SASC-SB-0.0-0.5 Date/Time 07/11/2012 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	X
	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) MB 7.11.12

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 4/6

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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-607-SASC-SB-4.0-5.0 **Date/Time** 07/11/2012 1105

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 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	X
	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 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 Wolfgram **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-607-SA5C-SB-~~4.0 5.0~~ 4.5 7.11.12 Date/Time 07/11/2012 1104

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 NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

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 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 #** 7735

Additional Comments NO

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-607-SASC-SB-9.0-10.0 Date/Time 07/11/2012 1110

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 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	X
	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 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 Mike Hoffman **PG Registration #** 7735

Additional Comments NO

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-607-SASC-SB-9.5 **Date/Time** 07/11/2012 1109

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.5

End Depth 9.5

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	
		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 2.5 Y 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 Nicole Hoffman **PG Registration #** 7735

Additional Comments NO

NA – Not Applicable

Location ID: DG-607	Subarea: 5C	Date Started: Wed. 7/11/12	Date Completed: 7/11/12 @1117
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231 SSRI3.12		Total Depth: ~~7.11.12~~ 10.3, 10.3.4
Company Name: CDM SMITH		Drill Contractor/Driller: ~~NA~~ SAES	
GPS:		Drill Method: ~~NA~~ DPT	Depth Drilled Into Bedrock: NA
Radiological Background: 12uR, 104cpm		Borehole diameter: 2.75"	
PID Background: 0.0 ppm		Depth to GW: NA	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: ↓	Geologist: N. Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							0.0
		0.0	12/82	SL-607-SA5-SB-0.0-0.5	1100		3" Asphalt 1' gravel
					~~7.11.12~~	SP SC	CLAYEY SAND: dyb (10YR 4/6); 70% sand, pg, f-m, mostly m; 30% clay, low plas, soft; moist, no odor (FILL) T. c, sa-sr.
1		0.0	10/72				1.0
	4/4					CL	CLAY WITH SAND: vdgb (10YR 3/2), 90% clay, low plas, firm-hard; 10% sand, pg, f; T. red brick; moist, no odor. (FILL) T. crs, sa-sr
2		0.0	10/78				
3		0.0	10/102				
4		0.0	10/84	SL-607-SA5-SB 4.0-5.0	1105		Same as above, no brick fill
				SL-607-SA5-SB-4.5	1104		WITH SILT pg
5		0.0	10/42			SP SM	4.8 SAND: H. ol. brwn (2.5Y 5/6); 90% sand, f-m, mostly m; 10% silt, no plasticity; SAND & SANDSTONE. oxidized-appear weathered; moist, no odor
6	4/4	0.0	10/48				siltstone lens (1.9-2.3' bgs) SAND WITH SILT - same as 4.8'
7		0.0	10/60				7.2
						CL	CLAY: H. yb (2.5Y 6/4), 95% clay, med plas, firm-hard; 5% sand, pg, f - high
8		0.0	10/96				color Δ: brown (10YR 4/3)
							silt stones-
						ML	weak cementation, sl. oxidation WISP-SM layered
9	2/2	0.0	10/84	SL-607-SA5-SB-9.0-10.0	1110		
				SL-607-SA5-SB-9.5	1109	SP SM	SAND WITH SILT: H. ol. brwn (2.5Y 5/6); 90% sand, pg, f-m, mostly m; 10% silt, no plas, v. soft; sl. oxidation; moist, no od 10.0
10		0.0	10/66				

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Mike Hoffman #7755 TD = 10.3' bgs.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-608-SASC-SB-0.0-0.5 Date/Time 05/09/2012 1320

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID ____

Geologist ~~NA Michael Hoffman~~ MARGARET BLOISA MB 5.24.12 Geologist Registration # ~~7735~~ 6360 MB 5.24.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil) ~~Hg~~	X
	EPA 7470 (Water)	
Flouride	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)	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	X
Alcohols	EPA 8015	X
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 2.5Y 7/2

Percentage Fill (%) 100

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) ceramic tile

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments Boring in middle of dirt road. Very hard to collect sample.

Location ID:	Subarea:	Date Started:	Date Completed:
DG-608	SC	9 May 2012 @1307	5.9.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12μR, 102cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.4/0.5	0.0	44	SL-608-SASC-SB-0.0-0.5	1320	ML	SILT W/GRAVEL: lt gray (2.5Y 7/2), 75% silt, non plastic, unconsolidated; 25% gravel (road)(igneous)(concrete), pg, f, max Φ= 1", blue ceramic fragments
							Total depth of borehole to 0.5 ft. bgs.

CDM Smith

BORING LOG AND SAMPLING RECORD

Nancy Begay PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-609-SASC-SB-0.0-0.5 **Date/Time** 05/09/2012 1113

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist MARGARET BLOUSA MB 5.24.12 ~~Michael Hoffman~~ MB 5.24.12 **Geologist Registration #** ~~7735~~ 6360

Sampler NaeKynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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)	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	X
Alcohols	EPA 8015	X
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10 YR 3/2

Percentage Fill (%) 100

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-609	5C	9 May 2012	9 May 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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr) (cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5 / 0.5	0.2	94	SL-609-SASC-SB-0.0-0.5	1113	ML	SANDY SILT: vdgb (10YR 3/2); 70% silt, low plasticity, micaceous, unconsolidated, soft; 30% sand. pg, f-m, t. c, sa-sr, trace gravel (igneous), pg, f, sa-sr, max ϕ=0.5"; moist, no odor. (FILL)
							Total depth of borehole to 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Engineer Miss PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-612-SASC-SB-0.0-0.5 Date/Time 5/3/12 1055

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARKET BLOISE MB 5/24/12 Geologist Registration # ~~7735~~ 6360 MB 5.24.12

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 5

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 2.5 Y 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No staining, odor. Asphalt present on the soil surface adjacent to the boring.

Location ID: SL-612	Subarea: 5C	Date Started: 5/3/12	Date Completed: 5/3/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: NA	Drill Method: NA ~~HSA~~ 05/14/2012		Depth Drilled into Bedrock: NA
Radiological Background: 61	Borehole diameter: 2 in		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: Slide hammer / ~~split spoon~~ RB 5/24/12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: Andy Greazel

12/12

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5	0.0	87				SILTY SAND: light olive brown (2.5Y 5/4); 70% sand, fine to medium, poorly graded, subrounded; 30% silt, dry, soft, dense; trace gravel.
0.5		0.0	90	SL-612-SASC-SB-0.0-0.5	1055	SM	

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Andrew Greazel 76360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-613-SA5C-SB-0.0-0.5 **Date/Time** 05/09/2012 1355

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BROSA MB 5.24.12 Michael Hoffmann NB 5.24.12 **Geologist Registration #** ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	
Pesticides	EPA 8081	

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	

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

Check if Fill Material Present [Y]

Check if Staining [ ]

Color 10 YR 4/4

Percentage Fill (%) 100

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DB-013	SC	5.9.12	5.9.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: MMR, 74cpm	Borehole diameter: 2"	
PID Background: 0.0ppm	Depth to GW: —	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr) (cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	85	SL-013-SASC-SB-0.0-0.5	1355	ML	SANDY SILT; dyb (10YR 4/4); 65% silt, non-plastic, unconsolidated, stiff; 30% sand, pg, f-m, lc., sa-sr; 5% gravel (igneous), pg, f, r-sa, max ϕ = 0.75"; dry, no odor.
							Total depth of borehole to 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Engineer Mion PE 63360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ TP

Sample ID SL-615-SA5C-SB-0.0-0.5 **Date/Time** 05/07/2012 1515

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.24.17 **Geologist Registration #** ~~7735~~ 6360 VB 5.24.17

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 5

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10 YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-615	Subarea: 5C	Date Started: 7 May 2012 @ 1455	Date Completed: 7 May 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: ✓		Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: BuR, 82cpm		Borehole diameter: 2"	
PID Background: 0.0 ppm		Depth to GW: —	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5		0.0	82	SL-615-SASC-SB-0.0-0.5	1515	CL	CLAY: vdgb(10YR 3/2); 85%, clay, firm, low plasticity; 10%, sand, pg, f, trace of medium, sa-sr; 5%, gravel, pg, f, sa-sr, max Φ= 0.75"; moist, no odor, roots (igneous)
							Total depth of borehole to 0.5' bgs (slide hammer). No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Breegreen Bhim PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐ DUP

Sample ID SL-615-SA5C-SB-4.0-5.0 Date/Time 06/05/2012 1152

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID ____

Geologist Margaret Gloisa Geologist Registration # 62360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
~~1,4 Dioxane~~	~~EPA 8270 SIM~~	X
Dioxins	EPA 1613	X
PCBs/PCTs	EPA 8082	X
Perchlorate	EPA 314.0/331	
~~Perchlorate Confirmation~~	EPA 6850/6860	X
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	

6.5.12 LLI 5/6/2012

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10 YR 4/3

Percentage Fill (%) 0

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-615-SA5C-SB-5.0 Date/Time 06/05/2012 1152

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID 615 SL-~~543~~ SASC-SB-9.0-10.0 (NB 6.5.12) Date/Time 06/05/2012 1155

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): ~~Surface Soil~~ (DPT) Hand Auger Trenching Sediment (NB 6.5.12)

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloss Geologist Registration # 63160

Sampler John Halseth

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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 LL1
PCBs/PCTs	EPA 8082	X
Perchlorate	EPA 314.0/331	
Perchlorate ~~Confirmation~~	EPA 6850/6860	N
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	X TB 6.5.12
	Alcohols	EPA 8015	X
	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

Check if Fill Material Present ☐

Percentage Fill (%) Ø

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5 Y 6/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments N/A

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-~~543~~ 615 SASC-SB-10.0 6.5.12 Date/Time 06/05/2012 1158

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bosa Geologist Registration # 6360

Sampler John Haleth

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 6/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments N/A

Location ID:	Subarea:	Date Started:	Date Completed:
DO-615	SC	6.5.12 @1133	6.5.12

Client: DOE — Project Name/#: SSFL-66268-63376.1203.002.223.02231.SSPH3		Total Depth: 10.2' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12 μR, 86cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.1		Surface sample collected on 05/07/2012		CL	CLAY W/SAND: dyb (10YR 3/4); 85% clay, low plas, hard, 15% sand, pg, f, T. med; slt. moist, no oder; T. gravel (igneous), pg, f, max Φ = max = 0.75". sa-sr
1.0			9/72				
							@1.5' same as above, except: CLAY: 90% clay; 10% sand; med. plas. NO GRAVEL. moist.
2.0			9/108				
3.0			9/84				SAND W/CLAY: brown (10YR 4/3); 80% clay, low plas, hard; 20% sand, pg, f-m, T. crs; igneous; T. red brick/pipe fragments; moist, no odor. T. oxidation.
4.0		0.1	9/78	SL-615-SASC-SB-4.0-5.0	1150		
5.0			9/66	SL-615-SASC-SB-5.0	1150		slt. moist.
6.0			9/78				
7.0			9/72				harder drilling
							same as above
8.0			9/148			SA SC	SAND WITH CLAY: lt. ol. brwn (2.5Y 5/6) 90% sand, pg, f-m, mostly m; 10% clay, low plas, soft; dry moist; no oder.
		0.1					
9.0			9/42	SL-615-SASC-SB-9.0-10.0	1155		
						CL	CLAY: lt-y b (2.5Y 6/3), 90% clay, low plas, hard, flaky, 10% sand, pg, f; oxid., slt. moist, no odor.
10.0			9/64	SL-615-SASC-SB-10.0	1158		

CDM Smith

BORING LOG AND SAMPLING RECORD

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Rebecca Mesa PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-620-SA5C-SB-0.0-0.5 Date/Time 05/29/2012 1510

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
1,4 Dioxane	EPA 8270 SIM	X Pw
Dioxins	EPA 1613	X
PCBs/PCTs	EPA 8082	X
Perchlorate	EPA 314.0/331	X Pw
Perchlorate Confirmation	EPA 6850/6860	X
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100%

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR - 4/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments NONE

Location ID: SL-620-	Subarea: 5C	Date Started: 05/29/2012	Date Completed: 05/29/2012
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 1.9 ft bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: DPT		Depth Drilled into Bedrock: 0 ft
Radiological Background: uR/cpm 10/74	Borehole diameter: 2 1/4		
PID Background: 0.0 ppm	Depth to GW: N/A		Sample Method: macro-core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: ~~N.Begay~~ RWood

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
			10/71	~~QA~~ RW SL-620-SB5C-SB 0.0-0.5	1510	SP-SM	3" Asphalt
	1.9/2.0						Poorly graded sand w/ silt and gravel
1.0		0.0	10/54				Brown (10YR-4/3), Dense, moist, non-plastic, pieces of asphalt, concrete, and igneous rock, sand; fine grained, no odor, no discoloration, non-native fill
2.0		0.0	10/66				
							Refusal at 1.9' bgs
							TD = 1.9' bgs NO GW Encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Page ___ of ___

Reviewed Brian PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-623-SA53-SB-0.0-0.5 **Date/Time** 04/25/2012 0955

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloisse MB 5.25.12 Michael Hoffman MB 5.25.12 **Geologist Registration #** ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10 YR 3/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-623	5C	04/25/12 @ 0948	4.25.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 70cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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	74	SL-623-SASC-SB-0.0-0.5	0955	ML	SILT w/SAND: dyb (10YR 3/4), 80% clay, low plasticity, weak cementation, firm, 20% sand, pg, f-m, sa-sr; T. of gravel, (igneous), pg, f, sa-sr, max ϕ = 0.25", sl. moist, no odor. (0.3)
						SM	Silty Sand: dyb (10YR 3/4); 65% sand, pg, m-c, sa-sr; 20% silt, no plasticity, unconsolidated, soft; 5% gravel, pg, f, a-sa, (igneous); slightly moist, no odor. (0.5)
							Total depth of borehole to 0.5 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Geologist Nancy Mion PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-623-SA5C-SB-4.0-5.0 **Date/Time** 07/09/2012 1055

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 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	X
	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	
	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 4/4

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 None

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-623-SASC-SB-9.0-10.0 **Date/Time** 07/09/2012 1100

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 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	X
	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	
	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 6/4

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 NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
D6-623	5C	07/09/12 @1040	07/09/12

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10'
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 12	
GPS:	Drill Method: ~~NA~~ 24	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 98 cpm	Borehole diameter:	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	13/114	sampled on 04/25/2012	surface		
						CL	CLAY. dyb (10 YR 4/4); 90% clay, low plas, firm, 10% sand, pg, f-m, T. gravel (igneous), pg, f, a-sa, max ϕ = 0.75", T. red brick fragments; dry, no odor (FILL).
1.0			10/42				
2.0	3/4		10/64				
3.0			10/60				
							CLAY WITH SAND dyb (10 YR 4/4), 80% clay, low plas, hard; 20% sand, pg, f-med, T. C, sa-sr; oxidation, T. siltstone (FILL) moist, no odor. T. v.f gravel (igneous) — 3.0
4.0		0.0	10/48	SL-623-SA5C-SB-4.0-5.0	1055		
5.0			10/24				
6.0	4/4		10/36				
							SANDY CLAY lt. y. brn (2.5Y 6/4), 65% clay, low plas, firm-soft; 35% sand, Pg-f-m; — 6.5
7.0			10/42				
8.0			10/72				
							→ WITH SILT
9.0	2/2		10/42	SL-623-SA5C-SB-9.0-10.0	1100	SP SM	SAND lt. y brn (2.5Y 6/4); 90% sand, pg, f-m, mostly f; 10% silt, non plastic, soft; moist, no odor — 8.8
						CL	CLAY WITH SAND lt. ol. brn (2.5Y 5/3); 85% clay, low plas, hard, 15% sand, Pg-f-m; T. C, sa-sr, oxidation, moist, no odor — 9.5
10.0			10/66				

CDM Smith

BORING LOG AND SAMPLING RECORD

TD = 10.0' bgs

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [illegible]

Sample ID SL-628-SA5C-SB-10.0-11.0 Date/Time 06/20/2012 0905

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 11.0

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

SAMPLE NOT SUBMITTED DUE TO DEEPER SAMPLE COLLECTED (SAMPLE ONLY NEEDED AT REFUSAL

Field Geologist Santos Do

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	~~✓~~ V.C. 6/24/12
	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	

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 red brick

Is Staining Present Yes (No)

Color 10 YR 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 #** PG# 7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-628-SA5C-SB-10.5 Date/Time 06/20/2012 1050

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.5

End Depth 10.5

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 Sandy Do

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	X
	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	X
	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) MH 2/12	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 2/1

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 Black staining.

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sandy Do

Sample ID SL-620-595C-SB-11.0 Date/Time 06/20/2012 0900

Matrix (circle one): (Soil) Sediment Water

Start Depth 11.0

End Depth 11.0

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

SAMPLE NOT SUBMITTED DUE TO DEEPER SAMPLE COLLECTED. (SAMPLE ONLY NEEDED AT REFUSAL)

Field Geologist Sandy Do

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	

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 red brick		

Is Staining Present Yes (No)

Color 10 YR 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 Nicole Hoffman **PG Registration #** PG#7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-628-SA5C-SB-11.5-12.5 Date/Time 06/20/2012 1100

Matrix (circle one): (Soil) Sediment Water

Start Depth 11.5

End Depth 12.5

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 Sandy Do

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	X
	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 (%)** 00

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 Mike Hoffman **PG Registration #** 7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sandy Do

Sample ID SL-62B-SA5C-SB-125 Date/Time 06/20/2012 1015

Matrix (circle one): (Soil) Sediment Water

Start Depth 12.5

End Depth 12.5

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 Sandy Do

Sampler Vidal Cortes

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	X
	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	X
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	✓
Sediment	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 (%)** 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 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 #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-628	5C	06/20/2012	06/20/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 11.5 ft, 12 ft, 13.4 ft
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAPS (SD 06/20/12)	
GPS: ✓	Drill Method: ~~NA~~ DPT (SD 06/20/2012)	Depth Drilled into Bedrock: ~~NA~~ (SD 06/20/2012) 1 to 2 ft.
Radiological Background: 14 µR, 78 cpm	Borehole diameter: 2¼"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: n/a	Geologist: ~~N. Begay~~ S. Do (SD 06/20/12)

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1	25/4	0.0	12/42			SC	Light brush at surface Fill Clayey ~~SAND~~ ~~CLAY~~ (SD 06/20/2012): Dark yellowish brown (10YR 3/4) Dry to moist, medium dense, 70% sand, fine to med-grained, pg, 30% clay, no odor
2			12/30			CL	Sandy CLAY: Brown (7.5YR 4/4) Moist, firm, 60% clay, 40% sand, fine to medium-grained, pg, no odor
3			12/36				
4			12/36			SC	Clayey SAND: Dark yellowish brown (10YR 4/6) Moist, medium dense, 65% sand, fine to med-grained, pg, 35% clay, no odor
5	3/4		12/48			~~CL~~ (SD 06/20/2012)	Pocket of clay (2" thick) at 4.9 feet. Roots (6" long) at 5 ft. encountered.
6			12/72				Oxidation.
7			12/90			CL	Sandy CLAY: Brown (7.5YR 4/4) Moist, soft, 60% clay, 40% sand, fine-grained, pg, no odor oxidation
8			12/108			SW	Fill SAND: Dark grayish brown (10YR 4/2), Moist, loose, ~~100%~~ (SD 06/20/12) sand, fine to course-grained, well graded, ~~trace of~~ (SD 06/21/2012) no odor. Red fragment of brick pipe encountered (½")
9	3/4		12/72				
10		✓	12/90				(SD 06/20/2012) Concrete piece encountered (1.25") at 10 ft

CDM Smith

BORING LOG AND SAMPLING RECORD

PG# 7735

Location ID:	Subarea:	Date Started:	Date Completed:
DG-628	5C	06/20/2012	06/20/2012
Project: SSFL		**Geologist:** S. Do	**Total Depth:** 11.5 ft, 12 ft, 13.4 ft

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
10				SL-628-SASC-SB-10.0-11.0	0905	SW	Trace of fine gravel at 10 feet. Max diam = 1/3" beginning
				SL-628-SASC-SB-11.0	0900		
11		0.0 staining	12/72	SL-628-SASC-SB-10.5	1050		Sandstone cuttings. 2 1/4" diam fragments. Grayish brown (10YR 5/2) and yellowish brown (10YR 5/6)
				SL-628-SASC-SB-11.5-12.5	1100		Total depth = 11.5 feet. No groundwater encountered
12		0.0	12/90	SL-628-SASC-SB-12.5	1015		Note: In borings of depth past 11.5 feet, clay 5/9/2012 sand from 11 ft to bedrock. Clayey 5/9/2012 sand: very dark brown (10YR 2/2) Moist, medium dense, 60% sand, fine-grained, pg, 40% clay, no odor, 10YR (2/1) Black color encountered at ~~12 ft~~ 10.5 ft, encores collected. 5/9/2012
13		0.0	12/48				Note: Contact with sandstone bedrock ranges between 10.5 ft and 12.5 ft in each hole.
							Note: Target depth of 33 feet was not reached after 8 push attempts.
14							
15							
16							
17							
18							
19							
20							
21							

Mike Hoffman PG # 7735

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-630-SA5C-SB-8.0-9.0 Date/Time 06/20/2012 1155

Matrix (circle one): (Soil) Sediment Water

Start Depth 8.0

End Depth 9.0

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 Sandy Do

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	X
	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 7.5 YR 3.5/2

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 #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-630-SA5C-SB-9.0 Date/Time 06/20/2012 1150

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 9.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

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

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

Parent Sample ID N/A

Field Geologist Sandy Do

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 7.5 YR 2.5/2

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 #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-630	5C	06/20/2012	06/20/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 10 ft
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SD 06/20/12 SAFS	
GPS: ✓	Drill Method: ~~NA~~ SD 06/20/12 DPT	Depth Drilled into Bedrock: ~~NA~~ SD 06/20/12 1 ft
Radiological Background: 13 μR, 85 cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N. Begay~~ SD 06/20/12 S. Do

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0						SM	Fill Silty SAND: Dark yellowish brown (10YR 4/6) Dry to moist, very loose, 60% sand, fine-grained, PG, 40% silt, no odor
1		0.0	12/94			CL	Sandy CLAY: Dark brown (10YR 3/3) Moist, soft, 70% clay, 30% sand, fine-to med-grained, no odor, with silt
2	4/4		12/96			SC	Clayey SAND: Dark yellowish brown (10YR 3/4) Moist, loose, 60% sand, fine to med-grained, PG, 40% clay, no odor. Trace of coarse gravel, subrounded, max diam. = 1.25"
3			12/108				
4			12/114				
						CL	CLAY: Dark brown (7.5YR 3/4) Moist, very hard, 90% clay, 10% sand, fine-grained, no odor
5			12/48			SC	Clayey SAND: Dark yellowish brown (10YR 3/4) Moist, loose, 60% sand, fine to med-grained, PG, 40% clay, no odor. Trace oxidation from 5 to 5.5 ft.
6			12/66				
7	3.5/4		12/90				
			12/72			CL	Sandy CLAY: Very dark brown (7.5YR 2.5/2) Moist, soft, 60% clay, 40% sand, fine-to med-grained, no odor. Silty.
8			SL-630-SASC-SB 8.0-9.0 SD 06/20/12	SL-630-SASC-SB-8.0-9.0 SD 06/20/12	1155		
			SL-630-SASC-SB 9.0	SL-630-SASC-SB-9.0 SD 06/20/12	1150		
9	2.5/2		12/96				
	2.5/5					Sandstone	Light olive brown (10YR 5/4) SD 06/20/12 2.5YR 5/4)
10	SD 06/20/12		12/78				

Total depth = 10 ft. No groundwater encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Mike Hoffman PG# 7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-632-SASC-SB-0.0-0.5 **Date/Time** 04/23/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ Margaret Blosa MB 5.24.12 **Geologist Registration #** ~~12345~~ 6360 MB 5.24.12

Sampler Nerolynn Pegay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

C

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete (Wood) Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ RG

Sample ID SL-632-SASC-SB-2.0-3.0 **Date/Time** 04/23/2012 1050

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ Margaret Bloise MB 5.24.12 **Geologist Registration #** 7735 MB 5.24.12 6360

Sampler Naulynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/2

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DE-632	5C	04/23/2012	4.23.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	3' bgs
GPS: ✓	Drill Method: ~~NA~~ HA to 3'	Depth Drilled into Bedrock: NA
Radiological Background: 11uR, 86cpm	Borehole diameter: 3"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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	101	SL-632-SASC-SB-0.0-0.5	1035	ML	SILT/SAND: Brown (10YR 4/3); 80% silt, no-low plasticity, soft; 20% sand, vg, f-m, sa-sr, moist, no odor. trace of wood chips.
1.0	HA						
1.5		0.0	85			CL	CLAY: vdgb (10YR 3/2); 95% clay, low plasticity, firm, 5% sand, f-m, sa-sr; moist no odor.
2.0							
2.5	0.5/0.5	0.0	66	SL-632-SASC-SB-2.0-3.0	1050		Same as above
3.0							Total depth of borehole to 3 ft bgs.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Nancy Begay PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-633-SA5c-SB-0.0-0.5 Date/Time 04/20/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael~~ Hoffman MB 5.17.12 Geologist Registration # ~~7735~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

0.0-0.5

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete (Wood) Glass

(Igneous)/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10 YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-633-SA5C-SB-2.0-3.0 Date/Time 04/20/2012 1345

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BLOYD 5.17.12 Geologist Registration # ~~7785~~ 63160 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) —

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
D6-633	5C	04/20/12	4.20.12

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: ~~NA~~ HA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR; 67cpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Slide Hammer SUB SURFACE
		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	66	SL-633-SA5C-SB-0.0-0.5	1330	CL	CLAY: 95% clay, low plastic, stiff; 5% sand, pg, f-sa-sr, moist, no odor, trace wood. (10YR 3/2) T. gravel, ag, f,
1.0	HA						
1.5		0.0	60				CLAY w/ GRAVEL: vdgb (10YR 3/2); 80% clay, low plasticity, stiff; 15% gravel, pg, f-m, sa-sr, max Ø = 1"; 5% sand, m-c, pg, sa-sr; moist, no odor, (FILL) (igneous gravel)
2.0		0.0	54				
2.5				SL-633-SA5C-SB-2.0-3.0	1345		CLAY: dgb (10YR 4/2), 100% clay, low plas, stiff, trace of sand, pg, f-m, sa-sr; moist no odor
3.0	0.4/0.5	0.0	60				
3.5							Total depth = 3.0 ft. bgs. No GW encountered.
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

P66360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-634-SA5C-SB-0.0-0.5 **Date/Time** 04/20/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOCH 05.17.12 **Geologist Registration #** ~~9735~~ 6360 05.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

0.0-0.5

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 2.5Y 3/2

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-634-SA5C-SB-2.0-3.0 **Date/Time** 04/20/2012 1440

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.17.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

2.0-3.0

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 2.5Y 4/2

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-634	5C	4/20/2012	4.20.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
		3 ft. bgs.

Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: ~~NA~~ HA	Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE / SUB-SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroF ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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	0.1	60	SL-634-SASC-SB-0.0-0.5	1415	CL	CLAY; vdgb (2.5Y 3/2), 90% clay, low plas, stiff, 10% sand, pg, m-c, sa-sr; trace of gravel (igneous - granite), pg, f, sa-sr, max Φ = 0.5", moist, no odor. (FILL)
1.0	HA	0.0	56				
1.5							
2.0		0.0	108				← As above, except dgb (2.5Y 4/2); 85% clay; 10% sand, 5% gravel, f, pg, sa-sr, max Φ = 0.5"; moist no odor, tough drilling (FILL)
2.5							
3.0		0.0	96	SL-634-SASC-SB-2.0-3.0	1440	↓	same as above.
3.5							Total depth of borehole to 3.0 ft. bgs. No GW encoun
4.0							
4.5							
5.0							

BORING LOG AND SAMPLING RECORD Page 1 of 1

DG 63760

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ KY

Sample ID SL-635-SA5C-SB-0.0-0.5 **Date/Time** 04/23/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Bloisa MB 5.24.12 ~~Michael Hoffman~~ **Geologist Registration #** MB 5.24.12 ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color ~~Brown~~ 10YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ KG

Sample ID SL-635-SA5C-SB-2.0-3.0 Date/Time 04/23/2012 1005

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Blaisa MB 5.24.12 ~~Michael Hoffman~~ MB 5.24.12

Geologist Registration # ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-635	SC	@0934 23 April 2012	4.23.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	3 ft bgs
GPS: ✓	Drill Method: ~~NA~~ HA	Depth Drilled into Bedrock: NA
Radiological Background: 11uR, 64cpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE / SUB
Radiological Equipment Used: ✓ MicroI ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Slide Hammer SURFACE
		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							SANDY
0.5	0.5 / 0.5	0.0	98	SL-635-SASC-SB-0.0-0.5	0940	ML	SILT: brown (10YR 4/3), 70% silt, low plasticity, stiff, 20% sand, pg, m-c, moist, medium, soft, trace of gravel, f, rounded, max 1=0.25", moist, no odor.
1.0	HA	1.0	~2				
1.5						CL	Clay: very dk (10YR 2/2); 95% clay, low plasticity, hard; 5% sand, pg, f-m, soft, moist, no odor.
2.0		1.0	66				
2.5				SL-635-SASC-SB-2.0-3.0	1005		
3.0	0.3 / 0.5	0.0	24				Same as above
3.5							Total depth of borehole to 3 ft. bgs
4.0							
4.5							
5.0							

BORING LOG AND SAMPLING RECORD Page 1 of 1

Brenee Jew Mion PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-636-SASC-SB-0.0-0.5 **Date/Time** 06/06/2012 1350

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

TS 6.6.12

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

Parent Sample ID N/A

Field Geologist Nacolynn Begay

Sampler John Halseth

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 (%)** 100

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

(Asphalt) Metal Plastic

JB 6.6.12

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel) N/A

(Other) red brick fragments

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 3" asphalt at surface.

N/A

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-636-SASC-SB-2.0-3.0 **Date/Time** 06/06/2012 1355

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 Nacolynn Bragay

Sampler John Halseth

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	

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) Red brick fragments		

Is Staining Present Yes (No)

Color 2.5Y 7/2

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 #** 16360

Additional Comments N/A

Location ID:	Subarea:	Date Started:	Date Completed:
DE-636	SC	6.6.12	6.6.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ TB 6.6.12 strongarm	3.0', 2.9'
GPS: ✓	Drill Method: ~~DAT~~ TB 6.6.12 hand auger	Depth Drilled into Bedrock: N/A
Radiological Background: 10 uR, 100cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: N/A	Sample Method: TB 6.6.12 ~~MACRO CORE~~ slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0		SL-636-SASC-SB-0.0-0.5	1350	CL	3" asphalt 0.25 CLAY W/SAND dyb (10YR 4/4); 80% clay, low med plasticity, firm; 20% sand, pg, f-m, T. crs, sa-sr, T. red brick fragments, T. gravel (igneous) pg-f, max ϕ=2"; moist, no odor. r. sandstone 1.0
1.0	HA		10/42				
2.0			10/60				CLAY. v. dk. grayish brn (2.5Y 3/2), 90% clay, mod. plas, firm, 10% sand, pg, f; T. gravel (as above, max ϕ: 2.5". T. rd brick.
3.0	0.5/0.5		10/78	SL-636-SASC-SB-2.0-3.0	1355		Total depth of borehole to 3.0 ft bgs No GW encountered.
4.0							
5.0							
6.0							
7.0							
8.0							
9.0							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

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Screened Min PG6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-637-SA5C-SB-0.0-0.5 **Date/Time** 06/06/2012 1520

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 Nicolynn Begay

Sampler Jen Hansen

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 (%)** 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 Brown (7.5 YR 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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-637-SA5C-SB-2.0-3.0 **Date/Time** 06/06/2012 1525

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 Nacolynn Begay

Sampler John Halseth

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	

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 2.5Y 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 _____

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DB-637	SC	06/06/12	→

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ Strongarm	3
GPS: ✓	Drill Method: hand auger	Depth Drilled into Bedrock:
Radiological Background: 12uR, 89cpm	Borehole diameter: ~~2"~~ 4"	N/A
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method:
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	slide hammer
		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0					3" asphalt
	0.5			SL-637-SASC-SB-0.0-0.5	1520	CL	0.3 CLAY, ol-brn (2.5Y 4/3), 90% clay, mod plas, strong, 10% sand, fg.f; T. gravel (igneous / Ss) f; PP; F-S9, max ϕ = 2.25", moist, no odor sticky
1.0	HA		12/46				
2.0			12/66				
	0.5 / 1.5		12/66	SL-637-SASC-SB-2.0-3.0	1525	ML	2.5 SILT; dark Lwn (10YR 3/3), 90% silt, no plas, soft, 10% sand, fg.f, moist, no oder.
3.0							3.0 Total depth of borehole to 3' bgs. No GW encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

PG 6260

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-GW38-SASC-SB-0.0-0.5 Date/Time 06/06/2012 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

6.6.12

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

Parent Sample ID N/A

Field Geologist Nicolynn Begay

Sampler John Halseth

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	X 6.6.12
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	
Soxhlets	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 (%)** 100

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

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel) N/A

(Other) Red brick fragment

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 0.5 ft. concrete at surface.

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-638--SASC-SB-2.0-3.0 Date/Time 06/06/2012 1430

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 Nacolynn Begay

Sampler ~~NAC~~ JB John Halseth

6.6.12

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	X NA 6.6.12
	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	

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 2.5Y 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 Margaret Blinn **PG Registration #** 6360

Additional Comments Metal wire & wood base lacking gravel.

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DE-638	5C	06/06/2012	6.6.12

Client: DOE	Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ Strongarm	3' bgs
GPS: ✓	Drill Method: ~~DPT~~ 6.12 HA	Depth Drilled into Bedrock:
Radiological Background: 10 uR, 86 cpm	Borehole diameter: 2.25"	N/A
PID Background: 0.0 ppm	Depth to GW: N/A	Sample Method: ~~Macro core~~ 6.6.12 slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0		SL-638-SASC-SB-0.0-0.5	1410		6" concrete (0.0-0.5)
	0.7 / 0.5					CL	0.5 CLAY w/SAND-dyb (10YR 4/4), 85% clay, low plas, firm, 20% sand, pg.f-m; mon3t, no oder, T. gravel (igneous (Lbasc)), pg.f, max Φ ~~0.25"~~ 6.12 2.25"; T. red brick; mon3t, no oder. (FILL) T. red brick. 1.2
1.0	N/A		10/48				
2.0			12/60				CLAY: vdgb (2.5Y 3/2), 90% clay, med. plas, firm; 10% sand, pg.f, T. med; T. gravel, pg.f-m r.sr, max Φ 2.25" FILL = metal wires (weathered). igneous / siltstone
3.0			10/66	SL-638-SASC-SB-2.0-2.5	1430		- hard time getting recovery.
							Total depth of borehole to 3.0' bgs. No GW encountered.
4.0							
5.0							
6.0							
7.0							
8.0							
9.0							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Nancy Bean PG6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-639-SASC-SB-0.0-0.5 **Date/Time** 06/06/2012 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

-TS 6.6.12

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

Parent Sample ID N/A

Field Geologist Nacolynn Begay

Sampler John Halseth

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	
Sediment	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	

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 4/4

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 asphalt = 3" under That 3" road base

Location ID:	Subarea:	Date Started:	Date Completed:
DE-639	SC	06/06/12	06/06/12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 1.7' bgs - refusal
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ Strongarm 6.6.12	
GPS: ✓	Drill Method: ~~DPT~~ 6.6.12 hand auger	Depth Drilled into Bedrock: N/A
Radiological Background: 12 uR, 86cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: N/A	Sample Method: ~~Macro Core~~ 6.6.12 slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0	HA ↓	0.0 ↓	12/48	SL-SASC-SB-0.0-0.5	1500	GW	3" asphalt 3" gravel road base, well graded gray (2.5Y 5/1) 0.25 0.5
						SM ↓	clay lens SILTY SAND: dyb (10YR 4/6), 80% sand, pg, f-m; 20% silt, slt. plas soft; 7- gravel (igneous/SS) pg; f, r-sbl, max ⌀ = 2.5"; mostly no order. 1.7
2							Hit refusal at 1.7' bgs (2 attempts). Hit sandstone. No GW encountered.
3							
4							
5							
6							
7							
8							
9							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-640-SA5C-SB-5.0-6.0 Date/Time 07/10/2012 0840

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 6.0

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 Nacolynn Begay

Sampler Steven 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
7.10.12	~~Perchlorate~~	~~EPA 314.0/331~~	~~X~~
	Perchlorate Confirmation	EPA 6850/6860	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 2.5Y 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 [signature] **PG Registration #** 7235

Additional Comments None

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By: [signature]

Sample ID: SL-640-SA5C-SB-10.0-11.0 Date/Time: 07/10/2012 0845

Matrix (circle one): (Soil) Sediment Water

Start Depth: 10.0

End Depth: 11.0

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: Nawlynn 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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 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 _____ **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Steve Mercer

Sample ID SL-640-SA5C-SB-15.0-16.0 Date/Time 07/10/2012 0850

Matrix (circle one): (Soil) Sediment Water

Start Depth 15.0

End Depth 16.0

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 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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-640-SASC-SB-19.0-20.0 Date/Time 07/10/2012 0855

Matrix (circle one): (Soil) Sediment Water

Start Depth 19.0

End Depth 20.0

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 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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 2.5Y 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 groundwater encountered around 18.5 ft. bgs

7.90.12

1

Location ID: DB-640	Subarea: 5C	Date Started: Tuesday 7.10.12 @0831	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 24' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: ~~NA~~ SAFS	
GPS:		Drill Method: ~~NA 7.10.12~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 80cpm		Borehole diameter: 2.75"	
PID Background: 0.0 ppm		Depth to GW: NA ~18.5' bgs	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: ~~7.10.12~~ immediate	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	13199	NS		CL	CLAY WITH SAND: dyb (10YR 4/4); 85% clay, low plas, firm; 15% sand, pg, f, T. med; igneous gravel @ surface (pg, f, sa-sr, max ϕ = 1"); T. red brick fragments; dry, no odor. (FILL)
1			10130				
2	3.5/4.0		10136				
3			10142				Same as above, except; T. crs gn sand r-sa moist (FILL) no gravel - red brick fragments clay = hard
4			10148				CLAY: - - - - - → low-med plas - - - 4.0
5			10154	SL-640-SASC-SB-5.0-6.0	0840		As above, except; 90% clay; 10% sand, T. oxidation color Δ: H.y bwn (2.5Y 6/4) T. wt. mottling; slt variagated.
6	4.0/4.0		10148				- color change (Δ) = lt. ol. bwn (2.5Y 5/3).
7			10160				- wt. carbonate deposit;
8			10166				- SAFS switch to 1.5" sleeves, from here to depth.
9	4.0/4.0		10172				Same as above, except low plas, soft.
10			10184				

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of ~~2~~ 3

TB 7.10.12

Mike Hoffman #7735

Location ID:	Subarea: 5C	Date Started:	Date Completed:
D6-640		7/10/2012	7/10/2012
Project: SSFL		Geologist: N. Begay	Total Depth:

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
11	4.0/4.0	0.0	10/64	SL-640-SASC-SB-10.0-11.0	0845	CL	CLAY: lt. ol. brn (2.5Y 5/3); 90% clay, low plas, soft; 10% sand, pg, f, T, med; oxidation (strong brown (7.5YR 5/8) wt. $CaCO_3$ deposits; moist; no odor
12			10/72				
13			10/18				As above, except; no $CaCO_3$ deposits, + has trace blk. oxidation
14	4.0/4.0		10/24				T. wt. mottling.
15			10/84	SL-640-SASC-SB-15.0-16.0	0850		Same as above.
16			10/54				
17			10/54				same as above, except; clay has med. plasticity. rock ~~tight~~ 7.10.12 grayish green (10Y-5GY 5/2) - sedimentary dark greenish gray 6LEY1 3/5GY 4/1) - igneous 17.3
18			10/60				SANDY CLAY: yb (10YR 5/4); 70% clay, med plas, soft; 30% sand, pg, f-m; T. oxidation.
19			10/66	SL-640-SASC-SB-19.0-20.0	0855	SM ML	wet @ 18.5 SANDY SILT: 70% silt, non-plastic soft. ~~SILTY SAND~~ 7.10.12: lt. y brn (2.5Y 6/4); 30% sand, pg, f; SH. oxidation.
20	NR		10/78				Same as above.
							~~Same as 19~~ 7.10.12

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID:	Subarea:	Date Started:	Date Completed:
DE-64C	SC	07/10/2012 →	→
Project: SSFL		Geologist:	Total Depth: 24' bgs

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
22	NR	NM	NM	NS			No recovery; wet. Ground water
23							
24							Total depth of borehole to 24' bgs. Hit refusal at 24' bgs. (SS found in shoe). Groundwater encountered at ~18.5' bgs.

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By: Steve Mercer

Sample ID: SL-441-SA5C-SB-4.0-5.0 Date/Time: 07/10/2012 1010

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: Nalolynn 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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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	

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 Mike Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By: Steve Mercer

Sample ID SL-641-SA5C-SB-9.0-10.0 Date/Time 07/10/2012 1020

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 2.5 Y 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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Stef Mysell

Sample ID SL-641-SASC-SB-14.0-15.0 Date/Time 07/10/2012 1025

Matrix (circle one): (Soil) Sediment Water

Start Depth 14.0

End Depth 15.0

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 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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 (%)** 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 2.5 Y 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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Steve Mercer

Sample ID SL-641-SASC-SB-18.5-19.5 Date/Time 07/10/2012 1030

Matrix (circle one): (Soil) Sediment Water

Start Depth 18.5

End Depth 19.5

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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 (%)** 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 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 _____ **PG Registration #** 7735

Additional Comments Groundwater encountered around 16.0' bgs.

NA – Not Applicable

Location ID: DG-641	Subarea: 5C	Date Started: 7/10/2012	Date Completed: 7/10/2012 @1051
Client: DOE	Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3		Total Depth: 19.5', 19.7' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS		
GPS:	Drill Method: ~~NA~~ DPT		Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 71cpm	Borehole diameter: 2.75"		
PID Background: 0.0 ppm	Depth to GW: ~16' bgs		Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	12/99	NS		CL	CLAY WITH SAND: dyb (10YR 4/4); 85% clay, low plas, firm; 15% sand, pg, f-m, dry, no odor. (FILL) mostly f
1		0.0	10/72				
2	4/4	0.0	10/108				
2.4							As above, except: dyb (10YR 3/6); moist. color change, T. red brick (FILL) (Δ)
3		0.0	10/120				
4		0.0	10/84	SL-641-SAGC-SB-4.0-5.0	1010		As above, except; color Δ: (2.5Y 5/3)
5	2.5/4	0.0	10/96				Mt. mottling & oxidation
6		0.0	10/60				
7	NR	0.0	—				
						CL	
8		0.0	10/30				CLAY: M. ol. brn (2.5Y 5/4), 90% clay, low plas, firm; 10% sand, pg, f, T.m, T. wt. $CaCO_3$ deposits (stringers); sl. oxidation; moist, no odor.
9	4/4	0.0	10/30	SL-641-SAGC-SB-9.0-10.0	1020		
10		0.0	10/60				

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID: DB-641	Subarea: 5C	Date Started: 07/10/2012	Date Completed: →
Project: SSFL		Geologist: N. Begay	Total Depth: 19.7' bgs (2nd attempt)

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
11	4/4	0.0	10148			CL	SANDY CLAY; dyb (10YR 4/6); 70% clay, low plas, ~~firm~~ 7.10.12 soft; 30% sand, pg. f-m; oxidation; moist, no odor. 10.8
12		0.0	10148				CLAY: ~~dyb~~ 7.10.11 lt. ol. brwn (2.5Y 5/4); 90% clay, low plas, firm; 10% sand, pg, f; oxidation, CaCO3 stringers; moist, no odor.
13		0.0	10160				
14		0.0	10190	SL-641-SASC-SB-14.0-15.0	1025		14.0
15		0.0	10102			CL	CLAY WITH SAND: lt. ol. brwn (2.5Y 5/6); 75% clay, low plas, soft; 25% sand, pg, f-m; slt. oxidation; moist, no odor. T.C.,sa-sr (61K/orange)
16		0.0	10196				16.0
17		0.0	10154				CLAY: As above, 90% clay, 10% sand; pg, f. med plas
18		0.0	10178				Wet@17.5'bgs SANDY SILT: lt. ol. brwn (2.5Y 5/3); 60% silt, non-plas, soft; 40% sand, pg, f-m; wet- no odor.
19		0.0	10196	SL-641-SASC-SB-18.5-19.5	1030	ML	Same as above
20							Hit refusal at 19.5' bgs. Groundwater encountered at ~16' bgs. Bedrock- ss. ~~SC~~ MB 7.10.12

CDM Smith

BORING LOG AND SAMPLING RECORD

Mike Hoffman #7735

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-642-SA5C-SB-4.0-5.0 Date/Time 07/10/2012 1240

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 Nacolynn Begay

Sampler Steven 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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 2.5 Y 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 7.10.12 **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-642-SA5C-SB-9.0-10.0 **Date/Time** 07/10/2012 1245

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 SM 7/10/17 2.5 Y 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 Nikki Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-642-SA5C-SB-14.0-15.0 **Date/Time** 07/10/2012 1250

Matrix (circle one): (Soil) Sediment Water

Start Depth 14.0

End Depth 15.0

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 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	X
pH	EPA 9045 (Soil)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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 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 Natalie Hodgson **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-642-SASC-SB-17.5-18.5 **Date/Time** 07/10/2012 1255

Matrix (circle one): (Soil) Sediment Water

Start Depth 17.5

End Depth 18.5

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	X
	pH	EPA 9045 (Soil)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	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 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 NONE

NA – Not Applicable

Location ID: D6-642	Subarea: 5C	Date Started: Tuesday 7/10/12 @ 1230	Date Completed: 7/10/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 18.4
Company Name: CDM SMITH		Drill Contractor/Driller: ~~NA~~ SAES	
GPS:		Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 87		Borehole diameter: 2.75"	
PID Background: 0.0 ppm		Depth to GW: 15' bgs	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	12186	NS		CL	CLAY WITH SAND: dyb (10YR 4/4), 85%. clay; low plas, firm; 15%. sand, pg, f, T. mod; dry, no odor.
1		0.0	NR compacted				
2	4 P/4	0.0	10172				
3		0.0	10190				
4		0.0	10184	SL-642-SASC-SB-4.0-5.0	1240		CLAY: 90%. clay; 10%. sand. As above, except color Δ: lt. ol. brwn (2.5Y 5/6); T. oxidation (blk/orange); + Nt. stringers; moist, no odor
5		0.0	10172				sandy clay lens: 4.8-5.1' bgs 30%. sand, 70%. clay
6	4/4	0.0	10160				CLAY: Same as @ 4'
7		0.0	10178				As above, except T. crs gn. sand, sa-sr.
8		0.0	10142			ML	SANDY SILT: lt. y. brwn (2.5Y 6/4). 80%. silt, non-WITH plas; 20%. sand, pg. f; moist, no odor
9	4/4	0.0	10154	SL-642-SASC-SB-9.0-10.0	1245		
10		0.0	10172				

Mike Hoffman #7735

Location ID: DG-642	Subarea: 5C	Date Started: 07/10/2012	Date Completed: →
Project: SSFL		Geologist: N. Begay	Total Depth: 18.5

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
11	4/4	0.0	10/42			SP SM	SAND WITH SILT: dyb (10YR 5/4); 85% sand, pg, f-m; 15% silt, non-plastic; moist, no odor. oxidation.
12		0.0	10/66				
13		0.0	10/84				same as above.
14	4/4	0.0	10/84	SL-642-SASC-SB 14.0-15.0	1250		
15		0.0	10/102				
16		0.0	10/108				wet
17	2.5/4	0.0	10/54				
18		0.0	10/72 10/48	SL-642-SASC-SB 17.5-18.5	1255		same as above.
19							Hit refusal at 18.5 ft. bgs. ~~7.10.12~~ 7.10.12 GW encountered ~16' bgs.
20							

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-643-SASC-SB-1.C-2.C **Date/Time** 06/19/2012 0800

Matrix (circle one): (Soil) Sediment Water

Start Depth 1.C

End Depth 2.C

Depth Units (circle one): Inches (Feet)

J.C. 6/19/12

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 Nacolynn Begay

Sampler Vidal Cortes

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?
Encores	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	
Soxhlet	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 (%)** 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 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 1" asphalt at surface w/ igneous gravel

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal G-C

Sample ID SL-643-SA5C-SB-2.0-3.0 Date/Time 06/19/2012 0805

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 Nacilynn Begay

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	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 (%)** 9
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 Nicole Hoffman **PG Registration #** 7735

Additional Comments None

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DE-643	5C	6.19.2012	6.19.12

Client: DOE	Project Name/#: SSFL-66258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS	3.0'
GPS:	Drill Method: ~~NA~~ hand auger	Depth Drilled into Bedrock: NA
Radiological Background: 11µR, 79cpm	Borehole diameter: 3.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: ~~tapping~~ slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	HA	0.0				CL	1" asphalt SANDY CLAY: dyb (10YR 3/4), 30% sand, pg, f-m, 70% clay, low plas, soft; trace gravel (igneous), pg, f, sa-sr, max ϕ = 0.5", moist, no odor
	0.5		11/12	SL-643-SASC-SB-1.0-2.0	0800		1.0
	0.5						CLAY WITH SAND: db (10YR 3/3), same as above, except; 80% clay, 20% sand; no gravel.
2.0	HA	0.0	11/72	SL 643-SASC-SB-2.0-3.0	0805		
	0.5						
3.0	0.5	0.0	9/60				Total depth of borehole to 3.0' bgs. No GW encountered.
4.0							
6.0							
8.0							
10.0							

Mike Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ MB

Sample ID SL-644-SA5C-SB-1.0-2.0 Date/Time 05/08/2012 1400

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOSA MB 5.24.12 Geologist Registration # ~~7735~~ 6360 MB 5.24.12

Sampler Nicolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10YR 4/3

Percentage Fill (%) 100

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ KM

Sample ID SL-1644-SASC-SB-2.0-3.0 **Date/Time** 05/08/2012 1350

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.24.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.24.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 6/4

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) red brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-644	5C	8 May 2012	8 May 2012

Client: DOE	Project Name/#: SSFL-65258-63378.1203.002.223.02231.SSPH3	Total Depth: 3.0' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: ~~NA~~ HA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 81cpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: HA / slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	HA	0.0	80	—	—	CL	CLAY w/ SAND: brown (10YR 4/3); 80% clay, non-plastic, soft, unconsolidated; 20% sand, pg, f-m, sa-sr; trace of gravel (igneous / asphalt), pg, f, r-sa, max ϕ = 0.25"; slightly moist, no odor. (FILL)
		0.0	70	—	—		As above except, 85% clay, 15% sand; no asphalt
1.0		0.0	69				As above except harder (consolidated - moderate cementation. (HARD)
1.5	0.5 / 0.5	0.0	96	SL-644-SASC-SB-1.0-2.0	1400		As above (FILL)
2.0	HA	0.0	77			ML	SANDY SILT: light yellowish brown (10YR 6/4); 70% silt, hard, weak-moderate cementation, no plasticity; 30% sand, pg, f-m, mostly f, sa-sr, trace of red brick, asphalt, gravel (igneous), pg, f, r-sa, max ϕ = 0.25"; dry, no odor
2.5	0.5 / 0.5	0.0	73	SL-644-SASC-SB-2.0-3.0	1350		
3.0							Total depth of borehole to 3 ft. bgs

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Reviewed Mon PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal C

Sample ID SL-670-SA5C-SB-0.0-0.5 Date/Time 06/19/2012 1550

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 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?
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) Red brick

Is Staining Present Yes (No)

Color 2.5Y 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 4" asphalt at surface

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-670-SASC-SB-4.0-5.0 Date/Time 06/19/2012 1520

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 Nacolynn Begay

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?
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 2.5Y 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 N/A

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-670-SASC-SB-5.0 **Date/Time** 06/19/2012 1515

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Nacolynn Begay

Sampler Vidal Cortes

Analysis

6.19.12

	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	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	

6.19.12

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 5/4

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:
DB-670	5C	06/19/2012	

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 12 SAFS	06/19/2012 5.0' bgs
GPS:	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 80cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
				SL-670-SASC-SB-0.0-0.5	1550		~~Asphalt~~
1.0		0.0	10/36			CL	SILTSTONE SANDY CLAY: ol brwn (2.5Y 4/6); 60% clay, low plas, hard, 40% sand, pg, f-m; T. red brick, oxidation.
2.0	3/4	0.0	10/48				Same as above.
3.0		0.0	10/60			ML	Siltstone formation lt. yb (2.5Y 6/4), 90% silt + siltstone, non-plastic; 10% sand, pg, f. weak cementation
4.0		0.0	10/78	SL-670-SASC-SB-4.0-5.0	1520		
5.0	1/1	0.0	10/64	SL-670-SASC-SB-5.0	1515	SM	Silty Sand. lt. ol. brwn (2.5Y 5/4), 80% sand, pg, f-m, 20% silt, non-plas, soft; slt. moist, no odor

Total depth of borehole to 5.0' bgs. NO GW encountered.

Mike Hoffman #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ RM

Sample ID SL-671-SASC-SB-0.0-0.5 **Date/Time** 05/08/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist MARGARET BLOISA MB 5.24.12 Michael Hoffman **Geologist Registration #** MB 5.24.12 ~~7435~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5 Y 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-671	5C	8 May 2012 @0818	8 May 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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12μR, 84cpm	Borehole diameter: 2"	
PID Background: 0.0ppm	Depth to GW: —	Sample Method: slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: NA	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	88	SL-671-SA5C-SB-0.0-0.5	0830	ML	SANDY SILT: olive brown (2.5Y 4/4), 70% silt, no plasticity, soft, unconsolidated; 30% sand, pg, f-m, sa-sr, roots, slightly dry moist, no odor.
							Total depth of borehole to 0.5 ft bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Bonnie Quiel Mion PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [X]

Sample ID SL-671-SASC-SB-2.0-3.0 Date/Time 05/28/2012 1338

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BROKA Geologist Registration # 63160

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 2.5Y 6/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-671-SA5G-SB-3.0 Date/Time 05/23/2012 1337

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BLOSA Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

~~Igneous/Metamorphic Gravel~~

Other _____

Check if Staining ☐

Color 2.5 Y 6/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-671	SC	05/23/2012	05/23/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 3'
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT	Depth Drilled into Bedrock: —
Radiological Background: 12 µR, 73 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: macrocore cont. acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: ~~N.Degay~~ S. Do 05.24.12

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	10/48	Surface collected on 05/08/2012		ML	Silt w/ SAND: 2.5Y 5/6, light olive brown 86% silt, non plastic, soft, 14% sand, pg, f and trace of c, sa-sr, moist, no odor
1.0			10/72				
2.0	3/4		10/66	SL-671-SASC-SB-2.0-3.0			color change to 2.5Y 6/4, light yellowish brown, with oxidation
3.0				SL-671-SASC-SB-3.0			With f. gravel, sr-r; w/brittle siltstone, weakly cemented, max d = 0.5" Bottom 5" is siltstone platelets
4.0							Hit refusal at 3ft b.g.s. (3 attempts). No GW encountered.
5.0							
6.0							
7.0							
8.0							
9.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Geologist PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [50]

Sample ID SL-672-SASC-SB-0.0-0.5 Date/Time 05/24/2012 0950

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID N/A

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/6

Odor (circle one)

None Slight Strong

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick frag.

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments Fig: 3" asphalt at surface

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SJ]

Sample ID SL-672-SA5C-SB-4.0-5.0 Date/Time 05/24/2012 0955

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID ← N/A

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10YR 4/6

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [5]

Sample ID SL-672-SA5C-SB-5.0 Date/Time 05/24/2012 0948

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID — N/A

Geologist Margaret Bloise Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10 YR 4/6

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments None

Location ID:	Subarea:	Date Started:	Date Completed:
DG-672	SC	5.24.12 @0937	5.24.14

Client: DOE	Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3
Company Name: CDM SMITH	Drill Contractor/Driller: NA
GPS: ✓	Drill Method: DPT
Radiological Background: 12uR, 48 cpm	Borehole diameter: 2.25"
PID Background: 1.0 ppm	Depth to GW: —
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:

Total Depth: 5 Ft bgs

Depth Drilled into Bedrock: —

Sample Method: macro core

Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.2	10136	SL-672-SASC-SB-0.0-0.5	0950	CL	3" asphalt CLAY w/SAND: dyb (10YR 4/6): 80% clay, low plast, hard; 20% sand, pg, f-m, sa-sr; T. red brick frag, oxidation
1.0			10148				
2.0			10160				ignoous rock (2") in sleeve-weathered
3.0			10154				SANDY SILT: lt-b.g (10YR 6/2) + yb (10YR 5/8), 70%: 5lt + 2.5 nonplastic, soft, flaky, weak cementation; 30% sand pg, f-m, sa-sr; T. siltstone, weak cementation; slt moist, no odor.
4.0			10172	SL-672-SASC-SB-4.0-5.0	0955		SANDY CLAY: dyb (10YR 4/6, 70% clay, low plast firm, 30% sand, pg, f-m, sa-sr; oxidation, moist, no odor.
5.0			10142	SL-672-SASC-SB-5.0	0948		Total depth of borehole to 5' bgs. No GW encountered
6.0							
7.0							
8.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Engineer Mirsa PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-673-SASC-SB-0.0-0.5 Date/Time 05/08/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.24.12 Geologist Registration # ~~7735~~ 6360 VB 5.24.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) TRACE

Fill Description (circle one)

Asphalt Metal Plastic

Concrete (Wood) Glass

Igneous/Metamorphic Gravel

Other _____

Check If Staining [ ]

Color 10YR 4/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-673	SC	8 May 2012 @ 0843	8 May 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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 55cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: –	Sample Method: slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: –	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	92	SL-673-SASC-SB-0.0-0.5	0850	ML	SANDY SILT: brown (10YR 4/4); 65% silt, no plasticity, soft, unconsolidated; 35% sand, pg, f-M, sa-sr, trace of roots, wood; moist, no odor
0.5							Total depth of borehole to 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Brooke Allison RG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-674-SA5C-SB-0.0-0.5 Date/Time 05/23/2012 1059

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOSA Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	X
Alcohols	EPA 8015	X
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	

40 gms

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments 4" concrete pad at surface

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [FD]

Sample ID SL-074-SASC-SB-2.5-3.5 Date/Time 05/23/2012 1102

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOISA Geologist Registration # 63100

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	X
Alcohols	EPA 8015	X
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 6/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-474-SA5C-SB-3.5 Date/Time 05/23/2012 1101

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BLOISA Geologist Registration # 63160

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 6/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-674	SC	5/23/2012 @ 1049	5.23.12

Client: DOE	Project Name/#: SSFL-66258-63376.1203.002.223.02231.SSPH3	Total Depth: 3.5' bgs (3 attempts)
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: DPT	Depth Drilled into Bedrock: —
Radiological Background: 12 uR, 74 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: MacroCore cont. acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cm)	Sample Name	Sample Time	USCS	Description of Materials
0	3.5/4	0.2	10/48	SL-674-BASC-SB-0.0-0.5	1059	ML	4" concrete SILT W/SAND: brown (10YR 4/3), 80%, silt, slt. plasticity, firm; 20% sand, pg, f-m, sr-sr; moist, no odor. T. siltstone. ¶ SS
1.0		0.2	10/90				
1.6							SANDY SILT: H.y.b (2.5Y 6/4); 70% silt, no plas, soft, unconsolidated; 30% sand, pg, f-m, sr-sa; oxidation; T. SS (gray 5Y 5/1) weak cementation, f-m, max ϕ = 0.25"; moist, no odor.
2.0			10/54				
				SL-674-SASC-SB-2.5-3.5	1102		
3.0			10/94	SL-674-SASC-SB-3.5	1101		Hit refusal at 3.5' bgs. (bedrock - borehole near outcrop
4.0							
5.0							
6.0							
7.0							
8.0							
9.0							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Borehole Mirror Pg 63/60

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-675SA5C-SB-0.0-0.5 Date/Time 05/23/2012 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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET PALOSA Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 6/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments close to outcrop. Refusal at 1.6' bgs

Location ID:	Subarea:	Date Started:	Date Completed:
DG-675	5C	05/23/2012 @ 1017	5.23.12

Client: DOE	Project Name/#: SSFL-66258-63376.1203.002.223.02231.SSPH3	Total Depth: 1.6'
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: DPT	Depth Drilled into Bedrock: —
Radiological Background: 12uR, 994cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: cont. acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0	1.6/4	0.1	10178	SL-675-SASC-SB-0.0-0.5	1026	SM	1" asphalt SILTY SAND: 1YR 6/2 (2.5Y 6/4), 70% sand, pg, f-m, SA-SR, 20% silt, non plastic, soft, unconsolidated, T. Ss (weak cementation, weathered, max ϕ = 0.25"), moist, no odor
			10172	SL-675-SASC-SB-1.0-1.5	1028		
			10160	SL-675-SASC-SB-1.5-1.6-05232012	1027		
2.0				Samples not submitted to lab			Refusal at 1.6 ft. bgs. (bed rock - close to ont crop). No GW encountered.
3.0							
4.0							
5.0							
6.0							
7.0							
8.0							
9.0							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [50]

Sample ID SL-676SA5C-SB-0.0-0.5 Date/Time 05/23/2012 1440

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOISA Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick/pipe fragments

Check if Staining [ ]

Color 10YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments 2" asphalt at surface.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SD]

Sample ID SL-676-SA5C-SB-4.0-5.0 MS Date/Time 05/23/2012 1443

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOISA Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

MS/MSD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-176-SA5C-SB-5.0 MS Date/Time 05/23/2012 1442

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOCK Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/6

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments MS / MSD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [7D]

Sample ID SL-976-SA5C-SB-4.0-5.0 Date/Time 05/23/2012 1511

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): N (FD) R FB TB

Parent Sample ID SL-~~6~~76-SA5C-SB-4.0-5.0

Geologist MARGARET BLOESA Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-976-SASC-SB-5.0 Date/Time 05/23/2012 1508

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): N (FD) R FB TB

Parent Sample ID SL-~~B~~976-SASC-SB-5.0

Geologist MARGARET BLOISA Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/6

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DO-676	SC	05/23/2012	5.23.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 5.1' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT	Depth Drilled into Bedrock: —
Radiological Background: 10 uR, 92 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: macrocore cont. acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.2	10/60	SL-676-SASC-SB-0.0-0.5	1440	NL	2" asphalt moist → very moist (roots) brown (10YR 4/3) Ss/Siltstone T, red brick fragments SANDY SILT: 70% silt, slt-low plas, soft, micaceous; 30% sand, pg, f-m, sa-sr; very moist, no odor
1.0			10/66				0.8
						ML	1.2 SAND w/SILT; dyb (10YR 4/6); 80% silt, no-plasticity, firm-soft; 20% sand, pg, f-m, sa-sr; oxidation, moist, no odor.
2.0	4/4		10/72				
3.0			10/54				
4.0			10/66	SL-676-SASC-SB-4.0-5.0	1443		
	1/4			SL-676-SASC-SB-5.0	1442		
5.0		↓	10/60				Same as above
				SL-976-SASC-SB-4.0-5.0	1511		Hit refusal at 5.1' bgs No GW encountered (bedrock-Ss)
6.0				SL-976-SASC-SB-5.0	1508		
7.0							
8.0							
9.0							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Brooke Miller RG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-677-SASC-SB-0.0-0.5 Date/Time 05/24/2012 1423

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Blosa Geologist Registration # 6760

Sampler Nadlynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	W NO SO 05/24/2012
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	

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

Check if Fill Material Present ☒

Check If Staining ☐

Color 10YR 3/3

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments 3" asphalt at surface

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-677-SA5C-SB-4.0-5.0 Date/Time 05/24/2012 1433

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID NONE

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Analyte	Method	Analyte
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

Analyte	Method	Analyte
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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-677-SASC-SB-S.0 Date/Time 05/24/2012 1436

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID N/A

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 2.5 Y 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments None

Location ID: SL-677	Subarea: 5C	Date Started: 05/24/2012	Date Completed: 05/24/2012
Client: DOE	Project Name/#: SSFL-85258-63376.1203.002.223.02231.SSPH3		Total Depth: 5'
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: DPT		Depth Drilled into Bedrock: 0
Radiological Background: 11 µR 95 cpm	Borehole diameter: 2 1/4"		
PID Background: 0.0 ppm	Depth to GW: not encountered		Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA		Geologist: ~~N.Begay~~ S.Do PBS.30.12

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	10/84	SL-677-SASC-SB-0.0-0.5	1423	CL	3" Asphalt Fill Sandy lean CLAY: Dark brown (10YR 3/3), 70% clay, hard, moist, low plasticity, 30% sand, f-med grained, trace of gravel, subrounded to subangular, max diam. = 1/8"
1		0.0	10/90				
2	4/4	0.0	10/96				Oxidation beginning at 2ft.
3		0.0	10/90			ML	Silt with sand: Olive brown (2.5Y 4/4) 80% silt, soft, moist, low plasticity, 20% sand, f-grained, oxidation
4	1/1	0.0	10/78	SL-677-SASC-SB-4.0-5.0	1433		becomes f-med grained sand
5				SL-677-SASC-SB-5.0	1430		TD = 5 ft. No GW encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

[redacted] PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-UT8-SA5C-SB-0.0-0.5 Date/Time 05/23/2012 0942

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BLOESA 5/19/12 Geologist Registration # ~~7735~~ 6360 5/19/12

Sampler ~~Nacolynn Bega~~ Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X

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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10YR 4/4

Percentage Fill (%) 100

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick/pipe fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments 2.5" asphalt at surface.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-678-SA5C-SB-2.5-3.5 Date/Time 05/23/2012 0946

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOOM ~~Michael Hoffman~~ PH 5/14/12

Geologist Registration # 6360 ~~7735~~ PH 5/14/12

Sampler ~~Nacolynn Degay~~ Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze
Inorganics	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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	X

	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	
Inorganics	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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10YR 5/4

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-178-SASC-SB-3.5 Date/Time 05/23/2012 0945

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOCK Geologist Registration # 6360

Sampler Sandy DO

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-678	Subarea: SC	Date Started: Wednesday 05/23/2012 @0935	Date Completed: 5.23.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3.5' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS:		Drill Method: DPT	Depth Drilled into Bedrock: —
Radiological Background: 11 uR/75cpm		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW:	Sample Method: direct into cont. sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0	3.5/4	0.4	10/36	SL-678-SASC-SB-0.0-0.5	0942	CL	2.5" asphalt CLAY w/SAND: dyb (10YR 4/4), 85% clay, low plasticity, hard, 15% sand, pg, f-T.m, s-sa; T.red brick frags,
			10/48				
2.0			10/66				SAA; w/oxidation. 1.5 SILT w/SAND: yb (10YR 5/4); 80% silt, slt. plas, soft, mod. cementation, 20% sand, pg, f-m, sa-sr, moist, no odor, oxidation.
3.0			10/84	SL-678-SASC-SB-2.5-3.5	0946		
			10/84	SL-678-SASC-SB-3.5	0945		SAA
4.0							Hit refusal at 3.5 ft. bgs - No 5' sample collected. No GW encountered.
5.0							
6.0							
7.0							
8.0							
9.0							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

SAA = Same as above.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ BM

Sample ID SL-680-SA5C-SB-0.0-0.5 Date/Time 04/17/2012 ~~0910~~ 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BOIS MB 5.17.12 Geologist Registration # ~~7735~~ 66-6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☒

Check if Staining ☐

Percentage Fill (%) 100

Color 2.5Y 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-680	5C	@0900 17 April 2012	4.17.12

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: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12mR, 75cpm	Borehole diameter: 2"	
PID Background: 0.0ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr) (cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5 / 1.0	0.5 / 0.5	0.0	84	SL-680-SASC-SB-0.0-0.5	0905	ML	SANDY SILT: olive brn (2.5Y 4/4); 60% silt, low plas, soft, 40% sand, pg, f-m, sa-sr; trace gravel (igneous), pg, f, max ϕ = 0.25"; moist, no odor.
0.5							Total depth of borehole to 0.5' bgs.
1.0							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

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Engineer Mon PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-~~733~~ 681 -SA5C-SB-4.0-5.0 (TB)

Date/Time 05/~~22~~ 23/2012 (TB) ~~09:42~~ 0759

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BOKSA ~~pH 5/19/12~~

Geologist Registration # ~~7735~~ 6760 ~~pH 5/19/12~~

Sampler ~~Nacolynn Bogey~~ Sandy Do TVS OKISOM

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 6/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [ ]

Sample ID SL-~~739~~ 681 -SA5C-SB-5.0 Date/Time 05/~~22~~ 23/2012 ~~09:43~~ 0758

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BLOCH PH 5/9/12 Geologist Registration # ~~7735~~ 63760 PH 5/9/12

Sampler ~~Naeolynn Begay~~ Sandy Do TVP 05/30/12

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyte
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 6/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Molst Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [9]

Sample ID SL-681-SA5C-SB-~~8.0-9.0~~ 7.5-8.5 ~~8.5-9.5~~ PH 5/23/12 Date/Time 05/23/2012 0805

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~8.0~~ 7.5 ~~8.5~~ PH 5/23/12

End Depth ~~9.0~~ 8.5 ~~9.5~~ PH 5/24/12

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID ←

Geologist ~~Michael Hoffman~~ MARGARET ROCCA PH 5/15/12

Geologist Registration # ~~7735~~ 6360 PH 5/15/12

Sampler Nacolynn Begay Sandy De TJC 05/30/12

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X PH 5/23/12
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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10YR 4/6

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-SASC-SB-~~8.0-9.0~~ 6081 8.5 PM 5/23/12 Date/Time 05/23/2012 0806

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~8.0~~ JF 5/23/12 8.5

End Depth ~~9.0~~ 5/23/12 8.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BLOISA PM 5/19/12 Geologist Registration # ~~7735~~ 6360 PM 5/19/12

Sampler ~~Nacolynn Begay~~ Sandy Do TVR 05/30/12

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/6

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID: DG-681	Subarea: 5C	Date Started: Wed. 05/23/2012 0938	Date Completed: 05/23/2012
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 8'10" / 8.6'
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS: ✓		Drill Method: DPT	Depth Drilled into Bedrock: —
Radiological Background: 13 uR, 83 cpm		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW: —	Sample Method: cont. acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	10/54	Surface collected on 04/12/2012		ML	SAND w/ SILT : dyb (10YR 4/6); 80% silt, non plastic, very hard, 20% sand, pg, f-m, sa-sr, T. red brick/pipe fragments; mottling, T. siltstone (weathered, weak cementation), max d = 0.25"; -H. moist, no odor.
1.0			10/84				
2.0	3.5/4		10/90				
3.0			10/92				SANDY SILT; H yellowish brn (2.5Y 5/4); 70% silt, non-plastic, firm, moderate cementation; 30% sand, pg, f-m, sa-sr; T. siltstone (SAA), oxidation; dry - SH. moist, no odor. — 2.5
4.0			10/48	SL-681-SASC-SB-4.0-5.0	0759		
5.0			10/72	SL-681-SASC-SB-5.0	0938		
6.0	4/4		10/54				SAA, except more oxidation. Hard drilling; color Δ dark yellowish brown (10YR 4/6); SH. moist.
7.0			10/84				
8.0			10/60	SL-681-SA5C-SB-7.5-8.5	0805		
	0.6/2		10/66	SL-681-SA5C-SB-8.5	0806		SAA
9.0							Hit refusal at 8.6 ft. bgs. (2 attempts). No GW encountered
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

SAA - same as above

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SD]

Sample ID SL-682-SASC-SB-0.0-0.5 Date/Time 05/22/2012 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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BLOCK PH 5/14/12 Geologist Registration # ~~7735~~ 6260 5/14/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Sample?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	Sample?
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) charcoal

Check if Staining [ ]

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-682-SA5C-SB-4.0-5.0 Date/Time 05/22/2012 1454

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOSA Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (EDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Check If Staining [ ]

Color 7.5YR 2.5/3

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick frag.

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-682-SASC-SB-5.0 Date/Time 05/22/2012 1453

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BLOISA Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other Red brick frag.

Check if Staining [ ]

Color 7.5YR 2.5/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check 50

Sample ID SL-682-SASC-SB-9.0-10.0 Date/Time 05/22/2012 1458

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BROZEA Geologist Registration # 6260

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-682-SASC-SB-10.0 Date/Time 05/22/2012 1457

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BROSA Geologist Registration # 63160

Sampler Nacklynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

VOCs	EPA 8260	
1,4 Dioxane	EPA 8260 SIM	
TPH-GRO	EPA 8015	K
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DE-682	SC	5.22.12	05/22/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3
Company Name: CDM SMITH	Drill Contractor/Driller: NA
GPS: ✓	Drill Method: DPT
Radiological Background: 12 uR, 78 cpm	Borehole diameter: 2.25 in
PID Background: 0.0 ppm	Depth to GW: —
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —

Total Depth: 10.1 ft. bgs

Depth Drilled into Bedrock: —

Sample Method: cont. acetate sleeve

Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	10/54	SL-682-SASC-SB 0.0-0.5	1450	ML	2" asphalt SILT: dyb (10YR 4/4); 90%. silt, slt → low plas, soft; 10%. sand, pg, f, T. crs, sa-sr; T. charcoal
1.0			10/84				2" piece siltstone
2.0	3.5/4		10/96				SILT W/SAND: dyb (10YR 4/6); 80%. silt, no plas, soft, micaceous. 20%. sand, pg, f-m, sa-sr, moist, no odor, Trace SS (weak cementation, micaceous, max ϕ = 0.75" & siltstone, max ϕ = 0.5"
3.0			10/40				
4.0			10/134	SL-682-SASC-SB-4.0-5.0	1454		SILT: vdb (7.5YR 2.5/3), 90%. silt, no plas, soft, mod. cementation, 10%. sand, pg, f, sa-sr, moist, no odor. — 3.4
5.0			10/154	SL-682-SASC-SB-5.0	1453	CL	CLAY W/SAND: dyb (10YR 3/6); 80%/clay, low plas, hard; 20%. sand, pg, f-m, T. c, r-sa, moist, no odor, T. red brick — 5
6.0	4/4		10/98				
7.0			10/90				SILT W/SAND: dyb (10YR 4/6), 80%. silt, no plas, firm; 20%. sand, pg, f-m, sr-sa, moist, no odor. T oxidation mod. cementation
8.0			10/66				
9.0	2/2		10/48	SL-682-SASC-SB-9.0-10.0	1458		
10.0			10/66	SL-682-SASC-SB-10.0	1457		Same as above

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Rachel Miller PG 6260

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-683-SA5C-SB-4.0-5.0 Date/Time 06/13/2012 0931

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 Nacolynn Begay

Sampler John Halseth

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 – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-683-SASC CB-5.C Date/Time 06/13/2013 0930

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.C

End Depth 5.C

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

Field Geologist Nacolynn Begay

Sampler John Halseth

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
Sediment	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 5/4

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 NO

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-683-SASC-SB-7.0-8.0 Date/Time 06/13/2012 0945

Matrix (circle one): (Soil) Sediment Water

Start Depth 7.0

End Depth 8.0

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 Nacolynn Begay

Sampler John Halseth

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 5/4

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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-633-SA5C-SB-8.0 Date/Time 06/13/2012 0940

Matrix (circle one): (Soil) Sediment Water

Start Depth 8.0

End Depth 8.0

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 Naeclynn Bergey

Sampler John Halseth

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 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 NONE

NA – Not Applicable

Location ID: ~~SB~~ 6.13.12 DE-~~6614~~ 3 - 683	Subarea: SC	Date Started: 6.13.12 - Wed	Date Completed: 6.13.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 8.4, 8.2, 7.2'
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 6.13.12 SAFS		
GPS:	Drill Method: ~~NA~~ ~~6.13.12~~ DPT		Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 93cpm	Borehole diameter: 2.25"		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	Surface previously sampled on 04/12/12			CL	CLAY w/SAND: 10YR 5/4 (yb), 85% clay, no plas (dry) hard, 15% sand, pg, f, T. med, rootlets, slt. oxidation
			10/42				
2.0	3/4		10/54				
			10/60				SANDY CLAY: yb (10YR 5/4), 65% clay, low plas, firm, 35% sand, pg, f-m, slt oxidation — 2.5
4.0			10/72	SL-683-SASC-SB-4.0-5.0	0931	SP SM	~~6.13.12~~ ~~Silty~~ Sand: yb (10YR 5/4), 90 ~~85~~ 6.13.12 sand, pg, f-~~m~~, 10% silt, non-plas, soft, slt oxidation; T. cls: ~~Lysamine~~ sa. sr biotite ~~6.13.12~~
			10/60	SL-683-SASC-SB-6.0	0930		
6.0	3.5/4		10/72			SM	Silty Sand: yb (10YR 5/4), 80% sand, pg, f-m 20% silt (as above) T. cls: sa/sr/mus/cavite
			10/78				- clay lens (pale brown 2.5Y 8/4) - oxidation
8.0			10/68				
	04/2			SL-683-SASC-SB-7.0-8.0	0945		Ref refusal at 8.4' bgs (sandstone found in shoe) - attempted 3x. No GW encountered.
				SL-683-SASC-SB-	0940		

10.0 8.0

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

#7735

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-684-SASC-SB-2.5-3.5 **Date/Time** 04/13/2012 0818

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 Nacolynn Begay

Sampler John Halseth

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 content

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 Red Brick		

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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-684-SASC-SB-3.5 Date/Time 06/13/2012 0815

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 Naralynn Begay

Sampler John Halseth

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
Sediment	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 (%)** 100 %

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 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 None

Location ID:	Subarea:	Date Started:	Date Completed:
DE-0084	5C	06/13/2012 o Ned	6/13/12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA ~~Ned~~ 12	3.4, 3.5, 3.5' bgs
GPS:	Drill Method: NA ~~Ned~~	Depth Drilled into Bedrock: NA
Radiological Background: 10uR, 63cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0		0.0	Surface sampled on 06/12/2012			CL	CLAY: lt. cl brn (2.5Y 6/3); 80% clay, low plas, WITH SAND hard-very hard, 20% sand (solid & decomposed formation), pg, f-m; t. red brick & horse manure & igneous gravel, right at surface dry-slt moist, no odor. → pg, f, sa-sr, max Ø-2". T. ss & siltstones. -oxidation
1.0			10/34				
2.0			10/74				silty sand slt moist; color same as above w/ (10YR 5/6) - 60% sand, pg f-m, 40% silt, lo plas, soft; t. red brick & igneous gravel, pg, f, max Ø-0.25" moist, no odor
			10/42	SL-684-SASC-SB-2.5-3.5		SM	
			10/60	SL-684-SASC-SB-3.5			
4.0							Hit refusal at 3.5' bgs. No GW encountered (3 attempts) - Ss in shoe.
6.0							
8.0							
10.0							Mike Bergman #7735

2.0

3.5

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL ~~684~~ 685 - SASC-SB-4.0-5.0 Date/Time 06/13/2012 0900

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 Nacolynn Begay

Sampler John Halseth

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) Red brick frag		

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 #** 7235

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-685-SASC-SB-5.C Date/Time 06/13/2012 0859

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Nacolynn Begay

Sampler John Halseth

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	

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 content

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) Red brick material		

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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-635-SA5C-SB-7.0-8.0 Date/Time 06/13/2012 0848

Matrix (circle one): (Soil) Sediment Water

Start Depth 7.0

End Depth 8.0

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 Nacolynn Beggay

Sampler John Halsetn

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) Red brick frag		

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 Viola Hoffman **PG Registration #** 7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-085 SASC SB-80 **Date/Time** 06/13/2012 0845

Matrix (circle one): (Soil) Sediment Water

Start Depth 8.0

End Depth 8.0

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 Nacolynn Begay

Sampler John Halsetti

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 (%) 100
3. Fill Description (circle all that apply)

Asphalt	Metal	Plastic
Concrete	Wood	Glass
Igneous/Metamorphic Gravel		N/A
(Other) Red Inky / pipe fragments		

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 NO. THANK YOU.

NA – Not Applicable

Location ID: DE-685	Subarea: SC	Date Started: 6/13/12	Date Completed: 6.13.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 78' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA, 6.13.12 SAPS	
GPS:		Drill Method: NA, 6.13 DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 165cpm		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	Surface collected on 6/12/2012			CL	SANDY CLAY, lt. yb (10YR 6/4); 60% clay, ~~fine~~ no plas (dry) low when wet), firm, 40% sand, pg. f-m; slt. oxidation
			10/66				Same as above, except, 70% clay, 30% sand; T. red brick/pipe fragments. ~~slt. moist~~, no odor. color Δ dyb (10YR 4/4) -moist JS 6.13.12
2.0			10/84				Same as above, except, 80% clay, 20% sand ~~SAND~~ WITH SAND CLAY JS 6.13.12 color Δ: dyb (10YR 4/6) slt. moist low plas
			10/78				
4.0			10/90	SL-685-SASC-SB-4.0-5.0	0900		SANDY CLAY, yb (10YR 5/4); 60% clay, low plas, firm; 40% sand, pg. f-m, slt. oxidation Throughout; T. red brick fragments; moist, no odor. 4.0
			10/34	SL-685-SASC-SB-5.0	0859		
6.0			10/24				
			10/36	SL-685-SASC-SB-7.0-8.0	0848		same as above
8.0				SL-685-SASC-SB-8.0	0845		Refusal at 7.8' bgs. Ss in shoe. No GW encountered
10.0							Mike Gibson #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-686-SA5C-SB-4.0-5.0 Date/Time 05/17/2012 13:56

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloisa ~~Michael Hoffman~~ PH 5/19/12

Geologist Registration # 6360 ~~7785 PH~~ 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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?
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	

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

Check if Fill Material Present ☒

Check if Staining ☐

Percentage Fill (%) 100

Color 10YR 3/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-686-SA5C-SB- 5.0 Date/Time 05/17/2012 13:57

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

Start Depth 5.0

End Depth 5.0

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

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloisa ~~Michael Hoffman~~ 6360 Geologist Registration # 7735 ~~PG~~ 5/17/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil/Sed	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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check MD

Sample ID SL-686-SA5C-SB-9.0-10.0 Date/Time 05/17/2012 14:00

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Bleisa Michael Hoffman 05/19/12

Geologist Registration # 6360 ~~7735~~ 05/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method #	Analyze?
Inorganics	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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	
Tissues	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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10 YR 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-686-SA5C-SB- 10.0 Date/Time 05/17/2012 14:01

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloisa ~~Michael Hoffman~~ Margaret Bloisa

Geologist Registration # 6760 ~~7735~~ MH 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil	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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 5/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-686	5C	5.17.12	5.17.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 10.4' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: ~~NAB~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N. Beggay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	60	Sampled surface on 04/12/2012		ML	SANDY SILT: dyb (10YR 4/4); 70% silt, non-plastic, soft, unconsolidated; 30% sand, pg, f-m, sa-sr; T. gravel (igneous e surface, silt stone.
1.0							
	4/4		58			1.5	SILT w/SAND: dyb (10YR 3/4); 80% silt, non-plas. soft; 20% sand, pg, f-m, sa-sr, moist, no odor. — 1.5
2.0			72				
3.0			54				As above
4.0			68	SL-686-SASC-SB-4.0-5.0	1356		
5.0				SL-686-SASC-SB-5.0	1357		
			72				As above.
6.0	4/4		54			ML	SANDY SILT: yb (10YR 5/4); 70% silt, non-plas, soft, mod cementation; 30% sand, pg, f-m, t. c, sa-sr moist, no odor. — 6
7.0			60				
8.0			48			8 CL	SAND CLAY: ltob (2.5Y 5/4); 70% clay, low plas, firm hard, oxidation; 30% sand, pg, f-m, sa-sr, moist, no odor. — 8
9.0	2/2		98	SL-686-SASC-SB-9.0-10.0	1400	9 ML	SANDY SILT: yb (10YR 5/4); 70% silt, low plas. soft, 30% sand, pg, f-m, sa-sr, moist, no odor — 9
10.0				SL-686-SASC-SB-10.0	1401		

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Margaret Brion PG 6360

TD = 10.4' bgs. No GW encountered.

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sandy Do

Sample ID SL-WS9-SPEC-SO-5.0 **Date/Time** 06/12/2012 1463

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.2

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 Naralynn Begay

Sampler John Halsett

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 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 Matthew Hoffman **PG Registration #** 7735

Additional Comments NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Cindy Dc

Sample ID SL-687-SA5C-SB-4.0-5.0 **Date/Time** 06/12/2012 1410

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 Nacolynn Keegan

Sampler John Halsey

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 NC

Location ID:	Subarea:	Date Started:	Date Completed:
DG-687	SC	6.12.12	6.12.12
Client: DOE	**Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3**		**Total Depth:**
Company Name: CDM SMITH	**Drill Contractor/Driller: NA** TRI SAES		7.9 bgs
GPS: ✓	**Drill Method: NA** DPT		**Depth Drilled into Bedrock:** NA
Radiological Background: 14uR 99cpm	**Borehole diameter:** 2.25"		
PID Background: 0.0 ppm	**Depth to GW:** NA		**Sample Method:** macro core (cont.)
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	**Depth/Time GW after Drilling completed:** ↓		**Geologist:** N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0		0.0	10			CL	CLAY MSAND: yb (10YR 5/4), 80% clay, no plas, (dry) hard, 20% sand, rd, f-m, T. ors. T. gravel SS, siltstone & ignemous; dry, no odor. (FILL)
2.0	3/4		148				
3.0			160				CLAY: brown (10YR 4/3), 90% clay, low plas very hard, 10% sand, rd, f, moist, no odor 2.4
4.0			154	SL-687-SASC-SB-4.0-5.0	1410		
5.0			148	SL-687-SASC-SB-5.0	1468		SANDY CLAY: brown (10YR 5/3), 60% clay, low plas, firm, 40% sand, rd, f-m, ↑ ors oxidation, slt moist, no odor.
6.0	3.5/4		166				
7.0			160	~~SL-687-SASC-SB-7.0-7.9~~			
8.0			166	~~SL-687-SASC-SB-7.9~~ 7.9 6.12.12	1468		Refusal at 7.9' bgs; NOT enough sample recovered to sample. Next attempts were shallower. No GW encountered.
9.0							
10.0							

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ LK

Sample ID SL-687-SA5C-SB-0.0-0.5 **Date/Time** 04/16/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BOLEA MB 5.17.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10YR 2.5Y 4/4

Percentage Fill (%) 100%

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other —

Odor Description (circle one)

Organic Petroleum Chemical

Other N/A

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments

Location ID: DG-687	Subarea: SC	Date Started: @ 1005 16 April 2012	Date Completed: 4.16.12
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: NA		Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 79cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: none encountered		Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		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	54 / 72	SL-687-SASC-SB-0.0-0.5	1010	ML	SILT/CLAY: 95% silt (fines), low plasticity, soft; 5% sand, pg, f-sa-sr; moist, no odor, (olive brown 2.5 Y 4/4)
0.5							Total depth of borehole to 0.5' bgs No GW encountered.
1.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Rosemarie Mon PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sandy R

Sample ID SL-688-SASC-SB-9.0-10.0 **Date/Time** 06/12/2012 ~~1350~~ 1500 6.12.12

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Naralynn Beggy

Sampler John Halseth

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 #** 7235

Additional Comments NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sandy Do

Sample ID SL-658-SAFC-SFH-10.0 **Date/Time** 06/12/2012 ~~1345~~ 1459 6.12.12

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

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 Nacklynn Begay

Sampler John Halseth

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 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 Hollenbeck **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-088-SASC-SB-4.0-5.0 **Date/Time** 06/12/2012 1450

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 Naralynn Beggy

Sampler John Malseth

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) Igneous red brick fragment		

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 NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sandy P.

Sample ID SL-1088-SB15C-SB-5.0 **Date/Time** 06/12/2012 1448

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Nacolyon Boggy

Sampler John Halseth

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 (%) 100
3. Fill Description (circle all that apply)

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

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 NONE

Location ID:	Subarea:	Date Started:	Date Completed:
DG-688	5C	6.12.12 - Tuesday	6.12.12
Client: DOE	**Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3**		**Total Depth:**
Company Name: CDM SMITH	**Drill Contractor/Driller: NA** ~~12~~ SAES		10.0
GPS: ✓	**Drill Method: NA** ~~11~~ DPT		**Depth Drilled into Bedrock:**
Radiological Background: 12uR, 7Xcpm	**Borehole diameter:** 2.25"		**NA**
PID Background: 0.0ppm	**Depth to GW:** NA		**Sample Method:**
Radiological Equipment Used:	**Depth/Time GW after Drilling completed:**		macro core
✓ MicroR ✓ Alpha/Beta ✓ Pancake	↓		**Geologist:** N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	Sampled surface on 04/06/2012			CL	gravel (igneous) @ surface SANDY CLAY: brown (10YR 5/3); 70% clay, slt. plas., firm; 30% ~~clay~~ sand, pg, f-med, T. cvs, T. red brick/pipe frag, T. gravel (igneous) pg if, f-sa, max ϕ = 0.25"; slt moist, no odor. (ALL) 6.12.12
2.0	3.5/4		142				
			160				CLAY: brown (10YR 4/3), 90% clay, slt. plas, firm; 10% sand, pg, f Same as above, except, color = dyb (10YR 3/4) T. cvs, ~~sand~~ gravel (igneous) T. red pipe (ALL) 6.12.12 granitic f-sa pg
4.0			164	SL-688-SASC-SB-40-5.0	1450		
			136	SL-688-SASC-SB-5.0	1445		Same as above.
6.0	3/4		154				SANDY CLAY: dyb (10YR 5/4); 40% clay, low plas, firm, 30% sand, pg, f-m; T. med; slight, no odor. T. red brick (ALL)
			130				
8.0			136				SANDY CLAY WITH GRAVEL: gray (10YR 6/1); 50% clay, low plas, soft; 30% sand, pg, f-m, 20% gravel (igneous) pg if, max ϕ = 0.5", moist, no odor.
	2/2		138	SL-688-SASC-SB-8.0-10.0	1500 ~~1455~~ 6.12.12	SP-SM	Sand: yb (10YR 5/6) 90% sand, pg, f-m, 10% silt, no plas, soft, moist, no odor T. cvs f-sa Condition.
10.0			154	SL-688-SASC-SB-10.0	~~1455~~ 1458		

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-648-SA5C-SB-0.0-0.5 **Date/Time** 04/12/12 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ ae MARGARET BLOKA MB 5.17.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analysis
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present ☑

Check if Staining ☐

Percentage Fill (%) 100 %

Color 10 YR 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID: DG-688	Subarea: SC	Date Started: @0935 16 April 2012	Date Completed: 4.16.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5'
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 71 cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: none encountered		Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/dpm)	Sample Name	Sample Time	USCS	Description of Materials
0.1	0.5 / 0.5	0.0	54	SL-688-SASC-SB-0.0-0.5	0940	ML	Sandy silt, dry (10YR 4/4): 65% silt, non-plastic; 30% sand, pg, f-m, mostly m, sa-sr, 5% gravel, pg, f, sr-sa, max ϕ = 1"; no odor, moist. (FILL) granite
0.2							
0.3							
0.4			36				
0.5							Total depth of borehole to 0.5' bgs. No ground water encountered.
1.0							
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

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SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Jenny Pe

Sample ID SL-1499-SA5C-SB-4.0-5.0 **Date/Time** 06/12/2012 1325

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 Narelynn Biggy

Sampler John Halseth

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) Red rock fragments

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 NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sindy Do

Sample ID SL-684-SASC-SR-5.0 Date/Time 06/12/2012 1320

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Nacelynn Begay

Sampler John ~~Bee~~ Halcott
6.12.12

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 (%)** 100

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

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

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 #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sandy Pz

Sample ID SL-659-DASC-SB-7.5-8.5 **Date/Time** 01/12/2017 1345

Matrix (circle one): (Soil) Sediment Water

Start Depth 7.5

End Depth 8.5

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 Nacolynn Beggy

Sampler John Halseth

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 6/2

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 Dillon **PG Registration #** 7735

Additional Comments NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sandy D.

Sample ID SL-689-SASC-SB-8.5 **Date/Time** 06/12/2012 1342

Matrix (circle one): (Soil) Sediment Water

Start Depth 8.5

End Depth 8.5

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 Nacolynn Begay

Sampler John Halseth

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 6/2

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 #** 7735

Additional Comments NO

Location ID: DE-689	Subarea: SC	Date Started: 6.12.12	Date Completed: 6.12.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 8.2', 8.5'
Company Name: CDM SMITH	Drill Contractor/Driller: NA ~~12~~ SAES		
GPS:	Drill Method: NA ~~GP~~ DPT		Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 60cpm	Borehole diameter: 2.25"		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: cont. macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0			surface sampled on 06/11/12			CL	CLAY: ltyb (2.5Y 6/4), 90% clay, stf - no plasticity, hard; 10% sand, pcg, f-T. med; dry; no odor. Roots T. fine pipe fragments (pulverized).
1.0							stf moist
2.0	4/4						moist, color dyb (10YR 5/4) (SM: FILL); very hard.
3.0							Same as above. wood + T. decomposed siltstone + pcgs of SS.
4.0				SL-689-SASC-SB-4.0-5.0-689	1325		CLAY WITH SAND: dyb (10YR 4/4), 80% clay, low plas, firm-hard; 20% sand, pcg, f-m, T. coarse granite gn, T. red pipe (FILL) + wood, rootlets, T. gravel (igneous) pg, f, max ϕ-0.25"; moist, no odor.
5.0				SL-SASC-SB-5.0	1320		SANDY CLAY: dyb (10YR 4/4), 70% clay, low-med plas, firm; 30% sand, pcg, f-m, T. gravel (igneous - same as above, T. SS, ~2" diameter oxidized in some areas. Reddish brown (5YR, moist, no odor.
6.0	3.5/4						weathered siltstone ~2"
7.0							same as above, except, 50% clay, 40% sand, as SM, ST. CPS.
8.0			7.5 uR/hr 12	SL-689-SASC-SB-7.5-8.0	1345		
9.0	0.5/2			SL-689-SMSC-SB-8.5	1342		GRAVELLY 20% sand, pcg, f-m, 35% gravel, pg, f-max CLAY WITH SAND: ltyb gray (10YR 6/2) SC-SM-max ϕ-0.5" 65% clay, low plas, firm; moist, no odor. Refusal at 8.5 ft. bgs.
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ MB

Sample ID SL-489-SA5C-SB-0.0-0.5 Date/Time 04/10/2012 1040

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ ae MARGARET HOSA MB 5.17.12 Geologist Registration # ~~7735~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X	
	EPA 6020	X	
	EPA 7471 (Soil)	X	
	EPA 7470 (Water)		
Flouride	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	

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

Check if Fill Material Present ☑

Check if Staining ☐

Color 2.5Y 4/4

Percentage Fill (%) 100%

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other Red brick pieces (small)

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID: DG-689	Subarea: SC	Date Started: @ 1036 16 April 2012	Date Completed: 4.16.12
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: Not w/Trimble	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 12μR, 54cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —		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	48 / 84	SL-689-SASC-SB-0.0-0.5	1040	ML	SILT: olive brown (2.5Y 4/4); 95% silt, low plasticity, soft, roots, trace of red brick; moist, no odor.
1.0							Total depth of borehole to 0.5' bgs. No groundwater encountered
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Rodriguez Meza PG6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-HP-SASC-SB-3.5-4.5 **Date/Time** 6/12/2012 1125

Matrix (circle one): (Soil) Sediment Water

Start Depth 3.5

End Depth 4.5

TB 6.12.12

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 Nacolynn Baggay

Sampler John Halseth

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 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 Coffman **PG Registration #** 7735

Additional Comments Sample collected 3.8 - 4.8' bgs (FILL)

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-E9B-SA5C-SB-4.5 Date/Time 06/12/2012 1120

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 Marchynn Beegel

Sampler John Halseth

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 — 6-22-12

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 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 NA

Location ID: DG-690	Subarea: SC	Date Started: 6.12.12 @ 1111	Date Completed: 6.12.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 4.8'
Company Name: CDM SMITH		Drill Contractor/Driller: NA, GZ SAPS	
GPS:		Drill Method: NA ~~6" DPT~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12MK 9kcpm		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW: NA	Sample Method: MACIC core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	11	Samples collected at	collected		
1.0			142			CL	CLAY; brown (10 YR 4/3); 90% clay, low plas, hard - very hard; 10% sand, pg, f; T. root brick/ pipe fragments
2	3/4		160				SANDY CLAY: brown (7.5YR 4/4); 70% clay, slt. plas; hard, 30% sand, pg, f-m, T. gravel (igneous) pg, f, max ϕ = 0.25"; slt. moist, no odor.
3			154				As above; except, color Δ to lt. yb. (10YR 6/4)
4			160	SL-690-SA5C-5B-3.5-4.5	1125		As above
5		↓	↓148	SL-690-SA5C-5B-4.5	1120	↓	CLAY w/SAND & GRAVEL (FILL) - (igneous) pg, f; SA-SR, max ϕ = 0.5"; slt. moist, no odor.
6	0.75/4						Refusal at 4.8 ft. bgs. No GW encountered.
8							
9	9.0/2.0						
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ LY

Sample ID SL-690-SA5C-SB-0.0-0.5 Date/Time 04/16/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET ROSA 5.17.12 Geologist Registration # ~~7735~~ 63160 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☑

Check if Staining ☐

Color 10 YR 4/3

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID: DG-690	Subarea: 56	Date Started: @ 1103 16 April 2012	Date Completed: 4.16.12
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: Matched ✓		Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12μR, 85cpm		Borehole diameter: 2"	
PID Background: 0.0ppm		Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/hour)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	78 / 48	SL-690-SASC-SB-0.0-0.5	1105	ML	SILT: Lwn (10YR4/3): 95% fines (silt), low plas, soft, dry 5% sand, pg, f, sa-sr; trace of gravel (granite), f, pg, sa-sr, moist, no odor.
0.5							Total depth of borehole to 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Rebecca Allen PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-691-SASC-SB-0.0-0.5 Date/Time 04/16/2012 1135

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOCK MB 5.17.12 Geologist Registration # ~~7735~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [Y]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete (Wood) Glass

(Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments Very small wood chips found toward surface
Smaller gravel in this location.

Location ID:	Subarea:	Date Started: @ 1128	Date Completed:
DG-691	SC	16 April 2012	4.16.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 0.0 ft bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: √confirmed	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 78cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
~~0.5~~ 0	0.5/0.5	0.0	71	SL-691-SASC-SB-0.0-0.5	1135	ML	SILT: dyb (10YR 4/4); 90% silt, low plasticity, soft; 10% sand, pg, f-m, sa-sr; T. of gravel, pg, f, sa-sr, max ϕ = 0.25" (granite); moist; no odor.
~~1.0~~ 0.5							Total depth of borehole to 0.5' bgs
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

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Radiological Technician RG 63360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-BWL-SASC-SB-5.0-6.0 **Date/Time** 06/12/2012 1015

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 6.0

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 Nicolynn Burgoy

Sampler John Halseth

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 2.5Y 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 _____

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-692-SASC-SB-6.0 **Date/Time** 06/12/2012 1012

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.0

End Depth 6.0

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 Meaghan Beggs

Sampler John Halseth

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 7.5Y 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 NO

Location ID:	Subarea:	Date Started:	Date Completed:
DE-692	SC	6.12.12	6.12.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAES	6.2, 6.0, 16.0'
GPS: ✓	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 1kcpm	Borehole diameter: 2.25"	
PID Background: 0.0ppm	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0		surface SM/SC/20	sampled 12		wood chips
1.0			10/64			SP	Sand: brownish yellow (10YR 6/6), 98% f. sand, pg; f-m (sand is ss w/ weak cementation); 5% silt, dry, no odor 5 TN 6.12.12
2.0	3/4		10/80				
3.0			10/96			CL	clay: brown (10YR 4/3); 90% clay, low plasticity, hard; 10% sand, pg; f; Ti oxidation; red brick fragments (thin); moist, no odor.
4.0			10/73			CH	same as above; except: CLAY w/ SAND. 80% clay, 20% sand 3.5 TN 6.12.12 3.5
5.0			10/60	SL-692-SASC-SB-5.0-6.0	1015	SM	Silty Sand: M.y to (2.5Y 6/4); 60% sand, pg; f-m; 40% silt, no plas; soft, oxidation, ~~silt~~ moist, no odor
6.0	2/4		10/72	SL-692-SASC-SB-6.0	1012		As above w/ SS pieces.
7.0							Hit refusal at 6.2 ft. bgs (3 attempts). SS in shoes. No GW encountered
8.0							
9.0	0/2						

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ LBA

Sample ID SL-692-SA5C-SB-0.0-0.5 Date/Time 04/16/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BLOCK 5.17.12 MB Geologist Registration # ~~17735~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☑

Check if Staining ☐

Color ~~10YR~~ 2.5Y 4/3

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other Brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments Trace of brick fragments

Location ID: DE-692	Subarea: 5C	Date Started: 1300 16 April 2012	Date Completed: 4.16.12
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: ✓ Trimble confirmed		Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 56 cpm, 12 µR		Borehole diameter: 2"	
PID Background: 0.0 ppm		Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	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	60	SL-692-SA5C-SB-0.0-0.5'	1305	ML	SILT/clay (fines): olive brown (2.5Y 4/3); 95% fines (silt), low plasticity, soft; 5% sand, pg, f, sa-sr; moist, no odor; plant roots. Trace small brick (red) fragments
1.0							Total depth of borehole 0.5' bgs. No GW encountered.
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Nancy Begay PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-643-SA5C-SP-4.0-5.0 Date/Time 08/12/2012 0925

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 Nawlynn Beggy

Sampler John Haisetin

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) Red brick/tile frag.

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 #** 7735

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-093-SASC-SB-5.5 **Date/Time** 06/12/2017 0923

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.5

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 Nicholas Begay

Sampler John Halseth

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 (%)** 10

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

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

(Other) Red brick/Pipe fragments

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 Willi Hoffman **PG Registration #** 7735

Additional Comments NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-693SAGC-SP-9.5-10.5 **Date/Time** 06/13/2017 0935

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.5

End Depth 10.5

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 Nardynn Begay

Sampler John Halseth

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 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 Mark E. Hoffman **PG Registration #** 7735

Additional Comments NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-K93-SA5C-SB-10.0 **Date/Time** 06/12/2012 0932

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

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 Nacolynn Beggs

Sampler John Haworth

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 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 #** 7735

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DE- 69.3	SC	06/12/12	6/12/12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA SAES	10.2' bgs
GPS: /	Drill Method: NA DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12uR/84cpm	Borehole diameter: 2.25"	
PID Background: 0.0ppm	Depth to GW: NA	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		1.0	Sampled surface on 6/11/12			CL	CLAY: dyb (10YR 5/4); 90% clay, no-sli plas, hard, few cmmbns; 10% sand, rg, f; dry, no odor, roots. T. red fragments
1.0			10/24				
2.0	4/4		10/64				
3.0			10/92				+ sli. moist
4.0			10/64	SL-693-SA5C-SB-4.0-4.2	0925		moist, as above, color change: dyb (10YR 4/4)
5.0			10/24	SL-693-SA5C-SB-5.0	0923		SANDY CLAY: dyb (10YR 4/4); 70% clay, low plas, firm, 30% sand, rg, f-m, mod cem; 3 siltstone FGs; moist, no odor. ? mid bench. ↓ weak cementation.
6.0	4/4		10/30				Decomposed rx.
7.0			10/54				+ as above
8.0			10/84				+ as above, no red brick, but T. gravel (qtz granite) rg, f-c-sg; max ϕ = c. 2"
9.0	2/2		10/60	SL-693-SA5C-SB-9.0-10.0	0935		
10.2			10/66	SL-693-SA5C-SB-10.0	0932		

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ KM

Sample ID SL-693-SA5C-SB-0.0-0.5 **Date/Time** 04/16/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MB 5.17.12 MARGARET BLOCK MB 5.17.12 **Geologist Registration #** ~~7795~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other brick fragments

Check if Staining [ ]

Color 2.5 Y 4/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DE-693	5C	10 April 2012 @ 1324	4.16.12

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: √confirmed	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 57cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5 ~~0.5~~	0.5/0.5	0.0	60			ML	SILT: olive brown (2.5Y 4/4), 95% silt/clay (fines), low plasticity, soft; 5% sand, pg, f, sa-sr; moist, no odor, trace of brick fragments + small gravel, pg, f, mm ϕ = 0.25" (granitic).
1.0 ~~1.0~~			72	SL-643-SASC-SB-00-0.5	1330		
1.5							Total depth of borehole to 0.5' bgs NO GW encountered.
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Engineering Geologist PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-694-SASC-SB-0.0-0.5 Date/Time 05/24/2012 1103

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Analyte	Method	
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

Analyte	Method	
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/6

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-694-SA5C-SB-4.0-5.0 Date/Time 05/24/2012 1108

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/6

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments Red brick fragments found at 9' bgs

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [50]

Sample ID 694 SL-SAEC-SB-5.0 Date/Time 05/24/2012 1107

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID ←

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

	Method	
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

	Method	
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/6

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments Red brick fragments found at 7' bgs

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [55]

Sample ID SL-694-SASC-SB-9.0-10.0 Date/Time 05/24/2012 1113

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analysis
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [FD]

Sample ID SL-6094-SASC-SB-10.0 Date/Time 05/24/2012 1112

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID ____

Geologist Margaret Blaisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10YR 4/4

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments None

Location ID: DE-694	Subarea: SC	Date Started: 05/24/12 @ 1045	Date Completed: 5.24.12
Client: DOE	Project Name/#: SSFL-65258-63378.1203.002.223.02231.SSPH3		Total Depth: 10' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: DPT		Depth Drilled into Bedrock: —
Radiological Background: ~~10~~ 11 uR, 57cpm	Borehole diameter: 2.25"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0		0.0	9142	SL-694-SASC-SB-0.0-0.5	1103	CL	3" asphalt CLAY w/SAND: dyb (10YR 4/6); 85% clay, low plas, hard; 15% sand, pg, f-m, T. c, T. red brick frag; moist no odor.
1.0			9154				
							- As above, w/ mottling + oxidation.
2.0	4/4		9178				
3.0			9108			ML	SANDY SILT: - SAA, except, 80% silt, 20% sand, no mottling. slt. moist, slt. plas. — no plas. No brick.
4.0		0.1	9166	SL-694-SASC-SB-4.0-5.0	1108		
				SL-694-SASC-SB-5.0	1107		
5.0			9184				SAA.
6.0	4/4		9160				
7.0			9148				- red brick frag.
7.5						CL	CLAY w/SAND: dyb (10YR 4/4); 80% clay, sH. plas, hard, 20% sand, pg, f, sa-sr; oxidation, LIK., moist, no odor. slt. variagated.
8.0			9154				- low plas.
9.0	2/2		9166	SL-694-SASC-SB-9.0-10.0	1113		
10.0			9178	SL-694-SASC-SB	1112		Total depth of borehole to 10.' bgs. No GW.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

SAA = same as above

Emily Miller PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-695-SA5C-SB-40-5.0 Date/Time 05/16/2012 0855

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOUSA MBS.29.12 ~~Michael Hoffman~~

Geologist Registration # MBS.29.12 ~~7735~~ 63600

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil/Sediment	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil) Hg	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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	X
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Soil/Sediment	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	X
	NDMA	EPA 1625	
	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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10 YR 4/4

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-695-SASC-SB-5.0 **Date/Time** 05/16/2012 0915

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bilosa MB 5.29.12 ~~Michael Hoffman~~ MB 5.29.12 **Geologist Registration #** ~~7735~~ 63160

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Encores	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10 YR 4/4

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-695-SASC-SB-90-10.0 Date/Time 05/16/2012 0956

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ Margaret Blaisa MB 5.29.12

Geologist Registration # ~~7735~~ 63160 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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	X
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	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	X
	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

Check if Fill Material Present ☐

Check if Staining ☐

Color 2.5 Y 5/4

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-695-SA5C-SB-10.0 Date/Time 05/16/2012 1010

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ Margaret Bloisa MBS.29.12 Geologist Registration # ~~7795~~ 6360 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil	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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 2.5 Y 6/4

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-695	5C	16 May 2012	5.16.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 10.0 ft bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: hand auger	Depth Drilled into Bedrock: NA
Radiological Background: 12 μR, 75cpm	Borehole diameter: 4"	
PID Background: 0.1 ppm	Depth to GW: NA	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							chunk (FILL)
	HA	0.0	96	Surface sampled on 04126/2012		CL	2" asphalt, cut @ surface CLAY w/ SAND: yellowish brown (10YR 5/4); 80% clay, slight plasticity, firm; 20% sand, pg, f-m, mostly m, trace c, sa-sr; dry → slt. moist, no odor.
1.0		0.0	89	—		CL	SANDY CLAY: dyb (10YR 4/6); 65% clay, slt. plasticity, firm, mostly unconsolidated; 35% sand, pg, f-m, mostly med, sa-sr, slt. moist, no odor. micaceous
2.0		0.1	89	—			SANDY CLAY: yb (10YR 5/6); 40% clay, pg, f-m, mostly med, soft, unconsolidated, micaceous 60% silt, unconsolidated, soft, no plasticity; slt. moist, no odor. (60% unconsolidated fines)
3.0		0.0	60	—			
4.0	0.4/0.5	0.0	90	SL-695-SASC-SB-4.0-5.0	0855		Same as above, except, color Δ dyb (2.5Y 5/4)
5.0	0.5/0.5			SL-695-SASC-SB-5.0	0915		
	HA	0.0	54				
6.0		0.1	78	—			Same as above, except; 70% clay unconsolidated, 30% sand.
7.0		0.5	60	—			
8.0		0.2	72	—			same as above, except, oxidation streaks.
9.0	0.25/0.5	0.0	66	SL-695-SASC SB-9.0-10.0	0956		Same as above.
10.0				SL-695-SASC-SB-10.0	1010		Total depth of borehole to 10.0 ft. bgs.

CDM Smith

BORING LOG AND SAMPLING RECORD

PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-695-SASC-SB-0.0-0.5 MS **Date/Time** 04/26/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Blosa MB 5.25.12 / ~~Michael Hoffman~~ **Geologist Registration #** ~~7735~~ 63360 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X	✓
	EPA 6020	X	✓
	EPA 7471 (Soil)	X	
	EPA 7470 (Water)		
Flouride	EPA 300.0/9056		
SVOCs	EPA 8270		
TIC	EPA 8270		
PAHs	EPA 8270 SIM	X	✓
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	X	✓
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	X ✓
NDMA	EPA 1625	
Organotin	NOAA Status and Trends, Krone et al	
Methyl Mercury	EPA 1630	

Margaret Blosa PG 63360

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

Check if Fill Material Present [Y]

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10 YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-995-SA5C-SB-0.0-0.5 Date/Time 04/26/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): N (FD) R FB TB

Parent Sample ID SL-695-SA5C-SB-0.0-0.5 F/S

Geologist ~~Michael Hoffman~~ Margaret Bloisi MB 5.25.12 Geologist Registration # ~~7935~~ 6360 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X ✓
	EPA 6020	X ✓
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X ✓
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	X ✓
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	X ✓
NDMA	EPA 1625	
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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10 YR 4/3

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-695	5C	26 April 2012	4.26.12

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.
GPS: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12 uR/hr cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: –	Sample Method: surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: –	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/hr) (cpm)	Sample Name	Sample Time	USCS	Description of Materials
	0.5/0.5	0.0	60	SL-695-SASC-SB-0.0-0.5MS	0925	CL	SANDY CLAY: brown (10YR 4/3); 70% clay, slt→low plasticity; hard; 30% sand, pg, f-m, sa-sr; trace of asphalt at surface; moist, no odor.
0.5				SL-995-SASC-SB-0.0-0.5	0930		Total depth of borehole to 0.5 ft. bgs.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Geologist Name – PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-696-SASC-SB-1.0-2.0 Date/Time 06/18/2012 1435

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 Sandy Do

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	
	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	

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 7.5YR 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 NONE

NA - Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-696-SA5C-SB-4.0-5.0 Date/Time 06/18/2012 1420

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 Sandy Do

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	
	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 (%)** 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 7.5YR 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 Hollingsworth **PG Registration #** 7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-696-SA5C-SB-9.0-10.0 Date/Time 06/18/2012 1425

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Sandy Do

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	
	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 7.5 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 NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-696	5C	06/18/2012	06/18/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.0 ft
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS (SD 06/18/2012)	
GPS: √	Drill Method: ~~NA~~ DPT / ~~Hand Auger~~ (SD 06/18/12) (SD 06/18/2012)	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 97 cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: ~~Hand Auger~~ / Macrocore (SD 06/18/12)
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N. Begay~~ S. Do (SD 06/18/2012)

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1	4/4	0	12/81	SL-696-SASC-SB-1.0-2.0	1435	ML	Light vegetation at surface. Fill: SILT with sand: Brown (7.5 YR 4/4) Dry, very soft, silt (75%), sand (25%), fine-grained, pg no odor,
2		0	12/75				
3		0	12/60			CL	Native Sandy CLAY: Dark brown (7.5YR 3/3) Moist, hard, 70% clay, 30% sand, fine to med-grained, no odor, pg
4	4/4	0	12/54	SL-696-SASC-SB-4.0-5.0	1420		Oxidation. Becomes soft at 4 ft, silty at 4 ft.
5		0	12/48				
6		0	12/66				
7		0	12/48				
8	2/2	0	~~12~~ 10/36 (SD 06/18/12)			ML	Sandy SILT: Dark brown (7.5 YR 3/4) Moist, soft, 60% silt, 40% sand, fine-grained, no odor, abundant oxidation, pg
9		0	~~12~~ 10/48 (SD 06/18/12)	SL-696-SASC-SB-9.0-10.0	1425		Sand becomes fine to med-grained at 9 ft.
10		0	~~12~~ 10/48 (SD 06/18/12)				

Total depth = 10.0 ft. No groundwater encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

PG# 7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-697-SA5C-SB1-4.0-5.0 Date/Time 05/16/2012 11:00

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ Margaret Bloise MBS. 29.12 Geologist Registration # ~~7735~~ 6360 MBS. 29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
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	
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

Check if Fill Material Present ☐

Check if Staining ☐

Color 2.5Y 5/4

Percentage Fill (%) _____

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-697-SA5C-SB-5.0 Date/Time 05/16/2012 11:10

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ Margaret Bloisa 5.29.12 Geologist Registration # ~~7739~~ 6360 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil/Sediment	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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 2.5 Y 5/4

Percentage Fill (%) _____

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-697-SASC-SB-9.0-10.0 **Date/Time** 05/16/2012 1140

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ Margaret Bloisa MB 5.29.12 **Geologist Registration #** ~~7735~~ 6360 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Groundwater	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		M/H	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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-697-SASC-SB-10.0 Date/Time 05/16/2012 1145

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ Margaret Bloisa MB 5.29.12 Geologist Registration # ~~7735~~ 6360 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Inorganics	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
Specialty	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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-697	SC	05/16/2012 @ 1040	05/16/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 10.0 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: hand auger	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 73cpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	NA			Sampled surface on 04/24/2012		CL	SANDY CLAY : dyb (10YR 4/4); 70% clay, low plas, firm to soft, unconsolidated (mostly); 30% sand, pg f-m, mostly m, sa-sr; slt. moist, no odor.
1.0		0.3	82				
		0.2	82	—			
2.0							Same as above, except; color Δ light olive brown (2.5Y 5/4) oxidation streaks
		0.3	107	—			
3.0						NL	SANDY SILT : light olive brown (2.5Y 5/4); 70% silt, no plasticity, unconsolidated, no sheen, soft; 30% sand, pg, f-m, mostly med, sa-sr; slt. moist, no odor. t. gravel, pg, f, sa-sr, max Φ = 0.75".
		0.1	92	—			
4.0							
		0.2	104	SL-697-SASC-SB-4.0-5.0	1100		
5.0							Same as above; no gravel.
				SL-697-SASC-SB-5.0	1110		
		0.4	72				
6.0						CL	SANDY CLAY : light olive brown (2.5Y 5/4); 70% clay, slt → low plasticity, soft, unconsolidated; 30% sand, pg, f-m, mostly m; sa-sr; moist, no odor. micaceous
		0.2	74				
7.0							CLAY w/ SAND : dyb (10YR 4/4); 80% clay, low plas, soft; micaceous; 20% sand, pg, f-m, mostly f, sa-sr; moist, no odor.
		0.6	61				
8.0						ML	SILT w/ SAND : brown (10YR 4/3); 85% silt, no plas, soft, unconsolidated; 15% sand, pg, f, T.m, sa-sr, micaceous flakes moist, no odor.
		0.1	88				
9.0							SANDY SILT : same as above, except 70% silt; 30% sand. T. gravel (granite) pg, f, sa-sr, max Φ = 0.75"; very moist, no odor. ↓ f-m, t.c mostly m
		0.2	79	SL-697-SASC-SB-9.0-10.0	1140		
10.0				SL-697-SASC-SB-10.0	1145		

CDM Smith

BORING LOG AND SAMPLING RECORD

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PG 16360

TD = 10.0 ft bgs. No GW encountered

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ RH

Sample ID SL-697-SA5C-SB-0.0-0.5 Date/Time 04/26/2012 1040

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Blaza MB 5.25.12 (~~Michael Hoffman~~)

Geologist Registration # MB 5.25.12 ~~7735~~ 63160

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
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	
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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick fragments

Check if Staining [ ]

Color 10 YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-697	5C	26 April 2012	4.26.12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 57 cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: Surface slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —	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	68	SL-697-SASC-SB-0.0-0.5	1040	CL	CLAY W/SAND: brown (10YR 4/3); 75% clay, low plas, firm, weak cementation; 25% sand, pg, f-m, sa-sr; trace red brick
							Total depth of borehole to 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Benjamin Mian 216360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-698-SA5C-SB-4.0-5.0 Date/Time 05/16/2012 1405

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloser Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-698-SA5C-SB-5.0 **Date/Time** 05/16/2012 1410

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloza **Geologist Registration #** 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-698-SA5C-SB-9.0-10.0 Date/Time 05/16/2012 1523

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [20]

Sample ID SL-698-SA5C-SB-10.0 Date/Time 05/16/2012 1525

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10YR 4/4

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
D6-698	5C	05/16/2012	05/16/2012

Client: DOE	Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: hand auger	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 79cpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr)	Sample Name	Sample Time	USCS	Description of Materials
1.0	HA	0.2	79	Surface sampled on 04/25/2012		SM	SILTY SAND: olive brown (2.5Y 4/6); 70% sand, pg, f-m, mostly med, sa-sr; 20% silt, no plasticity, stiff, unconsolidated; Trace gravel, pg, f, r-sa, (igneous), max ϕ = 1", moist, no odor. (adjacent asphalt road).
2.0		0.1	79	—	—		
3.0		0.1	71	—	—		same as above, except; gravel (igneous/formation)
4.0		0.2	68	—	—	SP	hard to auger - rock (fm) ~3" diameter wet CLAYEY SAND: dyb (10YR 4/4), 70% sand, pg, f-m, sa-sr; 30% clay, slight plasticity, soft, unconsolidated, trace gravel, (igneous/fm), pg, f, r-sa, max ϕ = 2.5", micaceous wet, no odor
5.0	0.5/0.5	0.1	68	SL-698-SASC-SB-4.0-5.0	1405	CL	CLAY w/SAND: dyb (10YR 4/4); 80% clay, low plasticity, very soft → soft; 20% sand, pg, f-m, sa-sr, moist, no odor
				SL-698-SASC-CB-5.0	1410		
6.0	HA	0.1	66	—			SANDY CLAY: dyb (10YR 4/4), 70% clay, low plas, firm, moderate cementation; 30% sand, pg, f-m, trace c, sa-sr; oxidation; moist, no odor.
7.0		0.1	80	—			
8.0		0.0	69	—			
9.0		0.1	53	—			Same as above.
10.0	0.25/0.5	0.0	84	SL-698-SASC-SB-9.0-10.0	1523		
				SL-698-SASC-SB-10.0	1525		Same as above.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Bruce Gee Allison PG6360

TD = 10' bgs. No GW encountered.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ MB

Sample ID SL-698-SA5C-SB-0.0-0.5 Date/Time 04/25/2012 1515

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ Margaret Bloisa MB 5.25.12 Geologist Registration # ~~7735~~ 63360 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color brown (10YR 4/3)

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-698	5C	04/25/2012	4.25.12

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: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 82cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: Slide hammer surface sample
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	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	69	SL-698-SASC-SB-0.0-0.5	1515	SM	SILTY SAND: (10YR 4/3), 65% sand, pg, f-m, trace coarse, sa-sr; 30% silt, slight plasticity, soft; 5% gravel, pg, f, sa-sr; (igneous/asphalt) max ϕ = 0.75", moist, no odor. Borehole adjacent asphalt road, asphalt patches in area adjacent (2nd attempt had 2" asphalt at surface)

Total depth of borehole at 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

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Reviewed by RG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-699-SA5C-SB-0.0-0.5 Date/Time 04/25/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ Margaret Blosa MB 5.25.12 Geologist Registration # ~~7735~~ 63160 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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	

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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color H olive brn (2.5Y 5/4)

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-699	Subarea: 5C	Date Started: 04/25/2012 @1450	Date Completed: 4.25.12
Client: DOE	Project Name/#: SSFL-6525B-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 82cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —		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	63	SL-699-SASC-SB-0.0-0.5	1500	SM	SILTY SAND: H.01. brwn (2.5Y 5/4); 70% sand, pg, f-m, mostly m, sa-sr; 25% silt, slight plasticity, soft, unconsolidated; 5% gravel, pg.f, max ϕ= 0.75" (igneous) trace of asphalt; moist, no odor.
							Total depth of borehole to 0.5' bgs. No GW encountered. Adjacent asphalt road.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Rocketdyne Photo 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-699-SA5C-SB-4.0-5.0 **Date/Time** 06/18/2012 1135

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): (DP) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

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

Parent Sample ID N/A

Field Geologist Sandy Do

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	X
	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	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 (%)** Q

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 7.5 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 _____ **PG Registration #** 7735

Additional Comments NONA

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal GC

Sample ID SL-699-SA5C-SB-5.0 **Date/Time** 06/18/2012 1128

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Sandy Do

Sampler Vidal Cortes

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	
	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
Sediment	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	

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 7.5 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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal G E

Sample ID SL-699-SA5C-SB-9.0-10.0 **Date/Time** 06/18/2012 1139

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Sandy Do

Sampler Vidal Cortes

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	X
	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	
Sediment	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	

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) 06/18/2012

Color ~~7.5 YR 3/3~~ 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 _____ **PG Registration #** 7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal C E

Sample ID SL-699-SA-SC-SB-10.0 Date/Time 06/18/2012 1132

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

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 Sandy Do

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 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 Miles Hoffman **PG Registration #** 7735

Additional Comments NONE

Location ID:	Subarea:	Date Started:	Date Completed:
DG-699	5C	06/18/2012	06/18/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS (SD 06/18/2012)	10.1 ft
GPS: √	Drill Method: DPT	Depth Drilled Into Bedrock:
Radiological Background: 13 µR, 75cpm	Borehole diameter: 2 1/4"	&
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method:
Radiological Equipment Used:	Depth/Time GW after Drilling completed:	macrocore
✓ MicroR ✓ Alpha/Beta ✓ Pancake	N/A	Geologist: ~~N.Begay~~ S. Do SD 06/18/2012

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0				SL-699-SASC-SB-0.0-0.5 collected on 04/25/2012		SM	Fill Silty SAND: Light gray (10YR 7/2), dry, loose, no odor, 70% sand, fine-to med-grained, 20% silt, 5% gravel, fine-grained,
1		0	10/40			SC	Clayey SAND. Dark brown (7.5 YR 3/4), Moist, loose, 60% sand, fine to med-grained, ~~40%~~ 35% clay, 5% gravel, coarse-grained, angular to subangular, max diam = 1", no odor (SD 06/18/2012)
2		0	10/34				
	4/4					CL	Native CLAY with sand: Dark brown (7.5YR 3/3), Moist, firm, 80% clay, 20% sand, fine to med-grained, trace of oxidation
3		0	10/36				
4		0	10/34	SL-699-SASC-SB-4.0-5.0	1135		Oxidation at 4 ft.
5		0	10/54	SL-699-SA-SC-SB-5.0	1128		Roots and rootlets at 5 ft,
	4/4						
6		0	10/60				More sandy 70% clay, 30% sand, fine-grained sand. Soft at 6 ft,
7		0	10/96				Very dark grayish brown (10YR 3/2) beginning at 7 ft.
8	2/2	0	10/90				Abundant oxidation at 8 ft,
9		0	10/42	SL-699-SASC-SB-9.0-10.0	1139		
10		0	10/34	SL-699-SASC-SB-10.0	1132		Total depth = 10.1 feet No groundwater encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

PG#7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ Joky

Sample ID SL-700-SA5C-SB-00-0.5 **Date/Time** 04/26/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Bloza MB 5.25.12 ~~Michael Hoffman~~ **Geologist Registration #** MB 5.25.12 ~~7135~~ 63600

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10 YR 5/4

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
D6-700	5C	4/26/2012	4.26.12

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: NA	Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW:	Sample Method: surface slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							10YR 5/4
0	0.5/0.5	0.0	72	SL-700-SASC SB 0.0-0.5	1230	SP	SAND w/ SILT: 80% sand, pg, f-m, trace of coarse; 20% silt, non-plastic, soft, unconsolidated, trace of gravel, pg, f, sr, sr; max ϕ = 0.5", moist, no odor.
							Total depth of borehole to 0.5 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Rheagan Brion PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-700-SASC-SB-4.0-5.0MS Date/Time 06/18/2012 0900

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 Sandy Do

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	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 (%)** ¢
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 3/6

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 Dillon **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-1000-SASC-SB-4.0-5.0 Date/Time 06/18/2012 0905

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 SL-700-SASC-SB-4.0-5.0MS

Field Geologist Sandy Do

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	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 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 Mitch Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By V. G

Sample ID SL-TCC-SA5C-SB-5.0MS Date/Time 04/18/2012 0855

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Sandy Do

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	

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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortes

Sample ID SL-1000-SA5C-SB-5.0 Date/Time 06/18/2012 0858

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 SL-700-SA5C-SB-5.0MS

Field Geologist Sandy Do

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 10YR4/4

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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By V.G-C

Sample ID SL-700-SA5C-SB-9.0-10.0 **Date/Time** 06/18/2012 0913

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Sandy Do

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	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 10YR3/2

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 Nicholas Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By V. at

Sample ID SL-700-SA5C-SB-10.0 Date/Time 06/18/2012 0910

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

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 Sandy Do

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 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 NONE

Location ID: DG-700	Subarea: 5C	Date Started: 06/18/2012	Date Completed: 06/18/2012
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.0 ft
Company Name: CDM SMITH		Drill Contractor/Driller: ~~NA~~ SAFS 06/18/2012	
GPS: √		Drill Method: NA DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12 MR, 75 cpm		Borehole diameter: 2¼"	
PID Background: 0.0 ppm		Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used:		Depth/Time GW after Drilling completed:	Geologist: ~~N.Begay~~ S. Do 06/18/2012
✓ MicroR ✓ Alpha/Beta ✓ Pancake		N/A	

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0				SL-700-SASC-SB-0.0-0.5 collected on 04/26/2012			Light vegetation at surface. Fill
1		0 ~~10~~ 06/18/2012	10/36			ML	SILT: Dark yellowish brown (10YR 3/4), dry to moist, soft, 90% silt; 10% sand, fine-grained, no odor
2	4/4	0 ~~10~~ 06/18/2012	10/102			CL	Native CLAY with sand: Dark yellowish brown (10YR 3/6), moist, soft, 80% clay; 20% sand, fine-grained, no odor, trace of gravel, fine-grained, subangular to angular
3		0	10/54				
4		0	10/48	SL-700-SASC-SB-4.0-5.0MS	0900		Becomes firm. Sand is fine- to medium-grained.
5	4/4	0	10/42	SL-700-SASC-SB-5.0MS	0855		Oxidation beginning at 5 ft. Color becomes Brown (10YR 4/4).
				SL-1000-SASC-SB-4.0-5.0	0905		
				SL-1000-SASC-SB-5.0	0858		
6		0	10/66				
7		0	10/64				
8	2/2	0	10/60			SC	Clayey SAND: Dark yellowish brown (10YR 4/6), moist, loose, 65% sand, fine to medium-grained, 35% clay, no odor, oxidation
9		0	10/54	SL-700-SASC-SB-9.0-10.0	0913	ML	Sandy SILT: Very dark grayish brown (10 YR 3/2), moist, loose, 60% silt, 40% sand, fine to medium-grained, abundant oxidation.
10		0	10/48	SL-700-SASC-SB-10.0	0910		

Total depth = 10 feet. No groundwater encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Mike Hoffman PG# 7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-701-SASC-SB-0.0-0.5 **Date/Time** 04/26/2012 1125

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Blaza MB 5.25.12 Michael Hoffman **Geologist Registration #** 7435 MB 5.25.12 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X ✓
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	

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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/3

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) red brick

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-701	Subarea: 5C	Date Started: 4.26.12	Date Completed: 4.26.12
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: NA		Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: Surface Slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —		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	60	SL-701-SASC-SP-0.0-0.5	1125	CL	CLAY w/SAND: brwn (10YR 4/3), 80% clay, slight plas, 20% sand, rg-f-m, sa-sr, 7. wd + rtl. mcn. f, no odor
							Total depth of borehole to 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Rebecca Rhein PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal CF

Sample ID SL-701-SA5C-SB-4.0-5.0 **Date/Time** 06/18/2012 1046

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0 ~~5.0~~ SD 06/18/2012

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 Sandy Do

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	X
	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	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 10YR3/2

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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal GT

Sample ID SL-701-SASC-SB-5.0 Date/Time 06/18/2012 1036

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Sandy Do

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	

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

SO 06/18/2012

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 3/2

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 Nicholas Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By VC

Sample ID SL-701-SA5C-SB-9.0-10.0 Date/Time 06/18/2012 1050

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Sandy Do

Sampler Vidal Cortes

Analysis

	Parameters	Method	Analyze?
Encores	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	X
	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	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 2.5 Y 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 NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____ SD 06/18/2012

Sample ID SL-701-SASC-SB-10.0 **Date/Time** 06/18/2012 ~~1046~~ ~~1042~~ 1042 ~~SD 06/18/2012~~ SD 06/18/2012

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

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 Sandy Do

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 2.5Y 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 NONE

NA – Not Applicable

Location ID: DG-701	Subarea: 5C	Date Started: 06/18/2012	Date Completed: 06/18/2012
Client: DOE	Project Name/#: SSFL-66268-63376.1203.002.223.02231.SSPH3		Total Depth: 10.1 ft
Company Name: CDM SMITH		Drill Contractor/Driller: ~~NA~~ Sp 06/18/2012 SAFS	
GPS: ✓		Drill Method: DPT	Depth Drilled into Bedrock: Q
Radiological Background: 13 µR, 99 cpm		Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm		Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: n/a	Geologist: ~~N.Bogay~~ S. DB SD 06/18/2012

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
				SL-701-SASC-SB-0.0-0.5 collected on 06/26/2012			Light vegetation at surface. Fill
1		0	10/36			ML	SILT: Brown (7.5 YR 4/4) Dry to moist, soft, 95% silt, 5% sand, fine-grained, no odor
2		0	10/42				
	4/4					CL	Sandy CLAY: Dark yellowish brown (10YR 3/6) Dry to moist, firm, 65% clay, 35% sand, fine-to med-grained, no odor
3		0	10/60				
4		0	10/78	SL-701-SASC-SB-4.0-5.0	1046		Oxidation beginning at 4 ft Hard at 4 ft to 5 ft. Becomes very dark grayish brown (10YR 3/2). Mottling present.
				SL-701-SASC-SB-5.0	1036		
5		0	10/60			ML	Silt with Sand: Dark brown (10YR 3/3) Moist, soft, 80% silt, 20% sand, fine to med-grained, no odor, with clay, oxidation from 5 ft to 7 ft.
	4/4						
6		0	10/54				At 6.5 ft, no clay, becomes Dark Grayish Brown (2.5 ~~YR~~ 4/2) SD 06/18/2012
7		0	10/84				Sand becomes fine-grained at 7 ft.
8		0	10/102				
	2/2						
9		0	10/60	SL-701-SASC-SB-9.0-10.0	1050		Becomes Olive brown at 9' (2.5 Y 4/3). More sandy 60% silt, 40% sand, fine-grained.
10		0	10/66	SL-701-SASC-SB-10.0	1042		

Total depth = 10.1 feet. No groundwater encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

PG#7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ MB

Sample ID SL-702-SASC-SB-0.0-0.5 Date/Time 04/26/2012 1055

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ Margaret Bloisa MB 5.25.12 Geologist Registration # ~~7435~~ 63760 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	
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	
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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other red brick

Check if Staining [ ]

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-702	Subarea: 5C	Date Started: 26 Apnl 2012	Date Completed: 4.26.12
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: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 80 cpm		Borehole diameter: 2"	
PID Background: 0.0 ppm		Depth to GW: —	Sample Method: surface
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	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	66	SL-702-SASC-SB-0.0-0.5	1055	CL	SANDY CLAY: dyb (10YR 4/4); 70% clay, slight plasticity, firm, 30% sand, pg, f-m, sa-sr; trace red brick; slightly moist, no odor (FILL).
							Total depth of borehole to 0.5 ft bgs. No GW encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Rebecca Olson PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortez

Sample ID SL-702-SASC-SB- 4.0-5.0 Date/Time 06/18/2012 0957

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 Sandy Do

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	
	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)	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	
	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 Mark D. Hoffman **PG Registration #** 7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Vidal Cortez

Sample ID SL-702-SA5C-SB-9.0-10.0 **Date/Time** 06/18/2012 1000

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Sandy Do

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	
	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)	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	
	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 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 NONE

NA – Not Applicable

Location ID: DG-702	Subarea: 5C	Date Started: 06/18/2012	Date Completed: 06/18/2012
Client: DOE	Project Name/#: SSFL-66258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.0 ft
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS SD 06/18/2012		
GPS: ✓	Drill Method: DPT		Depth Drilled into Bedrock: ⊗
Radiological Background: 14 µR, 78 cpm	Borehole diameter: 2 1/4"		
PID Background: 0.0 ppm	Depth to GW: not encountered		Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: n/a		Geologist: ~~N.Bogay~~ S. Pó SD 06/18/2012

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1	4/4	0	10/90	SL-702-SASC-SB-0.0-0.5 collected 04/26/2012		ML	Light vegetation at surface. Fill SILT: Dark yellowish brown (10YR 3/6), dry to moist, soft, 90% silt; 10% sand, fine-grained, no odor
2		0	10/72				
3		0	10/78			CL	Native Sandy CLAY: Dark yellowish brown (10YR 3/6), dry to moist, firm; 70% clay; 30% sand, fine-grained, no odor
4		0	10/84	SL-702-SASC-SB-4.0-5.0	0957		Oxidation beginning at 4 ft.
5	4/4	0	10/36	~~SL-702-SASC-SB-5.0~~ SD 06/18/2012			
6		0	10/48				
7		0	10/36			ML	Sandy SILT: Dark yellowish brown (10YR 4/6), moist, soft, 65% silt; 35% sand, fine-grained, no odor, oxidation
8	2/2	0	10/36				With clay at 8.5 ft to
9		0	10/48	SL-702-SASC-SB-9.0-10.0	1000	SC	Clayey SAND: Dark yellowish brown (10YR 4/4), moist, medium dense, 70% sand, fine to ~~medium~~ coarse grained, 30% clay, no odor, trace of oxidation, ~~trace of~~ gravel, fine grained, subangular, max diameter = 1/4"
10		0	10/60	~~SL-702-SASC-SB-10.0~~ SD 06/18/2012			Total depth = 10 feet. No groundwater encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD Page 1 of 1

PG# 7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-703-SA5C-SB-0.0-0.5 **Date/Time** 04/26/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Blosser MB 5.25.12 Michael Hoffman **Geologist Registration #** MB 5.25.12 ~~7735~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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	X
Alcohols	EPA 8015	X
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/3

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-703	Subarea: 5C	Date Started: 26 April 2012	Date Completed: 4.26.12
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: ✓	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: Surface slide hammer
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed: —		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.4/0.5	0.0	60	SL-703-SA5C-SB-0.0-0.5	1020	CL	SANDY CLAY: brown (10YR 4/3); 70% clay, low plasticity, hard, 25% sand, pg, f-m, sa-sr, 5% gravel, pg, f, sa-sr, max ϕ = 0.25", moist no odor.
							Total depth of borehole to 0.5 ft. bgs.

CDM Smith

BORING LOG AND SAMPLING RECORD

Processed Sim 4.16.2012

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By: Sandy Do

Sample ID: SL-703-SASC-SB-4.0-5.0 Date/Time: 06/18/2012 15:05

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: Sandy Do

Sampler: Vidal Coates

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	
	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	X
	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	X
	Alcohols	EPA 8015	X
	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 NO AC

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sandy Do

Sample ID SL-703-SA5C-5B-5.0 Date/Time 06/18/2012 1455

Matrix (circle one): Soil Sediment Water

Start Depth 5.0

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 SANDY DO

Sampler VIDAL ORTEGA

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 _____ **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sandy Do

Sample ID SL-703-SA5C-SB-9.0-10.0 Date/Time 06/16/2012 15:10

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Sandy Do

Sampler Vidal Ortega

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	
	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	X
	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	X
	Alcohols	EPA 8015	X
	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 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 Mike Johnson **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Sandy DO

Sample ID SL-703-SA5C-SB-10.0 Date/Time 06/18/2012 1500

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

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 SANDY DO

Sampler VIDAL ORTEZ

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 Miles E Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-703	SC	06/18/2012	06/18/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 10.0
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SD 06/18/2012 SAFS	
GPS: ✓	Drill Method: ~~NA~~ SD 06/18/2012 DPT	Depth Drilled into Bedrock: ~~NA~~ SD 06/18/2012 Q
Radiological Background: 13 µR, 80 cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N. Begay~~ S. Do SD 06/18/2012

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1		0	10/30	SL-703-SASC-SB-0.0-0.5 collected on 04/26/2012		CL	Fill CLAY with sand: Dark brown (7.5 YR 3/4). Moist, firm, 80% clay, 20% sand, fine to med-grained pg.
2	4/4	0	10/54				Oxidation beginning at 2ft. Color change to dark yellowish brown (10 YR 4/4)
3		0	10/42				Dry, very soft. Sand becomes fine-grained.
4		0	10/60	SL-703-SASC-SB-4.0-5.0	1505		
5	4/4	0	10/60	SL-703-SASC-SB-5.0	1495		
6		0	10/66				Color change to Pale brown (10 YR 6/3)
7		0	10/54				
8		0	10/36			SM	Silty SAND: Dark yellowish brown (10 YR 4/4) Moist, loose, 60% sand, fine to med grained, pg, 40% silt, oxidation.
9	2/2	0	10/66	SL-703-SASC-SB-9.0-10.0	1510		
10		0	10/84	SL-703-SASC-SB-10.0	1500		Total Depth = 10.0 ft, No groundwater encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

PG #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [✓]

Sample ID SL-704-SASC-SB-4.0-5.0 Date/Time 05/24/2012 0852

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID None

Geologist Margaret Bloise Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 10YR 2.5Y 6/2

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SD]

Sample ID SL-704-SA5C-SB-5.0 Date/Time 05/24/2012 0851

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID None

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

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

Check If Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 6/2

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SV

Sample ID SL-704-SASC-SB-9.0-10.0 Date/Time 05/24/2012 0857

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 63160

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-704-SA5C-SB-10.0 Date/Time 05/24/2012 0856

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments None

Location ID:	Subarea:	Date Started:	Date Completed:
D6-704	5C	Thursday 05/24/2012	05/24/12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 10.1' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT	Depth Drilled into Bedrock: —
Radiological Background: 10uR, 58cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: macrocore cont. acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	9/60	SL-704-SASC-SB-0.0-0.5	0846	SP G	3" asphalt SAND w/GRAVEL: dgb (2.5Y 4/2); 80% sand, pg, f-m, T.C, sa-sr; 15% gravel (igneous/asphalt); 5% silt; moist, no odor. 0.6
1.0			9/48			CL	fg, f, sa-sr, max ϕ = 0.75"; moist, no odor.
	4/4						CLAY w/SAND: brown (10YR 4/3); 85% clay, low plas, firm; 15% sand, pg, f, T.C, sa-sr, T oxidation; moist, no odor.
2.0			9/54				hard drilling 2.0
							SANDY CLAY: dyb (10YR 4/6); same as above, except: 70% clay; 30% sand, Trace red brick frag.
3.0			9/64				
4.0			9/60	SL-704-SASC-SB-4.0-5.0	0852		
				SL-704-SASC-SB-5.0	0851	ML	SILTY/Silt variagated: H.bg (2.5Y 4/2) + by (10YR 6/8); oxidation 4.2 75% silt, non plastic, soft, flaky, very brittle (weak cementation); 25% sand, pg, f, sa-sr, T. gravel (silt stone), f, sa-sr, weak cementation; slt. moist, no odor,
5.0			9/48				moderate max ϕ = 1.25"
	4/4						
6.0			9/42				
7.0			9/48			CL	7 SANDY CLAY: dyb (10YR 4/6); 70% clay, low plas, firm; 30% sand, pg, f-m, sa-sr, T oxidation; moist, no odor
8.0			9/36				8.2 CLAY: Yellowish brown (10YR 5/4); 100% clay, low-med plas, v.soft-soft; T. sand, pg, f, sa-sr; moist, no odor. sticky
9.0	2/2		10/54	SL-704-SASC-SB-9.0-10.0	0857	ML	9 Same as 4' siltstone/SANDY CLAY
10.0			10/42	SL-704-SASC-SB-10.0	0856		Total depth to 10.1' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Borehole grouted PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-705-SASC-SB-0.0-0.5 Date/Time 05/24/2012 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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID None

Geologist Margaret Blosa Geologist Registration # 6360

Sampler Naeglynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analysis
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present ☒

Check if Staining ☐

Color 10 YR 3/3

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) red brick

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments 3" asphalt at surface

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-705-SA5C-SB-4.0-5.0 Date/Time 05/24/2012 1343

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0 SB 05/24/12

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID None

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other red brick

Check if Staining ☐

Color 10 YR 5/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-705-SA5C-SB-5.0 Date/Time 05/24/2012 1342

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID NONE

Geologist Margaret Bloise Geologist Registration # 6360

Sampler Nacolynn Bogay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	
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	

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

Check if Fill Material Present ☒

Check if Staining ☐

Color 10 YR 5/6

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-705-SA5C-SB-9.0-10.0 Date/Time 05/24/2012 1348

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID None

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analysis
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 5/8

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-705-SA5C-SB-10.0 Date/Time 05/24/2012 1346

Matrix (circle one): Soil Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist MARGARET BLOSA Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Analytes	Method	Analysis
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

Analytes	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 5/8

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments NONE

Location ID:	Subarea:	Date Started:	Date Completed:
SL-705-~~SASC-SB~~ SD 05/24/2012	5C	05/24/2012	05/24/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 10'
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT	Depth Drilled into Bedrock: 0
Radiological Background: 10 µR, 82 cpm	Borehole diameter: 2¼"	
PID Background: 0.0 PPm	Depth to GW: not encountered	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: not encountered	Geologist: ~~N.Begay~~ S. Do MB 5.30.12

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0	10/102	SL-705-SASC-SB-0.0-0.5	1340	CL	3" Asphalt Fill Sandy lean CLAY: 70% clay and 30% sand Dark brown (10YR 3/3), 70% clay, firm, low plasticity; 30% sand, f-med grained, oxidation, with red brick streaks, moist
1		0	10/54				
2	4/4	0	10/66				
3		0	10/48			ML	Silt with Sand: 80% silt and 20% sand Yellowish brown (10YR 5/6), 80% silt, low plasticity, soft; 20% sand, f-grained, oxidation, with red brick; trace of gravel, f-grained, subangular, max. diam. = 0.25"; trace of clay
4				SL-705-SASC-SB-4.0-5.0	1343		SILT, less sandy beginning at 4 feet. 90% silt and [redacted] sand. SD 05/24/2012
5	4/4	0	10/60	SL-705-SASC-SB-5.0	1342		10% SD 05/24/2012 No clay.
6		0	10/54				
7		0	10/66				
8		0	10/36				
9	2/2 SD 05/24/2012	0	10/36				Abundant oxidation beginning at 8 ft.
10		0	10/18	SL-705-SASC-SB-9.0-10.0	1348		color change to yellowish brown (10YR 5/8)
				SL-705-SASC-10.0	1346		T.D. = 10 feet. No GW encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Lorelei Allison PG6260

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check 90

Sample ID SL-706-SA5C-0.0-0.5 (-SB-) Date/Time 05/29/2012 1054

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID not applicable

Geologist Margaret Bloise Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Analyte	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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 FW
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	

Analyte	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10 YR - 4/3

Percentage Fill (%) 100%

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SD]

Sample ID SL-706-SA5C-SB-4.0-5.0 Date/Time 05/29/2012 1059

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): Surface Soil | (DPT) | Hand Auger | Trenching | Sediment

QC Type (circle one): (N) | FD | R | FB | TB

Parent Sample ID Not applicable

Geologist Margaret Bloise Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) | EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flourlde	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 Fw
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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check If Staining ☐

Color 10YR 4/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SD]

Sample ID SL-706-SB5C^-SB - 5.0 Date/Time 05/29/2012 1058

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy DO

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SD]

Sample ID SL-706-SB-SC-9.0-10.0 Date/Time 05/29/2012 1104

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10 YR 5/8

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-706-SA5C-SB-10.0 Date/Time 05/29/2012 1103

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010		
	EPA 6020		
	EPA 7471 (Soil)		
	EPA 7470 (Water)		
Flouride	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		

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color (10YR-5/8)

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments None

Location ID:	Subarea:	Date Started:	Date Completed:
SL-706	5C	05/29/2012	05/29/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 10.0 ft bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: DPT	Depth Drilled into Bedrock: 0 ft
Radiological Background: 10/79 uR/cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: N/A	Sample Method: macro-core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N.Begay~~ R. Wood

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	10/79	SL-706-SA5C-SB 0.0-0.5	1054	FILL SC SW	3" Asphalt ~~Clayey~~ Silty sand w/ gravel - Brown (10YR 4/3)
1.0			10/60			SW	Dense, Dry, non-plastic, sand well graded, fine to course, gravels 1/4" to 1/2" 5-10% no odor, no discoloration, non-native gravels consist of concrete and igneous gravels
2.0	4/4		10/54				
3.0			10/72				
4.0			10/72	SL-706-SA5C-SB 4.0-5.0	1054	SM	Silty SAND - Dark Yellowish Brown (10YR 4/6) - very dense, Dry, non-plastic, sand, poorly graded fine grained, no odor, few oxidation stains, possibly Fill.
5.0	4/4		10/92	SL-706-SA5C-SB 5.0	1058		
6.0			10/60				
7.0			10/66				
8.0			10/42				
9.0	2/4		10/72	SL-706-SA5C-SB 9.0-10.0	1104	SW	color change - Yellowish brown (10YR 5/8)
10.0		↓	10/48	SL-706-SA5C-SB 10.0	1103		TD = 10.0 ft bgs NO GW Encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

Emergency Phone PG6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-707-SASC-SB-14.0 **Date/Time** 06/14/2012 1440

Matrix (circle one): (Soil) Sediment Water

Start Depth 14.0

End Depth 14.0

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 Nacolynn Begay

Sampler John Halseth

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 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 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-~~SB~~-707-SA5C-SB-~~707~~ 13.0-14.0 Date/Time 06/14/2012 1445

~~TS~~ 6.14.12 ~~TS~~ 6.14.12

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~7.0~~ 13.0

End Depth ~~7.0~~ 14.0

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 Nicolynn Begay

Sampler John Halseth

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	
	PCBs/PCTs	EPA 8082	
	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 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 – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DE-7C7	5C	6.14.12 - Thurs. @ 1419	6.14.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 6.14.12 SAFS	14.0' bgs
GPS:	Drill Method: ~~NA~~ 6.14.12 DPT	Depth Drilled into Bedrock: NA
Radiological Background: 10 uR, 89 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
	NR	0.0	10/54	NS			
2.0	2.4/4.0		10/48			CL	clay with Sand: yb (10YR 5/4); 80% clay, non-plastic, v soft (unconsolidated); 20% sand, pg, f-m, T. gravel (ignrous) f, pg, sa-sr, max ϕ = 0.75"; DRY, no odor.
			10/72				moist
							Sand lens (rock brown 2.5Y 7/3) pg, f-med, T. cls
4.0		0.0	10/60				CLAY: dark brown (7.5YR 3/4); 80% clay, low plas, very stiff, 15% sand, pg, f-med, ~~T. cls~~ moist, no odor. TMS 6.14.12
			10/30				CLAY w/SAND: dk brn (2.5Y 4/6) - 80% clay; 20% sand - same as above w/T. red brick fragments. 4.2
6.0	4/4		10/76				
			10/42				SANDY CLAY: dyb (10YR 4/4); 70% clay, low plas firm, 30% sand, pg, f-m, oxidation; moist, no oda
8.0		0.0	9/98				(CLAY w/ SAND. 10YR 4/6) same as above except 80% clay, 20% sand T. red brick/fragments (FILL) pipe
	4/4		9/54				gravel lens
10.0			9/84			SM	~~Silty~~ Silty Sand 70% sand, pg, f-m, 30% silt, non-plas, soft, moist, no odor, (10YR 5/4) TMS 6.14.12

CDM Smith **BORING LOG AND SAMPLING RECORD** Page 1 of ~~2~~ 2

#7735

TMS 6.14.12

Location ID: DE-707	Subarea: SC	Date Started: 6.12.12	Date Completed: 6.14.12
Project: SSFL		Geologist:	Total Depth: 14.0' bgs

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0		NS		CL	CLAY: dyb (10YR 4/4) - 95% clay, med plas, soft, 5% sand, vf-f, moist, no odor
11.0	4/4		9178				
						SP SM	SAND WITH SILT: dyb (10YR 4/6), 90% sand, vf-m, 10% silt, no plas, soft, moist, no odor. 11.6
12.0			9142				
13.0	2/4		9160	SL-707-SASC-SB-13.0-14.0	1445		
			9166	SL-707-SASC-SB-14.0	1440		14.0
14.0							Refusal at 14' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 2 of 2

Nicole Hoffman #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-708-SA5C-SB-0.0-0.5 Date/Time 04/26/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ Margaret Bloisa MB 5.25.12 Geologist Registration # ~~7735~~ 62360 MB 5.25.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	
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	

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	

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

Check if Fill Material Present √

Check if Staining ☐

Color 10 YR 4/4

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-708	Subarea: 5C	Date Started: 26 April 2012	Date Completed: 4/26/12
Client: DOE	Project Name/#: SSFL-66258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: ✓	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 89 cpm	Borehole diameter: 2"		
PID Background: 0.0 ppm	Depth to GW: —		Sample Method: Surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —		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	42	SL-708-SASC-SB-0.0-0.5	1410	ML	SILT W/SAND: dyb (10YR 4/4); 80% silt, non-plastic, soft, unconsolidated; 25% sand, pg-f, sa-sr, 5% gravel, pg, f, r-sa, max Φ = 0.5", (igneous); slightly moist, no odor.
							Total depth of 0.5 ft. bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Reviewed Mim PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-709-SASC-SB-4.0-6.0 **Date/Time** 06/14/2012 1520

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.0

End Depth 6.0

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 Nacolynn Bigay

Sampler John Halseth

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	
	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 (%)** _____
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

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL709-SAGC-SB-9.0-10.0 Date/Time 06/14/2012 1525

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Nacolynn Begay

Sampler John Halseth

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	
	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 (%)** 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 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 _____

NA – Not Applicable

Location ID: DG-709	Subarea: SC	Date Started: 6.14.12	Date Completed: 6.14.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.0' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA ~~6.14.12~~ SAES		
GPS:	Drill Method: NA ~~6.14.12~~ DPT		Depth Drilled into Bedrock: NA
Radiological Background: 13uR/91cpm	Borehole diameter: 2.25"		
PID Background: 0.0ppm	Depth to GW: NA		Sample Method: cont. macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	Sampled surface on 6/14/2012			CL	(CLAY: dyb (10YR 4/4); 95% clay, low, firm, 5% sand, f-g, moist, no odor
	3.5/4		9/30	NS			
2.0			9/48				
			9/84				
							CLAY w/SAND: same as above; 85% clay, 15% sand.
4.0			9/64	SL-709-SASC-SB-4.0-5.0	1520		
			~~9/64~~ 9/48	~~SL-709-SASC-SB-4.0-5.0~~ 6.14.12			
5.0			9/64	NS			
							same as above, except oxidation.
6.0	1/4		9/96				
			9/90				
8.0			9/72				gravel (ms, sg, ss, ss), max Ø = 0.5"
9.0	2/2		9/60	SL-709-SASC-SB-9.0-10.0	1525		
10.0			9/30				same as above.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Mike Gibson #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-709-SASC-SB-0.0-0.5 **Date/Time** 04/26/2012 1350

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BOLSA MB 5.25.12 **Geologist Registration #** 9735 MB 5.25.12 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DB-709	5C	04/26/12 @ 1345	4.26.12

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: /	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 75cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: Surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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	84	SL-709-SASC-SB-0.0-0.5	1350	ML	SANDY SILT: dyb (10YR 4/4); 65%, silt, non-plastic, soft, unconsolidated; 30% sand, pg, f-m, mostly f, sa-sr; 5% gravel, pg, f, sa-sr, max ϕ = 0.75" (igneous); slightly moist, no odor. Total depth of borehole to 0.5 ft bgs.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Lorraine Olsen PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓ MH

Sample ID SL-710A-SASC-SB-0.0-0.5 Date/Time 4/30/12 0850 as ~~0838~~ 4/30/12

Matrix (circle one): (Soil) Sediment Water

Start Depth 0.0

End Depth 0.5

Depth Units (circle one): ~~Inches~~ (Feet) as 4/30/12

Check if Composite ☐

Collection Method (circle one): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist VBS 5.24.12 MARGARET BLOOM ~~Michael Hoffman~~ ~~Site~~

Geologist Registration # LB 5/24/12 ~~7735~~ 6360

Sampler as 4/30/12 ~~Nacolynn Bogay~~ Andy Greaze'

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	
1,4 Dioxane	EPA 8270 SIM	
Dioxins	EPA 1613	X as 4/30/12
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No odor, staining, or fill

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-710A-SA5C-SB-2.0-3.0 Date/Time 4/30/12 0900

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist MARGARET BLOISA YB 5/24/12 Mike Hoffman

Geologist Registration # MB 5/24/12 7735 6360

Sampler Andy Greazel

Organization (circle one): CDM Smith EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/2

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments No fill, staining, or odor

Location ID: SL-710A	Subarea: 5C	Date Started: 4/30/12	Date Completed: 4/30/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3.0
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS:	Drill Method: ~~NA~~ Hand auger 05/14/2012		Depth Drilled into Bedrock: NA
Radiological Background: 13, 80 cpm	Borehole diameter: 4"		to 05/14/2012
PID Background: 0.0 ppm	Depth to GW: Not encountered		Sample Method: slide hammer ~~split spoon~~ MBS 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —		Geologist: ~~N.Begay~~ Andy/Greg Zel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5	0.0	13/74	SL-710A-S5SC-SR-0.0-0.5	0850	ML	SILT with (w/) SAND: brown (10YR 4/3); 90% silt, dry, hard, medium density; 10% sand, pg, f-Mg, sr; Trace gravel.
0.5							
1.0							
1.5							
2.0							
2.5		0.0	90	SL-710A-S5SC-SB-2.0-3.0	0900	ML	SILT w/ SAND: very (v.) dark (dk.) grayish brown (10YR 3/2); 90% silt, moist, soft, low density, 10% sand, pg, f, sa.
3.0							TD @ 3.0 ft bgs
3.5							
4.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ BM

Sample ID SL-710B-SA5C-SB-0.0-0.5 Date/Time 4/30/12 0945

BM 4/30/12

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~MARGARET BLOKSA~~ MB 5.24.12 ~~Mike Hoffman~~ Geologist Registration # MB 5.24.12 ~~7735~~ 6360

Sampler Andy Greuzel

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) ~~Moist~~ Wet

4/30/12

Additional Comments No staining, odor, or fill.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-710B-SA5C-SB-2.0-3.0 Date/Time 4/30/12 1000

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Mike Hoffman~~ MARGARET BLOISA MB 5.24.12

Geologist Registration # ~~7735~~ 6360 MB 5.24.12

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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)	
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	
Herbicides	EPA 8151	
Pesticides	EPA 8081	

CDM 4/30/12

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 7.5 YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments No staining, odor, or fill.

Location ID: SL-710B	Subarea: 5C	Date Started: 4/30/12	Date Completed: 4/30/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3.0
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS:	Drill Method: ~~NA~~ HA SS 5/14		Depth Drilled into Bedrock: NA
Radiological Background: 13/87	Borehole diameter: ~~4~~ 4"		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: slide hammer ~~Split Spoon~~ MB 5.24.12
Radiological Equipment Used:	Depth/Time GW after Drilling completed:		Geologist: ~~N.Begay~~ A.Greezel MB 5.24.12
✓ MicroR ✓ Alpha/Beta ✓ Pancake			

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5	0.5	60	SL-710B-SA5C-SB-0.0-0.5	0945		SILT with SAND: very dark grayish brown (10YR 3/2); 90% silt, firm, dry, medium dense, low plasticity; 10% sand, pg, fine, sa.
0.5							
1.0							
1.5							
2.0							
2.5	0.5	0.0	90	SL-710B-SA5C-SB-2.5-3.0 on 4/30/12	1000		SILT with SAND: dark gray (7.5YR 3/2); 90% silt, firm, moist, medium dense, low plasticity; 10% sand, pg, fine, subangular.
3.0							Total depth 3.0 feet.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Engineering Manager PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-710C-SA5C-SB-0.0-0.5 Date/Time 4/30/12 10:20

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET PROKA MB 5.24.12 Geologist Registration # ~~7735~~ 63360 MB 5.24.12

Sampler ~~Nacolynn Begay~~ Andy Greazel 4/30/12

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil, Sediment	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 3

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No staining or odor. Piles of ~~soil~~ wr 4/30/12 concrete/gravel adjacent to the boring. PID reading may be due to mositure in the bag.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ AA

Sample ID SL-710C-SASC-SB-2.0-3.0 Date/Time 4/30/12 1035

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

MB 5.24.12

Geologist ~~Michael Hoffman~~ MARGARET BLOCK

MB 5.24.12

Geologist Registration # ~~7735~~ 63600

Sampler 4/30/12 ~~Naeolynn Begay~~ Andy Greuzel

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyzed
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	Analyzed
Soil	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments No fill material, odor, or staining present.

Location ID: SL-710C	Subarea: 5C	Date Started: 4/30/12	Date Completed: 4/30/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3.0
Company Name: CDM SMITH		Drill Contractor/Driller: NA ~~5/14/12~~	
GPS:		Drill Method: ~~NA~~ HA	Depth Drilled into Bedrock: NA
Radiological Background: 13 / 90		Borehole diameter: ~~4~~ 4"	Sample Method: ~~split spoon~~ slidehammer MB 5.24.12
PID Background: 0.0		Depth to GW:	~~Hand auger~~
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed:	Geologist: ~~N.Begay~~ A. Gretzel MB 5/24/12

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0							
0.5	0.5	2.6	84	SL-710C-SA SC-SB-0.0-0.5	10:20	ML	SILT with SAND: very dark grayish brown (10YR 3/2); 90% silt, soft, medium density, dry, low plasticity; 10% sand, fine, pg, subangular; trace gravel - concrete fragments,
1.0							
1.5							
2.0							
2.5							
3.0				SL-710C-SA SC-SB-2.0-3.0	1035	ML	SILT with SAND: very dark grayish brown (10YR 3/2); 90% silt, soft, medium dense, low plasticity; 10% sand, fine, pg, subangular.
							Total depth is 3 feet

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Brett Gretzel Mon Ph 6360

SSFL Phase 3 – Field Sample Data Sheet

08 4/30/12

FSDS QC Check ☑

Sample ID SL-710D-~~5C~~ SA5C -SB-0.0-0.5 Date/Time 4/30/12 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

MB 5.24.12

Geologist ~~Michael Hoffman~~ MICHAEL HOFFMAN

MB 5.24.12

Geologist Registration # ~~7735~~ 60360

4/30/12 08

Sampler ~~Nacolynn Begay~~ Andy Greaze

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No fill material, odor, or staining.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-710D-SA5C-SB-20-30 Date/Time 4/30/12 1115

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET GLOVER MB 5.24.12 Geologist Registration # ~~7735~~ 60360 MB 5.24.12

Sampler ~~Nacolynn Begay~~ Andy Greuzel 04 4/30/12

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments No fill material, odor, or staining present.

Location ID: SL-710D	Subarea: 5C	Date Started: 4/30/12	Date Completed: 4/30/12
Client: DOE	Project Name/#: SSFL-85258-83376.1203.002.223.02231.SSPH3		Total Depth: 3.0
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS:	Drill Method: ~~NA~~ HA @ 5/14/12		Depth Drilled into Bedrock: NA
Radiological Background: 13/84	Borehole diameter: ~~4~~ 4"		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: slide hammer ~~Hand Auger split spoon~~ MB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:		Geologist: ~~N.Begay~~ A. Greene/

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5	~~0.0~~ 1.8	~~13/84~~ 84	4/30/12 SL-710D-SASC-SB- 0.0 - 0.5	1110	ML	SANDY SILT: dark yellowish brown (10YR 4/4); 60% silt, dry, firm, dry, low plasticity 40% sand, fine to medium, pg, subangular.
2.0	0.5	0.0	84	SL-710D-SASC-SB- 2.0 - 3.0	1115	ML	SILT with SAND: very dark grayish brown (10YR 3/2); 90% silt, moist, firm, low plasticity; medium density; 10% Sand, fine, pg, sub angular.
3.0							Total ~~diameter~~ Depth is 3.0 ft cgs 4/30/12

CDM Smith

BORING LOG AND SAMPLING RECORD Page__of__

Brooke Greene PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-711-SA5C-SB-9.C-10.C **Date/Time** 06/14/2012 0846

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.C

End Depth 10.C

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 Nicolynn Begay

Sampler John Halseth

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 5/6

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 NO

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-711-SASC-SB-10.0 **Date/Time** 06/13/2012 0844

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

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 Nacolynn Begay

Sampler John Halseth

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 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 Mark E. Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-711-SASC-SB-4.0-5.0 **Date/Time** 06/14/2012 0855

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 Naiolynn Begay

Sampler John Halseth

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 5/6

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 NO

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-711-SASC-SB-5.0 Date/Time 06/14/2012 0850

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 Nacolynn Begay

Sampler John Halseth

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 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 Mike Hoffman **PG Registration #** 7735

Additional Comments NO

Location ID:	Subarea:	Date Started:	Date Completed:
DC-711	SC	6.14.12 @0830	6.14.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 6.18.12 SAFS	10.0'
GPS:	Drill Method: ~~NA~~ 6.18.12 DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 67cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	Surface sampled on 04/26/2012				
			10/48			SM	Silty Sand: 11 yb (10YR 6/4); 95% sand, rg, f-med, T. crs, sr-sa, 2% silt, non-plas, soft, T. gravel (lightwood), rg, f, max ϕ = 0.75", dry, no odor. a-sr
2.0	3/4		10/54			CL	CLAY w/SAND: dyb (10YR 4/6), ~~#67~~ clay, low plas, hard, 25% sand, rg, f-med, T. .75 crs, sr-sa, moist, no odor.
			10/22				
4.0			10/32	SL-711-SASC-SB-4.0-5.0	0855		
				SL-711-SASC-SB-5.0	0850		SANDY CLAY yb (10YR 5/6), 70% clay, low plasticity, hard, 30% sand, rg, f-m, slt oxidation, moist, no odor
			10/12				
6.0	4/4		10/42				
			10/84				CLAY w/SAND: M yb (2.5Y 5/3); 80% clay, med hard; 20% sand, rg, T. crs, f-m, sa-sr; oxidation (yb 10YR 5/6)
8.0			10/60			SM	Silty Sand: yb (10YR 5/8), 80% sand, rg, f-m; 20% slt, no plas, firm, moist, no odor.
	2/2		10/66	SL-711-SASC-SB-9.0-10.0	0846		
10.0			10/36	SL-711-SASC-SB-10.0	0844		

Mike Ellingson #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

TD: 10.0 ft. bgs. No GW encountered.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check JTP

Sample ID SL-711-SA5C-SB-0.0-0.5 **Date/Time** 04/26/2012 1440

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) (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one) (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ Margaret Bloise MBS.25.12 **Geologist Registration #** ~~7735~~ 6360 MBS.25.12

Sampler Narolynn Begay

Organization (circle one) (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10 YR 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
SL-711	5C	26 April 2012 @1433	4-26-12

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: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: Surface slide hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	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	96	SL-711-SASC-SB-0.0-0.5	1440	SM	SILTY SAND: dyb (10YR 4/4); 70% sand, pg, f-m, trace of coarse, mostly f, 30% silt, slight plasticity, soft, unconsolidated, trace of gravel (igneous), sg, f, sa-sr, max ϕ = 0.5"; moist, no odor.
							Total depth of borehole to 0.5' bgs. No GW encountered.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Nancy Begay PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-712-SA5C-SB-5.0 **Date/Time** 06/14/2012 0940

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

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 NacoLynn Begay

Sampler John Halseth

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 (%)** 100
3. **Fill Description (circle all that apply)**

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

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 None

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-712-SA5C-SB-4.0-5.0 **Date/Time** 06/14/2012 ~~0944~~ 0950 SMW 14a

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 Nacolynn Begay

Sampler John Halseth

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 Brick Frag.

6/14/12

Is Staining Present Yes (No)

Color 10 YR 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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-712-SA5C-SB-10.0 Date/Time 06/14/2012 0935

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

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 Nacolynn Begay

Sampler John Halseth

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	

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 7.5 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 _____ **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-712-SASC-SB-9.0-10.0 **Date/Time** 06/14/2012 0944

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 Nicolynn Begay

Sampler John Halseth

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	+
	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 2.5 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 DONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DE-SSFL 712	SC	6.14.12	6.14.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 10.0' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS	
GPS:	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 10uR, 7cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	Surface sampled on 9144			CL	CLAY WITH SAND: 80% clay, low plas, hard, 20% sand, pg f-m; oxidation, slt moist, no odor. T crs sa-sr (ct igneous gravel at surface only)
2.0	3.5/4.0		9148				moist, color: dk brown (10YR 4/3); T red brown fragg
			9154				
4.0		0.0	9148	SL-712-SASC-SB-4.0-5.0	0950		
5.0			9142	SL-712-SASC-SB-5.0	0940		Same as above
6.0	4/4		9166				
			9154			SP SM	SAND WITH SILT: yb (10YR 5/8), 90% sand, pg f-m 10% silt, moist, no odor
8.0			9166				~~SAND CLAY~~ same as above, ~~except,~~ ~~6.14.12~~ 6.14.12
9.0	2½		9163	SL-712-SASC-SB-9.0-10.0	0944	CL	CLAY-95% clay, 5% sand, pg f. H. olbun (2.5Y 5/4) med high, mostly CL w/ siltstone. slt moist - moist, no odor.
			9178	SL-712-SASC-SB-10.0	0935	SP SM	sand with silt: H yb (2.5Y 6/4); 90% sand, pg f-m, 10% silt, no plas, soft, moist no odor
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

#7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-712-SA5C-SB-0.0-0.5 Date/Time 4/30/12 1135

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MB 5.24.12 Geologist Registration # ~~7735~~ 63600

Sampler ~~Nacolynn Begay~~ Andy Greazel 4/30/12 as

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Encore	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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?
Encore	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	X
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

Check if Fill Material Present ☑

Percentage Fill (%) 5

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No staining or odor. Concrete and granite gravel surrounding the boring.

Location ID: SL-712	Subarea: 5C	Date Started: 4/30/12	Date Completed: 4/30/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA ~~& 5/14/12~~		
GPS:	Drill Method: ~~NA~~ [redacted] ok		Depth Drilled into Bedrock: NA
Radiological Background: 13/78	Borehole diameter: ~~NA~~ [redacted] 2"		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: Slide Hammer / ~~Split Spoon~~ MB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:		Geologist: ~~N. Begay~~ A. Greazel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	0.5	0.0	13/85	SL-712-SASL-SB-0.0-0.5	1135	ML	SANDY SILT: dark yellowish brown (10YR 4/4); 65% silt; dry, hard, medium dense; 35% sand, fine, Pg, subangular, low plasticity
0.5		0.0	54				
1.0							Total Depth 6 in.
1.5							
2.0							
2.5							
3.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Brenquen Brian PG6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-713-SA5C-SB-7.C Date/Time 06/14/2012 1035

Matrix (circle one): (Soil) Sediment Water

Start Depth 7.C

End Depth 7.C

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 Nacolynn Begay

Sampler John Halseth

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?
Encoras	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	

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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By John Wa

Sample ID SL-713-SASC-SB-6.0-7.0 **Date/Time** 04/14/2012 1040

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.0

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 Naiolynn Begay

Sampler John Halseth

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 2.5Y 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 NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DG-713	SC	6.14.12	6.14.12

Client: DOE	Project Name/#: SSFL-66258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAES	7.7', 7.4', 7.2'
GPS:	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 92 µR, 9k cpm	Borehole diameter: 2.25"	
PID Background: 0.0 PPM	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	Surface sample on 04/30/2012				
			9/172			SM	Silty Sand: dyb (10YR 6/4), 75% sand, ppj, f-m, 30% silt, non plas, soft, dry, no odor.
2.0	3/4		9/142			CL	CLAY w/SAND: dyb (10YR 4/6), 80% clay, low plas, ~~hard~~ firm, 20% sand, ppj, f-med, T. crs. TB 6.14.12
			9/164				
4.0			9/164				Same as above, except, (10YR 4/4) dyb. HARD.
			9/130				
6.0	3/4	0.0 6.14.12	9/154	SL-713-SASC-SB-6.0-7.0	1040	SM	Silty Sand: 20% silt, 80% sand, ppj, f-m, moist, no odor, non plas, firm-soft. Mod brn (2.5Y 5/6)
7.0			9/184	SL-713-SASC-SB-7.0	1035		
			9/172				Hit refusal at 7.7 ft. bgs. No 10' ft sample collected. No GW encountered. 3 attempts.
8.0							

10.0

CDM Smith

BORING LOG AND SAMPLING RECORD

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PG#7735

SSFL Phase 3 – Field Sample Data Sheet

773 04/30/12

FSDS QC Check ☑

Sample ID SL-773-SA5C-SB-0.0-0.5 Date/Time 4/30/12 1415

Encore SL-773-SA5C-SB-0.5 4/30/12 1405

773 04/30/12

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MB 5.24.12 MARGARET BROSA Geologist Registration # ~~7735~~ 6360 MB 5.24.12

Sampler ~~Nacolynn Begay~~ 4/30/12 Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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?
Soil	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	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

Check if Fill Material Present ☒

Percentage Fill (%) 5

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5Y 4/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments No odor or staining. Fill material is granite and limestone gravel.

Location ID: SL-713	Subarea: 5C	Date Started: 4/30/12	Date Completed: 4/30/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS:	Drill Method: NA SR 5/14/12		Depth Drilled into Bedrock: NA
Radiological Background: 13/78	Borehole diameter: 2 in		
PID Background: 0.0	Depth to GW: Not encountered		Sample Method: side Hammer / ~~split spoon~~ MB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA		Geologist: ~~N.Bogey~~ Andy Greaze /

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	~~0.5~~ 0.5	0.0 adj 0.0	~~88/13~~ ~~72~~ 4/30/12 72	SL-173-SA5C-SB-0.0-0.5 SL-173-SA5C-SB-0.5 (TPH-gro)	1405 (TPH-gro) 1415	ML	SANDY SILT with GRAVEL: olive brown (2.5Y 4/3); 50% silt, dry, firm, medium, low plasticity; ~~40~~ 40% sand f-c, wg, ~~sa~~ subangular; 10% gravel, medium to fine, pg, max Φ = 1/4 in, subangular. adj 4/30/12
0.5							
1.0							
1.5							

Total depth = ~~3.0~~ 0.5 ft adj 4/30/12

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Corrected per Brian PG6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-715-SASC-SB-7.0 **Date/Time** Oct 14/2012 1115

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 Naiolynn Begay

Sampler John Halseth

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 2.5 Y 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 #** _____

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-715-SASC-SB-6.0-7.0 **Date/Time** 06/14/2012 1120

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.0

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 Narolynn Begay

Sampler John Halseth

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	X
	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	X
	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 5/6

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 #** _____

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DE-715	SC	6.14.12 Thurs @ 1102	6.14.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS	7.5'
GPS:	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 17uR, 85cpm	Borehole diameter: 2 25"	
PID Background: 0.0ppm	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	Surface sampled 0411/30/2012			CL	clay with sand olive brown (2.5Y 4/6), 80% clay, low plas, firm; 20% sand, pg, f-m, % red pipe fragments.
			10/54				
2.0	4/4		10/48				
			10/72				
4.0			10/60				same as above, w/ oxidation.
			10/30				sandy clay, olbwn (2.5Y 4/6), 70% clay, low plas, 30% sand, pg, f-m, moist, no odor.
6.0	3.5/4		10/36	SL-715-SASC-SB-6.0-7.0	1120		
7.0			10/42	SL-715-SASC-SB-7.0	1125	SP SM	Sand with silt: M. olbwn (2.5Y 5/6), 90% sand, pg f-m, 10% silt, non-plas, soft, moist, no odor. ↓ sand w/ oxidation
8.0							Hit refusal at 7.5' bgs No GW encountered. No 10' sample collected

10.0

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ dh

Sample ID SL-715-SASC-SB-0.0-0.5 Date/Time 4/30/12 1445
Encore » SL-715-SASC-SB-0.5 4/30/12 1440

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MB 5.24.12 MARGARET BLOCK Geologist Registration # ~~7735~~ 6360 MB 5.24.12

Sampler ~~Nacolynn Begay~~ 4/30/12 ag Andy Greaze!

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X ~~8270C~~
	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	X
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Soil	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	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	X
	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

Check if Fill Material Present ☐

Percentage Fill (%) trace 5%

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments Trace amount of ~~b~~ 4/2 1/2 concrete at the surface and subsurface. No staining or odor.

Location ID: SL-715	Subarea: 5C	Date Started: 4/30/12	Date Completed: 4/30/12
Client: DOE	Project Name/#: SSFL-85258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 ft
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS:	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 13/102	Borehole diameter: 2 1/4 in		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: Slide Hammer/~~split spoon~~ MB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA		Geologist: ~~N.Begay~~ A. Greuzel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							~~4/30/12~~
0.0		0.0	13/80	SL-715-SASC-SB-0.0-0.5 (TPH-gro)	1445	ML	SILT with SAND: ~~dark~~ yellowish brown (10YR 4/4); 90% dark silt, dry; hard; medium dense; low plasticity; 10 % sand, fine, poorly graded; subangular; trace gravel.
0.5			102	SL-715-SASC-SB-0.5 (TPH-gro)	1440		
1.0							
1.5							Total depth = ~~3.0~~ 0.5 ft SD 5/14/12

CDM Smith

BORING LOG AND SAMPLING RECORD

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Groundwater Mission PG16360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-716-SA5C-SB-5.5-6.5 **Date/Time** 06/13/2012 1524

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.5

End Depth 6.5

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 Nacolynn Begay

Sampler John Halseth

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	
	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	
	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 5/4

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 NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DE-716	SC	6.13.12 @ 1514 (Wednesday)	6.13.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 6.5', 5.9', 6.6'
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ SAFS	
GPS: ✓	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 2.25"	
PID Background:	Depth to GW: NA	Sample Method: macrocore
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	NR	0.0	surface sampled on 05/02/2012			CL	
			10/24				dry
2.0	25/40		10/30				↓ slt. moist — CLAY WITH SAND: dl brn (2.5Y 4/16); 80%, dc/l, no plas (dry)
							low plas (moist)
			10/60				20% sand, pg, f-m; no odor. T.S.: siltstone & red brick fragments; oxidation
4.0			10/66				igneous gravel
			10/34	SL-716-SASC-SB-5.5-6.5	1524		CLAYEY SAND: dl brn (2.5Y 5/4), 70% sday; low-med plas, strong; 30% sand, pg, f-m, T.C.S; mort; no odor. oxidation
6.0			10/54				Same as above.
							Refusal at 6.6' bgs. No GW encountered
8.0							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Mike Hoffman #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ BM

Sample ID SL-716-SASL-SB-0.0-0.5 Date/Time 5/2/12 0835

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist MB 5.24.12 ~~Michael Hoffman~~ MARGARET HOLSA Geologist Registration # MB 5.24.12 ~~7735~~ 6360

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyzed
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X TP 05/2/12
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	Analyzed
VOCs	EPA 8260	
1,4 Dioxane	EPA 8260 SIM	
TPH-GRO	EPA 8015	
TPH-EFH	EPA 8015	X CW 5/2/12
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	

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No staining, odor, or fill.

Location ID: SL-716	Subarea: 5C	Date Started: 5/2/12	Date Completed: 5/2/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 ft
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: NA	Drill Method: NA SD 5/14/12		Depth Drilled into Bedrock: NA
Radiological Background: 12/47	Borehole diameter: 2X in		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: Slide Hammer / ~~split spoon~~ MB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA		Geologist: Andy Breazeal

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
00	0.5	0.0	12/52	SL-716-SASC-SB-0.0-0.5	0835	ML	SANDY SILT: brown (10YR 4/3); 70% silt, dry, firm, medium density, non-plastic; 35% sand, fine to medium, poorly graded, subrounded; 5% gravel, fine, poorly graded, subrounded, max diameter = 1/8 in.
05		0.0	90				
10							Total depth = 0.5 ft SD 5/14/12

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Bruce Breazeal Prior PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-717-SASC-SB-AA-6.0 (717 → 6.13.12; 6.0 → 6.13.12) Date/Time 06/13/2012 1445

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~7.0~~ 6.0

End Depth ~~10.0~~ 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 Nacolynn Begay

Sampler John Halseth

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	

MB 6.13.12

	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	

MB 6.13.12

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 (%)** ~~TBE~~ TBD 6-19-12

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 6/4

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 NONE

Location ID:	Subarea:	Date Started:	Date Completed:
DG-717	SC	6.13.12	6.13.12

Client: DOE — Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3		Total Depth: 7.1', 7.2', 6.9' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 6.12.13 SAES	
GPS:	Drill Method: ~~NA~~ 6.13.12 DPT	Depth Drilled into Bedrock: NA
Radiological Background:	Borehole diameter: 2.25"	
PID Background:	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	Surface sampled on 05102/2012			SM	Silty Sand: lt y b (2.5Y 6/4); 80% clay, slt plas, firm, 20% sand, pg, f-med, T. crs, r-sa (lignous) T. gravel, pg, f, r-sa, max ϕ = 0.25", (dry at surface (lignous) moist at 20' bgs)
	NR		10124				dry ↑ moist ↓
2.0	3/4		10136				
			10184			CL	CLAY: olbwn (2.5Y 4/3), 90% clay, low plas, very strong (hard), 10% sand, pg, f, T. med; T. crs (granitic) r-sa red pipe fragment 5; moist, no odor
4.0			10172				CLAY w/ SAND: same as above, except, 80% clay; 20% sand, oxidation.
			10178				
6.0	3/4		10160	SL-717-SASC-SB 6.0-7.0	1445		~~SANDY~~ CLAY: lt y brn (10YR 6/4), 5.2 flaky brittle moist - slt moist; Traces CH (dg T. ~~SS~~ weak cementation (2.5Y 4/1) high plas slightly no odor
7.0			10166				Hit refusal at 7.0 ft bgs
8.0							
10.0							Mike Gibson #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ 2nd

Sample ID SL-717-SA5C-SB-0.0-0.5 Date/Time 5/2/12 0915
as 5/2/12

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~0.5~~ 0.0

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

MB 5.24.12

Geologist ~~Michael Hoffman~~ MICHAEL BLOCK

MB 5.24.12

Geologist Registration # ~~7795~~ 62360

Sampler Andy Greuzel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No fill material, odor, or staining.

Location ID: SL-717	Subarea: 5C	Date Started: 5/2/12	Date Completed: 5/2/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: N/A	Drill Method: NA SD 5/14/12		Depth Drilled into Bedrock: NA
Radiological Background: 12/66	Borehole diameter: 2X.1		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: Slide hammer/ ~~split spoon~~ MB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: Andy Greuzel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5	0.0	12/81	SL-717-SASC-SB-00-05	0915	SM	SAND: dark yellowish brown (10YR 4/4); 95% sand, fine to coarse, well graded, subangular; 5% gravel, fine, poorly graded, sub angular, max diameter = 1/8".
0.5		0.0	108				Total depth = 0.5ft SD 5/14/12
1.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Brooke Green Mion PG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-718-SASC-SB-4.0-5.0 Date/Time 06/13/2012 1308

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 Nacolynn Bogay

Sampler John Halseth

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	
	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	
	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 6.13.12

2. **Percentage Fill (%)** 100

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

Asphalt	Metal	Plastic
Concrete	Wood	Glass
(Igneous/Metamorphic Gravel)	~~N/A~~ MB 6.13.12	
Other _____		

Is Staining Present Yes (No) MB 6.13.12

Color ~~10YR 4/3~~ 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 Mike Hoffman **PG Registration #** 7735

Additional Comments NONE MB 6.12.13 +2.13 Gravel fill found at sample depth but found deeper at 5.0 ft bgs

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-718-SA5C SB-8.0-9.0 **Date/Time** 06/13/2012 1310

Matrix (circle one): (Soil) Sediment Water

Start Depth 8.0

End Depth 9.0

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 Nacolynn Begay

Sampler John Halseth

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	
	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	
	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 #** 7735

Additional Comments NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DE-718	SC	6.13.12	6.13.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3
Company Name: CDM SMITH	Drill Contractor/Driller: NA 6.13.12
GPS:	Drill Method: NA
Radiological Background: MicroR, 83 cpm	Borehole diameter: 2.25"
PID Background: 0.0 ppm	Depth to GW: NA
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:

Total Depth: 9.2', 9.0', 8.5'

Depth Drilled into Bedrock: NA

Sample Method: macro core

Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	Surface sampled on 05/02/2012			SM	Silty Sand - Hyb (2.5Y 6/4); 70% sand, pg, f-m, T crs; r-sa (qz & fldspars), 30% silt, nc-plast, s.stff, dry, no odor
			9/42				
2.0	3/4		9/54				As above, except, 80% sand, 20% silt; color Δ: Hylb (2.5Y 5/4) moist
			9/72				
						SP-SM	SAND WITH SILT: H ylb (2.5Y 5/3); 90% sand, pg, f-m, mostly med; T crs (granitic r-sa); T gravel (gneiss / siltstone / ss), pg, f, r-sa, max Φ: e.5"
4.0			9/60	SL-718-SASC-SB-4.0-5.0	1303		
			9/80	SL-718-SASC-SB-5.0-6.0 6.13.12			
	4/4					CL	CLAY w/SAND: brown (10YR 4/3); 75% clay, low plasticity, firm, 25% sand, pg, f-m, T crs; slt. oxidation; T red brick pipe (FILL) T. gravel, (gneiss / ss + siltstone) max Φ: 0.25"; moist, nc odor
6.0			9/54				Sand lens (decomposed ss w/sand - weak cementation)
			9/60				Same as above, except; clay = strong
8.0			9/54	SL-718-SASC-SB-8.0-9.0	1310		Sandy clay: brown (10YR 4/3); 60% clay, low-plas, soft, 40% sand, pg, f-m, T crs, moist, no odor; T. gravel (gneiss / ss / siltstone).
			9/60	SL-718-SASC-SB-9.0 6.13.12			Hit refusal at 9.2' bgs. Siltstone fm found in shoes (dry + hard). No GW encountered.

10.0

CDM Smith

BORING LOG AND SAMPLING RECORD

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PG#7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ SGK

Sample ID SL-718-SASC-SB-0.0-0.5 Date/Time 5/2/12 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

MB 5.24.12

Geologist ~~Michael Hoffman~~ MARGARET ROSA MB 5.24.12 Geologist Registration # ~~7735~~ 63160

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments Concrete, granite, and asphalt on ground surface adjacent to the boring.

Location ID: SL-718	Subarea: 5C	Date Started: 5/2/12	Date Completed: 5/2/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 ft
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: N/A	Drill Method: NA ~~SJ 5/14/12~~		Depth Drilled into Bedrock: NA
Radiological Background: 12/82	Borehole diameter: 2X in		
PID Background: ~~12~~ 0.0	Depth to GW: not encountered		Sample Method: slide hammer/ ~~split spoon~~ MB 5.24.12
Radiological Equipment Used: [✓] MicroR [✓] Alpha/Beta [✓] Pancake	Depth/Time GW after Drilling completed:		Geologist: Andy Greazel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0		0.0	12/111	SL-718-SASL-SB-0.0-0.5	0935	SM	SILTY SAND: dark yellowish brown; (10YR 4/4) 70% sand, fine to coarse, well graded, sub angular; 30% silt, dry, firm, medium dense; low plasticity; trace gravel, subrounded, fine to coarse, well graded, max diameter = ½".
0.5		0.0	78				Total depth = 0.5 ft

CDM Smith

BORING LOG AND SAMPLING RECORD

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Greazel Allison PG 6260

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [redacted]

Sample ID SL-719-SA5C-SB-6.0-7.0 **Date/Time** 06/14/2012 1200

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.0

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 Nacolynn Begay

Sampler John Halseth

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	
	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	
	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 2.5 Y 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 – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DC-SB-14.12-719	SC	6.14.12	6.14.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 7.0', 7', 7'
Company Name: CDM SMITH	Drill Contractor/Driller: NA 6.14.12 SAES	
GPS:	Drill Method: NA ~~7.5~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 13 uR, 94 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		B.G	Surface collected on 9172				
2.0	3/4		9178			CL	clay with sand, el. b (2.5Y 4/6); 80% clay, low plas, firm, 20% sand, pg, f-m, w/rsd in matrix (oxidation?) no odor, moist. strong brown (7.5YR 4/6)
			9148				
4.0			9154				→ siltstone - 0.5" max ϕ color Δ: H. el b (2.5Y 5/4)
	0 3.5 6.14.12 4.0		9142			CL	clay pale brown (2.5Y 7/4) w/ gray (2.5Y 5/1) w/ siltstone - max ϕ = 1" brittle/flaky mod plas, firm; ↳ high
6.0			9148	SL-719-SASC SB-6.0-7.0	1200	SP SM	Sand with silt; H. el brown (2.5Y 5/6); 90% sand, pg f-m; 10% silt, non-plas, soft, moist, no odor (~~sand~~) el. H. oxidation throughout. TH 6-14-12
7.0			9130	SL-719-SASC SB-7.0 6.14.12	1200		Total depth of borehole to 7' (Refusal) No 10' sample collected No GW encountered
8.0							

11.0

CDM Smith

BORING LOG AND SAMPLING RECORD

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Nicole Hoffman #7735

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ JY

Sample ID SL-719-SA5C-SB-0.0-0.5 Date/Time 5/2/12 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MB 5/24/12 MICHAEL BROKA Geologist Registration # ~~7735~~ 63760 MB 5/24/12

Sampler Andy Greazel

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) None

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5 Y 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments Granite and concrete on surface adjacent to the boring.

Location ID: SL-719	Subarea: 5C	Date Started: 5-2-12	Date Completed: 5-2-12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: N/A	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 12/77	Borehole diameter: 2X in SD 5/14/12		
PID Background: 0.0	Depth to GW: not encountered		Sample Method: Slide hammer/ ~~split spoon~~ LB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A		Geologist: Andy Greuzel

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0		0.0	13/116	SL-719-SASC-SB-0.0-0.5	1000	SM	SILTY SAND: very dark grayish brown (2.5Y 3/2); 60% sand, fine to coarse, well graded, subangular; 40% silt, moist, firm, medium dense, low plasticity.
0.5		0.0	66				
1.0							Total depth = 0.5 ft SD 5/14/12

CDM Smith

BORING LOG AND SAMPLING RECORD

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Reviewed Mion PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ MW

Sample ID SL-720-SA5C-SB-0.0-0.5 Date/Time 4/30/12 1530

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET GROSA Geologist Registration # 7735 6360

Sampler ~~Nacolynn Begay~~ Andy Greazel 4/30/12 MG

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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?
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	
	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

Check if Fill Material Present ☐

Percentage Fill (%) trace 5%

Fill Description (circle one)

Asphalt Metal Plastic

(Concrete) Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color (10YR 4/4)

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments Trace concrete "gravel". No staining or

Location ID: SL-720	Subarea: 5C	Date Started: 4/30/12	Date Completed: 4/30/12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5
Company Name: CDM SMITH	Drill Contractor/Driller: NA		
GPS: NA	Drill Method: NA		Depth Drilled into Bedrock: NA
Radiological Background: 13 / 83	Borehole diameter: 2 X inch SP 5/14/12		
PID Background: 0.0	Depth to GW: not		Sample Method: slide Hammer / ~~split spoon~~ MB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:		Geologist: ~~N.Begey~~ A. Greaze /

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0		0.0	9/13	SL-720-SA5C-SB-0.0-0.5	1530	ML	SANDY SILT; dark yellowish (10YR 4/4) brown; 60% silt, dry, firm, low plasticity; 20% sand, fine, PG; subangular; trace gravel.
0.5	0.5	0.0	78				
1.0							Total Depth = 0.5 ft
1.5							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Lawrence D. Bain RG 6260

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-720-SASC-SB-5.0 5 (6.13.12) Date/Time 06/13/2012 1235

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0 5 (6.13.12)

End Depth 5.0 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 Nacolynn Begay

Sampler John Halseth

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 content

Fill Material

1. Is Fill Material Present (Yes) No

2. Percentage Fill (%) 50

3. Fill Description (circle all that apply)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

(Other) red brick/pipe

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 #** 7735

Additional Comments Sample 1/2 sandy clay + clay

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-720-SASC-SB-4.5-5.5 Date/Time 06/13/2012 1237

6.13.12

Matrix (circle one): (Soil) Sediment Water

Start Depth 4.5 4.5

End Depth 5.5 5.5

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 Nacolynn Begay

Sampler John Halseth

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 (%)** 50

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 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 Sample #2 sandy clay & clay

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DC-720	SC	6.13.12 @ 1224	6.13.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 5.8', 5.4', 5.2'
Company Name: CDM SMITH	Drill Contractor/Driller: NA 6.13.12	
GPS:	Drill Method: NA HB	Depth Drilled into Bedrock: NA
Radiological Background: 13uR, 94cpm	Borehole diameter: 2.25"	
PID Background: 6.0ppm	Depth to GW: NA	Sample Method: macrocore
Radiological Equipment Used:	Depth/Time GW after Drilling completed:	
✓ MicroR ✓ Alpha/Beta ✓ Pancake	↓	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	3.6/4	0.0	Surface sampled on 6/13/2012			CL	CLAY WITH SAND: yb (10YR 5/4), 85% clay, no plas, hard-firm; 15% sand, pg, f, T. rnd, T. (FILL) Red pipe fragments, rocks, T. SS
			10/38				
2.0			10/54				As above, except, moist, low plas, reac Δ: dyb (10YR 4/4) T. SS gravel, max ϕ: 0.25" + smaller (fragmented bedrock interlinked w/clay) T. crs gn sand no roots
			10/78				
4.0			10/102				SANDY CLAY: dyb (10YR 4/4); 70% clay, low plas, firm, 30% sand, pg, f-m, moist, no odor red brick frit.
				SL-720-SA5C-SB-4.5-5.5	1237		
	1.5/4		10/60	SL-720-SA6C-SB-5.5	1235		clay: 10yb (2.5Y 6/3), 95% clay, med plas, soft-hard (hard clay clasts in some moist matrix) 5% sand, pg, f no odor
6.0							Hit refusal at 5.8 ft. bgs on 1ST attempt - shallower refusal on 2 following attempts. No 10' sample collected. No GW encountered.
8.0	0/2						
10.0							Mike Elkinson #7235

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-722-SA5C-SB-6.0-7.0 Date/Time 06/13/2012 1418

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.0

End Depth 7.0

Depth Units (circle one): Inches (Feet)

Collection Method (circle one)

Check if Composite ☐ (DPT) Slide Hammer Hand Auger/Slide Hammer Trenching Sediment

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

Parent Sample ID N/A

Field Geologist Naulynn Begay

Sampler John Halseth

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 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 #** 7335

Additional Comments NO

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By J. W.

Sample ID SL-722-SASC-SB-7.0 Date/Time 06/13/2012 1414

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 Nacolynn Begay

Sampler John Halseth

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
Sediment	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 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 NONE

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DE-722	5C	6.13.12 @ 1250CT	6.13.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 6.13.12 SAFS	7.0' bgs
GPS:	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 10uR, 86cpm	Borehole diameter: 2.25"	Sample Method:
PID Background: 0.0 ppm	Depth to GW: NA	macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	NR	0.0	surface collected 05101/12012			SM	Silty Sand 7.5YR 5/6): 80% sand, pg-f med, T. ang gvl, 20% silt, non plas, firm, moist, no odor red pyx frags
			9136				
2.0	24/4.0		9154				
			9142				
4.0			9178			CL	Lean Sand. brown (10YR 4/3), 80% clay, med plas; fines; 20% sand pg-f-med, T. ang gvl, T. gravel (Siltstone, Ss, v igneous), max ϕ ~~0.25"~~ 7/8 6.13.12 0.5" siltstone
			9160				
6.0			9156	SL-722-SASC-SB 6.0-7.0	1418	~~SM~~ SP	~~Sand with Silt~~ : 11.5YR brown (2.5Y 5/6); 80% Sand
			9146	SL 722-SASC-SB-7.0	1414	SM	Silty Sand pg-f 20% silt; moist, no odor.
8.0							Pit refusal at 7.0 ft. bgs. No GW encountered.
10.0							

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

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ KBA

Sample ID SL-722-SASC-SB-0.0-0.5MS Date/Time 4 cg 5/1/12 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BOKA HB 5.24.12 Geologist Registration # ~~7735~~ 6360 HB 5.24.12

Sampler ~~Nacolynn Bogay~~ Andy Greazel cg 5/1/12

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color (2.5Y 5/4)

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No odor or staining. Concrete debris observed adjacent to the boring. Duplicate and MS/MSD collected at the location.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-1022-SA5C-SB-0.0-0.5 Date/Time 5/1/12 1330

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~0.5~~ 0.0 (08 5/1/12)

End Depth 0.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): N (FD) R FB TB

Parent Sample ID SL-722-SA5C-SB-0.0-0.5MS

Geologist ~~Michael Hoffman~~ MICHAEL BLOCK (VB 5.24.12) Geologist Registration # ~~7735~~ 6360 (VB 5.24.12)

Sampler ~~Nacolynn Degby~~ Andy Greuzel (08 5/1/12)

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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?
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	
Biota	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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 2.5 Y 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments No odor or staining. Concrete debris observed adjacent to the boring.

Location ID: SL-722	Subarea: 5C	Date Started: 5-1-12	Date Completed: 5-1-12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 0.5 ft
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
PS: NA		Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12/75		Borehole diameter: 2 X in ~~8~~ 5/14/12	
PID Background: 0.0		Depth to GW: Not Encountered	Sample Method: Slide Hammer / ~~split spoon~~ MB 5.24.12
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0	0.5	0.0	12/88	SL-722-SSC-SB-0.0-0.5	1325 (primary)	SW	SAND: light olive brown (2.5Y5/4); 95% sand, fine to coarse, well graded, sub angular to subrounded; 5% gravel, fine to medium, poorly graded, subrounded, maximum diameter = 1/4".
0.5		0.0	9/84	SL-1022-SSC-SB-0.0-0.5 (Duplicate ID)	1330 (Duplicate)		
1.0							Total depth = 0.5 feet
1.5							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Grassroots Prim PG 63260

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-723-SA5C-5B-0.0-0.5 Date/Time 05/29/2012 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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☒

Check if Staining ☐

Color 10 YR -5/3

Percentage Fill (%) 100 %

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [✓]

Sample ID SL-723-SAC-SB-4.0-5.0 Date/Time 05/29/2012 : 1009

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy DO

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
1,4 Dioxane	EPA 8270 SIM	X RW
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10 YR - 6/3

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) Moist Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [X]

Sample ID SL-723-SA5C-5.0 Date/Time 05/29/2012 1008

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Blorsa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Analyte	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

Analyte	Method	Analyze
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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 6/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-723-SA5C-SB-~~9.0~~ 9.0-10.0 RW Date/Time 05/29/2012 1013

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 6760

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Sandstone RW

Check if Fill Material Present ☐

Check if Staining ☐

Color 10YR-6/3

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

~~Igneous/Metamorphic Gravel~~ RW

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [X]

Sample ID SL-723-SA5C-10.0 Date/Time 05/29/2012 1012

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Sandstone RW

Check if Staining ☐

Color 10 YR 6/3

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments None

Location ID:	Subarea:	Date Started:	Date Completed:
SL-723	SA SC	05/29/2012	05/29/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10 ft bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: Direct Push	Depth Drilled into Bedrock: 3 ft
Radiological Background: uR/cpm 10/87	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: N/A	Sample Method: macro-core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N. Begay~~ R. Wood

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0				SL-723-SA5C-SB-0.0-0.5	1005	SC	3" Asphalt Clayey SAND w/ gravel - Brown (10YR-5/3) Dense, dry to moist, nonplastic to slightly plastic, sand well graded fine to coarse, gravels 1/4 in to 1/2 in 5 to 10%, NO odor, no discoloration, Non-native Fill
1.0		0.0	8/98				
2.0	4/4	0.0	8/42				
3.0		0.0	8/72				
4.0		0.0	8/78	SL-723-SA5C-SB-4.0-5.0	1009	ML	Sandy SILT - Pale Brown (10YR-6/3) very dense, dry to moist, nonplastic, sand poorly graded - fine to very fine, no odor, no discoloration, possibly Fill
5.0		0.0	8/72	SL-723-SA5C-SB-5.0	1008		
6.0	4/4	0.1	8/78				
7.0		0.1	8/84			RW SS WL	weathered sandstone/siltstone - Pale brown (10YR-6/3), very dense, dry, non-plastic no odor, no discoloration, native
8.0		0.1	8/66	SL-723-SA5C-SB-9.0-10.0	1013		
9.0	2/4	RW ~~0.0~~ 0.1	8/54	SL-723-SA5C-SB-10.0	1012		
10.0		~~0.1~~ RW 0.0	8/90				TD = 10 ft bgs - NO GW ENCOUNTERED

CDM Smith

BORING LOG AND SAMPLING RECORD

SS = Weathered sandstone/siltstone

PG 6/20

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check: PW

Sample ID: SL-724-SASC-SB-0.0-0.5 Date/Time: 05/29/2012 0857

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID: Not applicable

Geologist: Margaret Bloise Geologist Registration #: 6360

Sampler: Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Analyte	Method	
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

Analyte	Method	
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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR3/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check: PW

Sample ID: SL-724-SASC-SB-4.0-5.0 Date/Time: 05/29/2012 0900

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID: Not applicable

Geologist: Margaret Bloise Geologist Registration #: 6760

Sampler: Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check RW

Sample ID SL-724-SA5C-SB-5.0 Date/Time 05/29/2012 0859

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

~~Igneous/Metamorphic Gravel~~

Other _____

Check if Staining [ ]

Color 10YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [TW]

Sample ID SL-724-SASC-5B- 9.0-10.0 Date/Time 05/29/2012 0904

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Analyte Group	Method	Analyte
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

Analyte Group	Method	Analyte
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	

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

Check if Fill Material Present ☐

Sandstone
FW

Check if Staining ☐

Color 10YR 6/4

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry ~~Moist~~ Wet

SP 05/29/2012

Additional Comments _____

NONE

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check FW

Sample ID SL-724-SASC-SB-10.0 Date/Time 05/29/2012 0903

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist MARGARET BLOCK Geologist Registration # 6360

Sampler Sandy Ro

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	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	

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

Sandstone
RW

Check if Fill Material Present ☐

Check if Staining ☐

Color 10 YR 6/4

Percentage Fill (%) _____

Odor (circle one)

~~None~~ Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

(Dry) ~~Moist~~ Wet

SD offshore

Additional Comments NONE

Location ID:	Subarea:	Date Started:	Date Completed:
SL-724-	SA 5C	05/29/2012	05/29/2012

Client: DOE	Project Name/#: SSFL-65288-63376.1203.002.223.02231.SSPH3	Total Depth: 10 ft
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: Direct Push	Depth Drilled into Bedrock: 1 ft
Radiological Background: 10 MicroR: 90cpm	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: N/A	Sample Method: macro-core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A	Geologist: ~~N.Begay~~ R.WOOD

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	10/72	SL-724-SA5C-SB 0.0-0.5	857	CL	3" asphalt sandy clay - Dark yellowish brown (10YR-3/4), stiff, moist, low plasticity, sand content 15 to 20 %, well graded, fine to coarse, less than 5% gravel 0.5 inches in diameter, few red oxidation stains, no odor. Non-native FILL
1.0			10/84				
2.0	4/4		10/54				
3.0			10/66				
4.0		0.1	9/48	SL-724-SA5C-SB 4.0-5.0	900	ML	sandy silt - Brown (10YR-4/3), very stiff, moist to dry, non-plastic, sand content 15 to 20 %, poorly graded fine-grained, no gravel, common red oxidation stains, no odor.
5.0	4/4		9/84	SL-724-SA5C-SB 5.0	859		
6.0			9/72				
7.0			9/48				
8.0		0.0	9/48				color change at 7.5 ft bgs yellowish brown (10YR-5/6) transition zone between sandy silt and bedrock - less fines at depth
9.0	2/4		9/60	SL-724-SA5C-SB 9.0-10.0	904	RW SS ML	weathered sandstone/siltstone - light yellowish brown (10YR-6/4) - Dry, non-plastic, very dense, no odor, no discoloration.
10.0			9/72	SL-724-SA5C-SB 10.0	903		

Total Depth: 10 feet, NO GW encountered

CDM Smith

BORING LOG AND SAMPLING RECORD

SS: SANDSTONE

PG6260

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SD]

Sample ID SL-SA5 TB 727-SA5C-SB-0.0-0.5 Date/Time 05/21/2012 1029

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID ←

Geologist MARGARET BLOESA ~~Michael Hoffman~~ ~~PH 5/9/12~~

Geologist Registration # 6360 ~~7795~~ ~~PH 5/9/12~~

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	↓
	EPA 7471 (Soil)	↓
	EPA 7470 (Water)	
Flouride	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)	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10 YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-727-SASC-SB-4.0-5.0 MS Date/Time 05/21/2012 1032

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Blosser Michael Hoffman 05/21/12

Geologist Registration # 6360 ~~7735~~ 05/21/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	
	EPA 7471 (Soil)	↓
	EPA 7470 (Water)	
Flouride	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)	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) charcoal / red brick fragments

Check if Staining [ ]

Color 7.5 YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-727-SASC-SB-5.0 MS Date/Time 05/21/2012 1033

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOCK ~~Michael Hoffman~~ 6/19/12

Geologist Registration # 6360 ~~7735~~ 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 7.5 YR 4/3

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) charcoal/red brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-727-SASC-SB-9.0-10.0 Date/Time 05/21/2012 1036

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOKA ~~Michael Hoffman~~ 5/19/12

Geologist Registration # 6360 ~~7735~~ 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyzed
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	Analyzed
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 3/4

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) charcoal / Red Brick fragments Pipe

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-727-SA5C-SB-10.0 Date/Time 05/21/2012 1037

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOISA Michael Hoffman PH 5/19/12

Geologist Registration # 62360 7435 PG 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze
Inorganics	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
Biological	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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) charcoal / red brick fragments

Check if Staining [ ]

Color 10YR 3/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-1027-SA5C-SB-4.0-5.0 Date/Time 05/21/2012 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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): N (FD) R FB TB

Parent Sample ID SL-727-SA5C-SB-4.0-5.0MS

Geologist MARGARET PLOVSA Michael Hoffman 5/19/12

Geologist Registration # 6360 ~~7735~~ 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 7.5YR 4/3

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other charcoal / red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

727

FSDS QC Check

Sample ID SL-1027-SA5C-SB-5.0 Date/Time 05/21/2012 1102

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): N (FD) R FB TB

Parent Sample ID SL-~~1027~~ 727 -SA5C-SB-~~4.0~~ 5.0 MS
MS

Geologist ~~Michael Hoffman~~ MARGARET BLOESS 05/19/12

Geologist Registration # ~~7735~~ 62160 05/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	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	

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

Check if Fill Material Present [X]

Check If Staining [ ]

Color 7.5 YR 4/3

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other charcoal / red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DB-727	SC	05121/2012 -Mon-	05121/2012

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10'bgs / 8'bgs (DUP)
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 82cpm	Borehole diameter: 2.25"	Sample Method: 1.75" cont. acetate sleeve
PID Background: 0.0ppm	Depth to GW: —	
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	90	SL-727-SASC-SB-0.0-0.5	1029	ML	2" asphalt SANDY SILT; dyb (10YR 4/4); 65% silt, non-plastic, soft, unconsolidated, micaceous; 35% sand, pg, f-m T.C., sa-sr; moist, no odor. T. SS: layers in and ont SS = lt. ol. brwn (2.5Y 6/6)
1.0	4/4		66				
2.0			84				
3.0			96				— As above, except SILT W/SAND: 80% silt; 20% sand. oxidation, T. red brick fragments.
4.0		0.0	54	SL-727-SASC-SB-4.0-5.0 MS	1032		— W/SAND: 4 SILT: brown (7.5 YR 4/3); 80% silt, slight plas, soft, moderate cementation; 20% sand, pg, f, T. m, sa-sr; T. black charcoal / red brick/pipe fragments
				SL-727-SASC-SB-5.0 MS	1033		
5.0				SL-1027-SASC-SB-4.0-5.0	1100		
	4/4		60	SL-1027-SASC-SB-5.0	1102		
6.0			84				
7.0			90				— Same as above, except; color Δ dyb (10YR 4/6) T. c sand; low plasticity. 7
8.0			78				— As above, except color Δ : dyb (10YR 3/4) 8.5
9.0	2/2		66	SL-727-SASC-SB-9.0-10.0	1036		As above, still charcoal + oxidation.
10.0				SL-727-SASC-SB-10.0	1037		

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Rebecca Dion PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-728-SA5C-SB-0.0-0.5 Date/Time 05/21/2012 13:32

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BLOCK 5/4/12 Geologist Registration # ~~7735~~ 6360 5/4/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
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	
	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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10YR 4/4

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-728-SA5C-SB-4.0-5.0 Date/Time 05/21/2012 13:34

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): Surface Soil (QPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BROKA ~~BH~~ 5/19/12

Geologist Registration # ~~7735~~ 63160 ~~BH~~ 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyte?
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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?
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) charcoal/red brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-728-SASC-SB-5.0 Date/Time 05/21/2012 13:35

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DP) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BLOESA ~~Michael Hoffman~~ PH 5/19/12

Geologist Registration # 6360 ~~7735~~ PH 6/5/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analysis
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10YR 4/4

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) charcoal/red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓MB

Sample ID SL-728-SA5C-SB-9.0-10.0 Date/Time 05/21/2012 13:37

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist MARGARET BLOISA ~~Michael Hoffman~~ PMS 5/19/12

Geologist Registration # 63400 ~~7735~~ PMS 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10YR 3/4

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other Red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-728-SA5C-SB-10.0 Date/Time 05/21/2012 13:38

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BLOCK ~~Michael Hoffman~~ 5/9/12 Geologist Registration # 63100 ~~7735~~ 5/9/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze?
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	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	

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

Check if Fill Material Present ☒

Check if Staining ☐

Color 10YR 3/4

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DB-728	5C	05/21/2012 - Mon.	05/21/12

Client: DOE	Project Name/#: SSFL-66268-63376.1203.002.223.02231.SSPH3	Total Depth: 2-4' nds 10' bgs 1-2' rod
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT-Geoprobe 6600	Depth Drilled into Bedrock: NA
Radiological Background: 12 uR, 70cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: cont. acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	10/48	SL-728-SASC-SB-0.0-0.5	1332	ML	2" asphalt sandy silt: dyb (10 YR 4/4), slt. variated (5s grayish bwn 2.5Y 5/2) + 10YR db (10YR 3/3); 70% silt, slt. plasticity, micaceous, hard, strong cementation; 30% sand, pg, f-m, sa-sr; moist, no odor, trace red brick fragments. color Δ: yellowish brown (10YR 5/6). trace siltstone
1.0			10/60				No. coarse sand or siltstone, moderate cementation T. gravel (igneous), pg, f, sa-sr, max ϕ = 0.25".
	4/4						
2.0			10/78				
3.0			10/54				SILT: dk bwn (10YR 3/3); 80% silt, non-plastic, soft, unconsolidated; 20% sand, pg, f-m, mostly m, sa-sr; trace Sc clasts, max ϕ = 1", moist, no odor. 3
4.0		0.0	10/36	SL-728-SASC-SB-4.0-5.0	1334		Same as above, except; 90% silt, very soft, oxidation, w/charcoal stringers; 10% sand, as above, no Sc, color = dyb (10YR 4/4), w/red brick; trace igneous gravel (as above @ 1' bgs).
5.0			10/66	SL-728-SASC-SB-5.0	1335		
	4/4						
6.0			10/96				very moist @ 6' bgs
7.0			10/66			CL	CLAY w/SAND: dyb (10YR 3/4); 85% clay, low plas, very hard, mottling (nt), oxidation; 15% sand, pg, f-m, sa-sr, no odor, moist; trace brick fragments. 7
8.0		0.0	10/78				
	2/2						
9.0			10/36	SL-728-SASC-SB-9.0-10.0	1337		
10.0			10/60	SL-728-SASC-SB-	1338		Same as above.

10.0

CDM Smith

BORING LOG AND SAMPLING RECORD

Brad Green Brion PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-729-8A5C-SB-0.0-0.5 Date/Time 05/21/2012 1426

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BROSA ~~Michael Hoffman~~ MH 5/19/12

Geologist Registration # 63600 ~~7735~~ MH 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze?
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10 YR 4/4

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SV]

Sample ID SL-SA5C-SB-4.0-5.0 (729) Date/Time 05/21/2012 1429

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOISA Michael Hoffman PH 5/19/12

Geologist Registration # 62760 7735 PH 5/19/12

Organization (circle one): (CDM Smith) EPA

Sampler Nacolynn Begay

Analysis

	Parameters	Method	Analyze
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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
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	
Sediments	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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick fragments

Check if Staining [ ]

Color 2.5Y 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SD]

Sample ID TB SL-729-SA5C-SB-5.0 Date/Time 05/21/2011 1428

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOICA ~~Michael Hoffman~~ 5/19/12 Geologist Registration # 6360 ~~7735~~ 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze?
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 2.5Y 4/1

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SV]

Sample ID SL-729-SA5C-SB-9.0-10.0 Date/Time 05/21/2012 1434

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BLOISA ~~Michael Hoffman~~ PH 5/24/12 Geologist Registration # 6360 7735 PHG 5/24/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analysis
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Red Brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SD]

Sample ID SL-729-SA5C-SB-~~4.0~~ 10.0 Date/Time 05/21/2012 1433

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BLOISA 5/19/12 Geologist Registration # ~~7795~~ 6360 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Red brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-729	Subarea: SC	Date Started: Monday 05/21/20 @1311	Date Completed: 05/21/2012
Client: DOE	Project Name/#: SSFL-66268-63376.1203.002.223.02231.SSPH3		Total Depth: 10.1' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS: ✓		Drill Method: DPT	Depth Drilled Into Bedrock: —
Radiological Background: 12uR, 95cpm		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW: —	Sample Method: cont. acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	4/4	0.0	10/142	SL-729-SASC-SB-0.0-0.5	1426	ML	2" asphalt / concrete SAND w/SILT: dyb (10YR 4/4); 80% silt, slt. plasticity, soft; 20% sand, pg, f-m, sa-sr; trace red brick, moist, no odor
1.0			10/154				SANDY SILT: dg (2.5Y 4/1); As above; 70% silt; 30% sand, w/ SS clasts (greenish gray GLEY 1 5/1) t lens, moderate cementation T. red brick / oxidation. — 0.8'
2.0			10/154				oxidation
3.0			10/168				
4.0			10/148	SL-729-SASC-SB-4.0-5.0	1429		
5.0	3.5/4		10/172	SL-729-SASC-SB-5.0	1428		Same as above. SILT w/SAND: vdg (2.5Y 3/1), 80% silt, low plasticity, soft, mod. cementation; 20% sand, pg, f, sa-sr, moist, no odor — 5 very moist 6.5-7.5
6.0			9/160				
7.0			9/140				
8.0			9/178				As above, except color Δ: dyb (10YR 4/4); T. red brick, T. gravel (igneous), pg, f, sa-r, max ϕ=0.25"; moist, no oxidation, hard, strong cementation. T. coarse sand. — 7.5
9.0	2/2		10/180	SL-729-SASC-SB-9.0-10.0	1434		
10.0			10/196	SL-729-SASC-SB-10.0	1433		

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Prepared by Nion PG 6360

TD= 10.1 ft bgs. No GW encountered.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [D]

Sample ID SL-730-SASC-SB-0.0-0.5 Date/Time 05/22/2012 0813

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BLOOM ~~AF 3/14/12~~

Geologist Registration # ~~7735~~ 6360 ~~AF 5/14/12~~

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analysis
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
Herbicides	EPA 8151	
Pesticides	EPA 8081	

Parameter	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	X
NDMA	EPA 1625	
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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/6

Fill Description (circle one)

(Asphalt) Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-730-SASC-SB-4.0-5.0 Date/Time 05/22/2012 0819

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BOLOSA Michael Hoffman PH 5/29/12

Geologist Registration # 63360 7785 PH 5/29/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
Herbicides	EPA 8151	
Pesticides	EPA 8081	

Parameters	Method	Analyze
VOCs	EPA 8260	
1,4 Dioxane	EPA 8260 SIM	
TPH-GRO	EPA 8015	NA 7/6
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 2.5Y 3/1

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Redbrick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [D]

Sample ID SL-730-SA5C-SB-5.0 Date/Time 05/22/2012 0818

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID ———

Geologist MARGARET BLOCA ~~Michael Hoffman~~ PH 5/19/12 Geologist Registration # 6360 ~~7735~~ PH 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analysis
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 2.5Y 3/1

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check 80

Sample ID SL-730-SASC-SB-9.0-10.0 Date/Time 05/22/2012 0823

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BLOCH 5/19/12 Geologist Registration # ~~1735~~ 6260 PH 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present ☐

Check if Staining ☐

Color 2.5Y 4/6

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-730-SA5C-SB-10.0 **Date/Time** 05/22/2012 0822

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BLOCSA 5/19/12 **Geologist Registration #** ~~7735~~ 6360 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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?
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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color 2.5 Y 4/6

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID: DO-730	Subarea: SC	Date Started: Tuesday 05/22/2012 0756	Date Completed: 5.22.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10 'bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS: ✓		Drill Method: DPT	Depth Drilled into Bedrock: —
Radiological Background: 10 µR, 93 cpm		Borehole diameter: 2.25"	
PID Background: 1.0 ppm		Depth to GW: —	Sample Method: cont. acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	10/60	SL-730-SASC-SB-0.0-0.5	0813	ML	2" asphalt SANDY SILT : dyb (10YR 4/6); 70% silt, slt. plasticity, firm, moderate cementation, oxidation; 30% sand, pg, f-m, Trace-c, sa-sr, micaceous; moist, no odor
1.0			10/78				1'
2.0	3.5/4		10/54				
3.0			10/54				SANDY SILT: ↓ss and dark grey (5Y 4/1) ← silt color Δ: greenish gray (5GEY 1 5/1), 70% silt, non-plastic, soft, unconsolidated, 30% sand, pg, f-m, mostly m, sa-sr, moist, no odor. T. red brick fragments, T. consolidated ss clasts max Ø = 0.25" — 3.5
4.0		0.1	10/54	SL-730-SASC-SB-4.0-5.0	0819		4.2
5.0		0.1	10/96	SL-730-SASC-SB-5.0	0818		SILT : vdg (2.5Y 3/1); 85% silt, non-plastic, soft; 15% sand, pg, f, sa-sr, moist, no odor.
6.0	4/4	0.2	10/84				As above, except; color Δ: vdgb (10YR 3/2), T.c gn.
7.0		0.2	10/60				
8.0		0.0	10/54				8.5
9.0	2/2		10/60	SL-730-SASC-SB-9.0-10.0	0823	ML	SILT w/SAND : ol. brn (2.5Y 4/6), slt. variagated w/ vdg (2.5Y 3/1) w/oxidation (dyb 10YR 4/6); 80% silt, low plas, hard; 20% sand, pg, f-m, sa-sr; moist, no odor
10.0			10/48	SL-730-SASC-SB-10.0	0822		Total depth of borehole to 10' bgs. No GW.

CDM Smith

BORING LOG AND SAMPLING RECORD

Rosemarie Allison PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-731-SA5C-SB-0.0-0.5 Date/Time 05/22/2012 1048 SD 05/21/2012

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOCK ~~Michael Hoffman~~ PM 5/19/12

Geologist Registration # 6360 ~~7735~~ AH 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR 4/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-731-SASC-SB-4.0-5.0 Date/Time 05/22/2012 1054

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOISA ~~Michael Hoffman~~ MH 5/19/12

Geologist Registration # 6360 ~~7735 PG~~ 5/19/12

Organization (circle one): (CDM Smith) EPA

Sampler Nacolynn Begay

Analysis

Parameter	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) brick fragments

Check If Staining ☐

Color 2.5 Y ~~5/2~~ 5/6 3/1

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-731-SA5C-SB-5.0 **Date/Time** 05/22/2012 1053

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOSS ~~Michael Hoffman~~ PH 5/15/12 **Geologist Registration #** 6360 ~~7735~~ PH 5/15/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyte(s)
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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)
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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

~~Igneous/Metamorphic Gravel~~

(Other) red brick fragments

Check if Staining ☐ SD 05122012

Color ~~10YR4/4~~ 2.5Y 3/2

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-731-SA5C-SB-9.0-10.0 Date/Time 05/22/2012 1057

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check If Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOOM ~~Michael Hoffman~~ 5/19/12 Geologist Registration # 63760 ~~7735~~ 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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	X
NDMA	EPA 1625	
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

Check If Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 2.5 Y 3/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-73[illegible]-SASC-SB-~~9.0~~10.0 Date/Time 05/22/2012 1056

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~9.0~~ 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOISA ~~Michael Hoffman~~ AH 5/19/12

Geologist Registration # 6360 ~~7795~~ AH 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present ☒

Check if Staining ☐

Color 2.5 Y 3/3

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-731	6C	05/22/2012 @ 1037	05/22/2012

Client: DOE — Project Name/#: SSFL-66258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.1 ' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT	Depth Drilled into Bedrock: —
Radiological Background: 12 µR, 88 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: cont. acetate sleeve
Radiological Equipment Used:	Depth/Time GW after Drilling completed: —	
✓ MicroR ✓ Alpha/Beta ✓ Pancake		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.2	9/60	SL-731-SASC-SB-0.0-0.5	1048	CL	2" asphalt CLAY w/SAND: dyb (10YR 4/4); 80% clay, low plas, very firm, mod→strong cementation, 20% sand, pg, f-m, sa-sr; oxidation, T. red brick, T. SS (weak cementation micaceous, weathered) moist, no odor. (FILL)
1.0		0.2	9/36			ML	SILT w/SAND: vdgb (2.5Y 3/2); 70% silt, slt→low plasticity, firm, mod. cementation, 30% sand (GLEY1 4/1); pg, f-m, sa-sr, in slt & in clasts (weak cementation) — 1.3
2.0	4/4	0.3	10/66				SS weak cementation, micaceous
3.0		0.5	10/54				
4.0		0.3	9/78	SL-731-SASC-SB-4.0-5.0	1054		Same as above. — 4.2 SILT: vdg (2.5Y 3/1); 95% silt, non plastic, soft, 15% sand, pg, f, sa-sr, moist, no odor
5.0		0.3	9/72	SL-731-SASC-SB-5.0	1053		very moist (5.0-5.5 'bgs)
6.0	4/4	0.3	9/60				
7.0		0.3	9/102				
8.0		0.4	9/84				Same as above. — 8 slt variegated
9.0	2/2	0.4	9/96	SL-731-SASC-SB-9.0-10.0	1057	CL	CLAY w/SAND: dolb (2.5Y 3/3); 75% clay, low plas, hard, strong cementation, 25% sand, pg, f-m, sa-sr; oxidation, moist, no odor T.C
10.0		0.4	9/108	SL-731-SASC-SB-10.0	1056		

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Total depth of bore hole to 10.1 ' bgs. No GW encountered.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [✓] MS

Sample ID SL-732-SASC-SB-5.0-6.0 Date/Time 05/22/2012 13:25

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 6.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET ELOISA PH 5/9/12 Geologist Registration # ~~7735 PH 5/9/12~~ 63100

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	EPA 300.0/9056	
	SVOCs	EPA 8270	
	TIC	EPA 8270	
	PAHs	EPA 8270 SIM	X
	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)	X
		EPA 9040 (Water)	
	Hexavalent Chromium	EPA 7196/7199	X
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	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	X
	NDMA	EPA 1625	
Tissue	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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

~~Igneous/Metamorphic~~ Gravel

Other charcoal

Check if Staining [ ]

Color ~~7.5YR 4/3~~ ~~10YR 4/4~~ 7.5YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [9] 200

Sample ID SL-732-SA5C-SB-6.0 Date/Time 05/22/2012 1324

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.0

End Depth 6.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist MARGARET BIOLSA ~~Michael Hoffman~~ PH 5/9/12 Geologist Registration # 6360 ~~7735~~ PH 5/9/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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
Volatiles	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	
Speciation	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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

~~Igneous/Metamorphic Gravel~~ 10YR

Other charcoal

Check if Staining [ ]

Color ~~7.5YR 4/3~~ 10YR 4/4 7.5YR 4/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SD] DD

Sample ID SL-732-SA5C-SB-~~11.0-15.0~~ 10.5-11.5 SD05122012 Date/Time 05/22/2012 13:30

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~11.0~~ 10.5

End Depth ~~15.0~~ 11.5

Depth Units (circle one): Inches (Feet)

Check If Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist MARGARET BROSA ~~Michael Hoffman~~ PH 5/9/12 Geologist Registration # 6360 ~~7735 PG~~ 5/9/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	EPA 300.0/9056	
SVOCs	EPA 8270	
TIC	EPA 8270	
PAHs	EPA 8270 SIM	X
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)	X
	EPA 9040 (Water)	
Hexavalent Chromium	EPA 7196/7199	X
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 5Y 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [X] MB

Sample ID SL-732-SA5C-SB-~~15.0~~ 11.5 SO OSTRACOD Date/Time 05/22/2012 13:29

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~15.0~~ 11.5

End Depth ~~15.0~~ 11.5

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist MARGARET BLOKA Geologist Registration # 63160

Sampler Naolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 5 Y 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-732	Subarea: 5C	Date Started: 5.22.12	Date Completed: 05/22/2012
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.4' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS: ✓		Drill Method: DPT	Depth Drilled into Bedrock: —
Radiological Background: 11 μR, 58 cpm		Borehole diameter: 2.25"	
PID Background: 0.1 ppm		Depth to GW: —	Sample Method: cont. acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.3	9/54			ML	2" asphalt sit. variagated orange oxidation SILT W/SAND: olive brn (2.5Y 4/4), 75% silt, low plas, firm; 25% sand, pg, f, sa-sr; T. sc & siltstone, weak cementation - appears weathered, - intermixed sand lens (weathered sc); oxidation, moist, no odor ↳T. red brick fragments.
1.0		0.2	9/78				
2.0	3.5/4	0.1	9/48				T. SS (6LEY 1 5/1) greenish gray
						SM	2.3-2.8 SANDY SILT dyb (10YR 4/6); 70% sand, pg, f-m, sa-sr; 30% silt, soft, no plas, uncons olidated; moist, no odor — 2.3
3.0		0.1	9/42				— 2.8
							3.2 charcoal
4.0		1.0	8/48			ML	SILT W/SAND: dyb (10YR 4/4), 90% silt, no plasticity, soft; 10% sand, pg, f-T. m, sa-sr; T. gravel (SS-weathered) pg, f, r-sa, max ϕ = 0.25"; moist, no odor.
5.0			8/72	SL-732-SASC-SB-5.0-6.0	1325		Same as above, except lots of oxidation (7.5YR 4/3) Brown; no gravel. T. charcoal. stringers ~50%
6.0	4/4		10/102	SL-732-SASC-SB-6.0	1324		
7.0			9/66				Same as above, except; color Δ; vdg (2.5Y 3/1) - not as many brown stringer ~ 10% — 7.2
8.0		0.1	8/30				SILT W/SAND: dark greenish gray (6LEY 1 10Y 4/1) 80% silt, slt. plasticity, firm, mod-strong cementation, 20% sand, pg, f, sa-sr; T. oxidation (orange); moist, no odor.
9.0	3/4	0.1	8/60				
10.0							M. stringers

CDM Smith

BORING LOG AND SAMPLING RECORD

Rocky Green Mtn DG6360

Location ID:	Subarea:	Date Started:	Date Completed:
DG-732	5C	5.22.12	5.22.12
Project: SSFL		**Geologist:** N. Begay	**Total Depth:** 11.4 'bgs

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0		0.0	8148			ML	SILT w/ SAND : Same as above.
	3/4			SL-732-SASC-SB-10.5-11.5	1330	SM	SANDY SILT ; olive (5Y 4/4) 70% sand ; pg , f-m , sa-sr ; 30% silt, no plasticity, unconsolidated ; moist, no odor. — 10.5
11.0			9166	SL-732-SASC-SB-11.5	1329		CLAY : dgg (GLEY 1 5GY 4/1) ; 90% clay, low plas, v-v hard, 10% sand, pg, f, sa-sr, trace wt. stringers moist, no odor. weak ss found in shoe. cemented — 11.2 — TD = 11.4
12.0							Hit refusal at 11.4' bgs. (1st refusal at 11.1' bgs). No sample at 15'. No GW encountered.
13.0							
14.0							
15.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-733-SASC-SB-0.0-0.5 Date/Time 05/22/2012 0923

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BOLDA PH 5/9/12

Geologist Registration # ~~7735~~ 6360 PH 5/9/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
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	X
NDMA	EPA 1625	
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

Check If Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check If Staining [ ]

Color 10YR 3/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments 2" at surface – fill found around 4'.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check 50

Sample ID SL-733-SASC-SB-4.0-5.0 Date/Time 05/22/2012 0942

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): Surface Soil DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BROSCA ~~Michael Hoffman~~ PH 5/9/12

Geologist Registration # 6360 ~~7735~~ PH 5/15/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyzed
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
Herbicides	EPA 8151	
Pesticides	EPA 8081	

Parameter	Method	Analyzed
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 3/3

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check 50

Sample ID SL-733-SA5C-SB-5.0 Date/Time 05/22/2012 0943

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BRODA 5/19/12 Geologist Registration # ~~17357~~ 63760 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 3/3

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick fragments

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [30]

Sample ID SL-733-SA5C-SB-9.0-10.0 **Date/Time** 05/22/2012 0458

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hollman~~ MARGARET PLOSCA 5/19/12 **Geologist Registration #** ~~7735~~ 63600 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyte
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	X
Herbicides	EPA 8151	
Pesticides	EPA 8081	

Parameters	Method	Analyte
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	X
NDMA	EPA 1625	
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

Check if Fill Material Present [X]

Check if Staining [ ]

Color GLEY 4/1

Percentage Fill (%) 100

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

(Other) Charcoal SD 05/22/2012

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check SD

Sample ID SL-733-SA5C-SB-10.0 Date/Time 05/22/2012 0957

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BEGAY Michael Hoffman PE 5/19/12 Geologist Registration # 6360 7735 PG 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color GLEY1 4/1

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other Charcoal SD 05/22/2012

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
D6-733	SC	05/22/2012 e0911	5.22.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3
Company Name: CDM SMITH	Drill Contractor/Driller: NA
GPS: ✓	Drill Method: DPT / Hand auger
Radiological Background: 12 µR, 77 cpm	Borehole diameter: 2.25"
PID Background: 0.0 ppm	Depth to GW: —
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —

Total Depth: 10' bgs

Depth Drilled into Bedrock: —

Sample Method: DPT cont. acetate liner

Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0	HA	0.2	12/54	SL-733-SASC-SB-0.0-0.5	0923	ML	2" asphalt SILT W/SAND: db (10YR 3/3), 80% silt, slt→low plas, soft, 20% sand, pg, f-m, sa-sr, moist, no odor micaceus.
1.0		1.2	12/72				As above, except; slight plas.
2.0		—	12/84				
3.0		1.6	12/72				Same as above, except trace red brick fragments.
4.0		1.7	12/36	SL-733-SASC-SB-4.0-5.0	0942		
5.0		0.2		SL-733-SASC-SB-5.0	0943	ML	
6.0	3/3	0.8	10/48				SILT W/SAND: d.ol.brwn (2.5Y 3/3), 75% silt, slt. plasticity, soft, weak cementation, 25% sand, pgr f-m, sa-sr; oxidation; moist, no odor. — 6.5'
7.0		0.9	10/42				+ Color Δ: dark greenish gray (GLEY 1 4/1); T. charcoal, oxidation, gravel (igneous), pg, f, r-sa, max ϕ=0.25".
8.0		0.9	10/54				— very moist (8.5-9.5' bgs)
9.0	2/2	0.8	10/54	SL-733-SASC-SB-9.0-10.0	0958		
10.0		0.8	10/66	SL-733-SASC-SB-10.0	0957		Same as above.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Tracey Allison PG6360 Total depth of borehole to 10' bgs. No GW encountered.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-734-SA5C-SB-0.0-0.5 Date/Time 05/21/2012 09:29

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOESS ~~Michael Hoffman~~ Geologist Registration # 6360 ~~7735~~

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-734-SA5C-SB-4.0-5.0 **Date/Time** 05/21/2012 09:33

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist MARGARET BLOKSA Michael Hoffman 05/19/12 **Geologist Registration #** 6360 7735 5/15/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10YR 4/3

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other charcoal, red brick

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-734-SA50-SB-5.0 Date/Time 05/21/2012 09:34

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BLOESA 5/21/12

Geologist Registration # ~~7735~~ 63160 5/21/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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?
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/3

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

~~Igneous/Metamorphic Gravel~~

Other charcoal, red brick

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-734-SA5C-SB- 9.0-10.0 Date/Time 05/21/2012 09:38

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ MARGARET BLOISA ~~PH 5/19/12~~

Geologist Registration # ~~11135~~ 6360 ~~PH 5/19/12~~

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analyze?
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10 YR 4/4

Percentage Fill (%) 100

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

~~Igneous/Metamorphic Gravel~~ rm

(Other) charcoal, red brick

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓ MB

Sample ID SL-734-SA5C-SB-10.0 Date/Time 05/21/2012 09:39

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID –

Geologist MARGARET BLOKSA Michael Hoffman PH 5/19/12

Geologist Registration # 6260 ~~7735~~ PH 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze?
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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?
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10YR 4/4

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

~~Igneous/Metamorphic Gravel~~

(Other) charcoal, red brick

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-734	Subarea: 5C	Date Started: 21 May 2012 - Mon.	Date Completed: 05/21/2012
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10.1 ' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS: ✓		Drill Method: DPT	Depth Drilled into Bedrock: —
Radiological Background:		Borehole diameter: 2.25 "	
PID Background:		Depth to GW: —	Sample Method: 1-ft ~~6~~ Cont. acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed:	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	66	SL-734-SASC-SB-0.0-0.5	0929	ML	2" asphalt SILT W/SAND: brown (10YR 4/3); ~5% silt, no plasticity, soft, unconsolidated; 25% sand, pg, f-m, sa-sr, moist, no odor. WISS (mod. cementation).
1.0			78				oxidation, T. red brick/pipe fragments
2.0	4/4		90				Ss clast
3.0			96				Sc clast & silt stone - moderate cementation micaceous (lrg. biotite flakes) 3.5
4.0		0.0	102	SL-734-SASC-SB-4.0-5.0	0933		SILT: brn (10YR 4/3), 90% silt, no plas, soft T. charcoal; 10% sand, pg, f-m, sa-sr; moist, no odor; oxidation trace coarse
5.0				SL-734-SASC-SB-5.0	0934		
			54				Same as above, except color Δ: dy b (10YR 4/6) 80% silt, 20% sand. T. red brick frag. oxidation
6.0	4/4						
			36				
7.0			48				
8.0		0.0	98				As above, except lt. color Δ: (10YR 4/4)
9.0	2/2		66	SL-734-SASC-SB-9.0-10.0	0938		
10.0				SL-734-SASC-SB-10.0	0939		Same as above.

CDM Smith

BORING LOG AND SAMPLING RECORD

PG6360

TD = 10.1' bgs. No GW encountered.

Δ = change

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-735-SA5C-SB-4.0-5.0 **Date/Time** 05/17/2012 08:53

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa **Geologist Registration #** 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-735-SA5C-SB-5.0 Date/Time 05/17/2012 09:55

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa 5.29.12 ~~Michael Hoffman~~ Geologist Registration # MB 5.29.12 ~~7795~~ 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Inorganics	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
Organotin	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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-735-SA5C-SB-9.0-10.0 Date/Time 05/17/2012 08:58

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist ~~Michael Hoffman~~ Margaret Blosa MB 5.29.12 Geologist Registration # ~~7735~~ 63760 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameter	Method	Analyze?
Inorganics	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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	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	
Specialty	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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [MB]

Sample ID SL-735-SA5C-SB-10.0 Date/Time 05/17/2012 09:59

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa ~~Michael Hoffman~~ MB 5.29.12 Geologist Registration # ~~7735~~ 6360 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 3/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started: PB 5.29.12 16 May 2012	Date Completed: PB 5.29.12 05/16/2012
DB-735	5C		

Client: DOE	Project Name/#: SSFL-85258-63376.1203.002.223.02231.SSPH3	Total Depth: 10.1 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS:	Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 11uR, 89cpm	Borehole diameter:	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	98	surface sampled on 04/12/12	2012	CL	SANDY CLAY: dyb (10YR 4/4); 70% clay, low plasticity, soft, moderate cementation; 30% sand, pg, f-m, mostly m, sa-sr, trac gravel (lignems) @ surface, pg, f, sa-sr, max ϕ = 1"; slightly moist, no odor.
1.0	4/4	0.0	54	–			
2.0							Same as above, except no gravel; oxidation. Sand lens
		0.0	72	–			
3.0							
		0.0	72	–			
4.0				SL-735-SASC-SB-4.0-5.0	0853		Same as above, except, moist.
		0.0	48	SL-735-SASC-SB-5.0	0855		SILT W/SAND: dyb (10YR 3/4); 20% sand, pg, f-m, mostly m, sa-sr; 80% silt, non-plastic, soft, unconsolidated, moist no odor.
5.0	4/4	0.0	42	–			
6.0							
		0.0	60	–			
7.0						CL	CLAY W/SAND: dyb (10YR 3/6); 80% clay, low plas, soft→firm, weak cementation, micaceous, 20% sand, pg, f-m, sa-sr; oxidation, moist, no odor.
		0.0	78	–			
8.0							
		0.0	54	–			
9.0	2.0/2.0						
				SL-735-SASC-SB-9.0-10.0	0858		
		0.0	60	SL-735-SASC-SB-10.0	0859		Same as above
10.0							

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

Geologist: N. Begay PG 6760

TD = 10.1 ft. bgs. No GW encountered

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-736-SA5C-SB-2.0-3.0 Date/Time 05/17/2012 09:45

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ Margaret Bloisa MB 5.29.12 Geologist Registration # ~~17356~~ 10360 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyzed
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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	Analyzed
Soil	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓ MB

Sample ID SL-736-SA5C-SB-4.0-5.0 Date/Time 05/17/2012 09:48

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Blosa MBS 29.12 ~~Michael Hoffman MBS 29.12~~ Geologist Registration # ~~7735~~ 6360 MBS 29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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)	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10 YR 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-736-SA5C-SB-5.0 Date/Time 05/17/2012 09:49

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ Margaret Hosa MB 5.29.12 Geologist Registration # ~~7785~~ 6360 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Inorganics	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	
	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

Check if Fill Material Present ☑

Check if Staining ☐

Percentage Fill (%) 100

Color 10YR 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [TB]

Sample ID SL-736-SA5C-5B-9.0-10.0 Date/Time 05/17/2012 09:51

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ Margaret Bloss MB 5.29.12 Geologist Registration # ~~7795~~ 62360 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Inorganics	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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)	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	
Tributyltin	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

Check if Fill Material Present ☑

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 4/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-736-SA5C-SB-10.0 Date/Time 05/17/2012 09:52

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ Margaret Bloxsa MB 5.29.12 Geologist Registration # ~~7735~~ 63160 MB 5.29.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10 YR 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

~~None~~ Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-736	5C	17 May 2012	5.17.12

Client: DOE	Project Name/#: SSFL-66258-63376.1203.002.223.02231.SSPH3	Total Depth: 10' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT Geoprobe 6600	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 9 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: NA	Sample Method: DPT-acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	78			ML	SANDY SILT : dyb (10YR 4/4); 65%. silt, soft, unconsolidated, micaceous; 35%. sand, pg, f-m, sa-sr slt variated throughout, slt mist, no plasticity. no odor.
1.0							
	4.0/4.0		60				
2.0				SL-736-SASC-SB-2.0-3.0	0945		
			48				
3.0							same as above
			42				
4.0		0.0		SL-736-SASC-SB-4.0-5.0	0948		SILT: dyb (10YR 4/4); 90%. silt, soft, moderate cementation, no plasticity, 10%. sand, pg, f-m, sa-sr; oxidation, slt, moist, no odor. (variated trace, c. -weather rx?)
			84	SL-736-SASC-SB-5.0	0949		
5.0							
	4.0/4.0		54			CL	SANDY CLAY dyb (10YR 4/4); 70%. clay slight plasticity, firm to hard. Mottling; 30%. sand, pg, f-m, 1, c, sa-sr, micaceous, variated (oxidation) t.red (brick/pipe)
6.0							
			60				
7							
			96				
8		0.0					
			58				As above
9	2.0/2.0						SILT dyb (10YR 4/4); same as 4'.
				CL-736-SASC-SB-9.0-10.0	0951		
			60	SL-736-SASC-SB-	0952		
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Grace Lee Mion RG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-737-SA5C-SB-2.5-3.5 Date/Time 05/17/2012 10:45

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloom Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry ~~Moist~~ Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ✓

Sample ID SL-737-SA5C-SB-4.0-5.0 Date/Time 05/17/2012 10:47

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloise Geologist Registration # 6360

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [X] No staining

Color 10YR 4/6

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-737-SA5C-SB-5.0 **Date/Time** 05/17/2012 10:48

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Bloisi **Geologist Registration #** 6360

Sampler Nacolynn Begay

Organization (circle one): ~~EDM Smith~~ EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	
Pestlcides	EPA 8081	

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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/~~Metamorphic Gravel~~

Other _____

Check if Staining ☐

Color 10 YR 4/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry ~~Moist~~ Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-737-SA5C-SB-9.0-10.0 Date/Time 05/17/2012 10:51

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloisa ~~Michael Hoffman~~ PH 5/18/12 Geologist Registration # 6360 ~~7735~~ PH 5/18/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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	

	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other red brick

Check if Staining [ ]

Color 10 YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-737-SA5C-SB-10.0 Date/Time 05/17/2012 10:52

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloisa for Michael Hoffman Registration # 6760 for 17735 05/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other red brick

Check if Staining [ ]

Color 10YR 4/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-737	SE	5.17.12	5.17.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 9' 11" bgs 9.9' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 71cpm	Borehole diameter: 2.25"	
PID Background: 1.0 ppm	Depth to GW: NA	Sample Method: DPT acetate sleeve to jar
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1	NR	0.0	73			ML	SANDY SILT: dyb (10 YR 4/4), 70% silt, no→low plasticity, soft, unconsolidated; trace gravel, pg, f, (igneous); sr-sa, max ϕ = 0.75"; dry, no odor; 30% sand, pg, f-m, mostly m, Trace c, sa-sr.
2	3/4						As above, no gravel
3			84	SL-737-SASC-SB-2.5-3.5	1045		
4			54			3.6	SILT W/SAND: dyb (10YR 4/6), 80% silt, non plastic, soft, weak cementation; 20% sand, pg, f-m, sa-sr. moist, no odor. — 3.6
5			60	SL-737-SASC-SB-4.0-5.0	1047		
	4/4			SL-737-SASC-SB-5.0	1048		
6			30				
7			54				As above. — 7
8			36			7 CL ↓ 8	CLAY W/SAND: dyb (10YR 3/4), 80% clay, low plas, firm, moderate-to strong cementation, micaceous, oxidation; 20% sand, pg, f-m, T.c, sa-sr, weathered trace red (brick/pipe) pieces, moist no odor. — 8
9	2/2		72			ML ↓	SILT W/SAND: (10YR 4/4); 75% silt, low plas, firm mod→strong cementation, 35% sand, pg, f-m, sa-sr, moist, no odor.
10.0			30	SL-737-SASC-SB-9.0-10.0	1051	CL ↓	SANDY CLAY: dyb (10YR 4/4); 70% clay, low plas, soft, 30% sand, pg, f-m, T.c., sa-sr; moist, no odor — 9
				SL-737-SASC-SB-10.0	1052		Total depth of borehole to 9.9' bgs. NO GW.

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Reviewed Mon PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-738-SA5C-SB-0.0-0.5 Date/Time 05/17/2012 12:50

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloise ~~Michael Hoffman~~ MH 5/19/12 Geologist Registration # 62360 ~~27795~~ MH 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Inorganics	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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	

	Parameters	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	
Biological	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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-738-SA5C-SB-4.0-5.0 Date/Time 05/17/2012 13:01

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloisa / Michael Hoffman 5/19/12 Geologist Registration # 6360 / 7735 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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	

	Parameters	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	
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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10 YR 3/3

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one) 10

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-738-SA5C-SB-5.0 Date/Time 05/17/2012 13:02

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist Margaret Bloisa ~~Michael Hoffman~~ PH 5/14/12 Geologist Registration # 6360 ~~17135~~ PG 5/14/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Chemistry	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Chemistry	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining [ ]

Color 10 YR 3/3

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-738-SA5C-SB-9.0-10.0 Date/Time 05/17/2012 13:08

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DP) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bleisa Michael Hoffman PH 5/19/12

Geologist Registration # 6360 ~~7735~~ PH 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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	

	Parameters	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	
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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR 3/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry ~~Moist~~ Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-738-SA5C-SB-[redacted]10.0 Date/Time 05/17/2012 13:09

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloisa / Michael Hoffman 5/24/12 Geologist Registration # 6260 / 7735 5/24/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soil	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR 3/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DB-738	5C	5.17.12	5.17.12

Client: DOE	Project Name/#: SSFL-65258-63378.1203.002.223.02231.SSPH3	Total Depth: 10.1 ' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: ~~NA~~ DPT	Depth Drilled into Bedrock: NA
Radiological Background: 11 μR, 93 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: DPT acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/hr)	Sample Name	Sample Time	USCS	Description of Materials
0	4/4	0.0	48	SL-738-SASC-SB-0.0-0.5	1250	ML	2" Asphalt SANDY SILT : dyb (10YR 4/4); 65%. silt, non plastic, soft, 35%. sand, pg, f-m, sa-sr, T. gravel (formations-weathered), pg, f, sa-sr; max ϕ = 1"; moist, no odor
1.0			66				
2.0			60				As above, except, 70%. silt, 30%. sand
3.0			72				
4.0		0.0	42	SL-738-SASC-SB-4.0-5.0	1301		color Δ: dk brwn (10YR 3/3) SILT : 90%. silt, soft, non plastic, unconsol.; 10%. sand, pg, f-m, sa-sr; moist, no odor
5.0	4/4		72	SL-738-SACC-SB-5.0	1302		oxidation;
6.0			48				As above, except, 80%. silt, 20%. sand. T. red (brick/pipe).
7.0			66				
8.0		0.0	30			CL	CLAY w/SAND : brwn (10YR 4/3); 80%. clay, low plas, soft, 20%. sand, pg, f-m, sa-sr, moist, no odor.
9.0	4/2		54	SL-738-SASC-SB-9.0-10.0	1308	ML	SILT w/SAND : dyb (10YR 3/4), 80% silt, soft, slt. plas, soft, moist, no odor.
10.0				SL-738-SASC-SB-10.0	1309		

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Margaret Begay PG6360 TD = 10.1 ' bgs. No GW encountered.

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-739-SA5C-SB-0.0-0.5 Date/Time 05/17/2012 1445

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa / Michael Hoffman 5/16/12 Geologist Registration # 67300 / ~~7735~~ 5/16/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soil	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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?
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	
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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other YSB

Check if Staining [ ]

Color 10YR 3/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SD]

Sample ID SL-739-SASC-SB-4.0-5.0 Date/Time 05/17/2012 1450

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa / ~~Michael Hoffman~~ 5/17/12

Geologist Registration # 63160 / ~~7736 PH~~ 5/17/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Metals	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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?
Others	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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 10YR 4/4

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other Red brick fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-739-SASC-SB-5.0 Date/Time 05/17/2012 1451

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.0

End Depth 5.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist Margaret Bloisa ~~Michael Hoffman~~ MH 5/19/12 Geologist Registration # 6360 7735 MH 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Soils	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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?
Soils	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	
Sediments	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

Check If Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR 3/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-739-SA5C-SB-9.0-10.0 Date/Time 05/17/2012 14:55

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist Margaret Bloisa / ~~Michael Hoffman~~ 5/17/12

Geologist Registration # 6360 / ~~7735~~ 5/17/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Solids	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	X
		EPA 7470 (Water)	
	Flouride	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?
Solids	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	
Tissues	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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

~~Igneous/Metamorphic Gravel~~

Other _____

Check if Staining ☐

Color 10YR 4/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-739 SASC-SB-9.0-10.0ex (PH 5/30/12) Date/Time 05/24/2012 0745

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID —

Geologist _____ Geologist Registration # _____

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 10YR 4/6

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-739	5C	5.17.12	5.17.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 10.4' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 86 cpm	Borehole diameter: 2.25"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: DPT - acetate sleeve to jar
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	66	SL-739-SASC-SB-0.0-0.5	1445	ML	2" asphalt SANDY SILT: dyb (10YR 4/4); 70% silt, non-plastic, soft, unconsolidated; 30% sand, pg, f-m, sa-sr, moist, no odor. T. red (brick/pipe) chips.
1.0			102				SS — 1
2.0			78				BIK charcol ~1mm.
3.0			90				same as above, Yoxidation — 3.2 SILT: dybrn (10YR 3/3); 90% silt, soft, slt. plas; 10% sand, pg, f, sa-sr; moist, no odor
4.0			66	SL-739-SASC-SB-4.0-5.0	1450		
5.0				SL-739-SASC-SB-6.0	1451		
			96				
6.0			66				SANDY SILT same as above, except; 70% silt, 30% sand.
7.0			114			CL	SANDY CLAY: dyb (10YR 4/4); 70% clay, low plas, hard, strong cementation, oxidation, 30% sand, pg, f-m, sa-sr; trace red pipe fragments. — 7
8.0			66				SANDY SILT: dyb (10YR 4/6), 70% silt, non plas, soft, mod. cementation, oxidation; moist, no odor; T. red brick fragments. — 8
9.0			78	SL-739-SASC-SB-9.0-10.0	1455		same as above
10.0				SL-739-SASC-SB-10.0	1456		

CDM Smith

BORING LOG AND SAMPLING RECORD

Page 1 of 1

Received Nov PG6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-740-SASC-SB-9.0-10.0 Date/Time 05/21/2012 08:50

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (QPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BLOCH Michael Hoffman RH 5/19/12

Geologist Registration # 62360 ~~1735~~ RH 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameters	Method	Analyze
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10YR 4/3

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other Red brick/pipe fragments AND charcol

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID SL-740-SA5C-SB-10.0 Date/Time 05/21/2012 08:51

Matrix (circle one): (Soil) Sediment Water

Start Depth 10.0

End Depth 10.0

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist MARGARET BLOCH PH ~~Michael Hoffman~~ 5/24/12

Geologist Registration # ~~7785~~ MARGARET BLOCH PH 5/19/12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyzed
Soil	Metals	EPA 6010	
		EPA 6020	
		EPA 7471 (Soil)	
		EPA 7470 (Water)	
	Flouride	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	Analyzed
Soil	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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 10YR 4/3

Percentage Fill (%) 100

Odor (circle one)

(None) Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

(Other) Red brick/pipe AND Charcol fragments

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

Location ID: DG-740	Subarea: SC	Date Started: 21 MAY 2012 - Mon.	Date Completed: 05/21/2012
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 10 ft. bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS: ✓		Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 10 uR, 78cpm		Borehole diameter: 2.25"	
PID Background: 0.0 ppm		Depth to GW: —	Sample Method: DPT - 1.75" acetate sleeve
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	54	NA	NA	SM	2" asphalt SILTY SAND: dyb (10YR 3/4); 70% sand, pg, f-m, sa-cr; 30% silt, no plas, soft, unconsolidation; ¼ sandstone mo3t, no odor.
1.0						ML	SANDY SILT: (10YR 4/4); 60% silt, low plas, soft, moist, no odor. — 1'
2.0	4/4		66			SM	Ss SILTY SILT dgb (10YR 4/2); same as 1', w/ trace red brick. Ss has mod. cementation + oxidation — 2
3.0			96				
4.0		0.0	102			ML	SILT: vdg (2.5Y 3/1) and vdb (7.5YR 2.5/3); 90% silt, soft, no plasticity, weak cementation; moist, no odor. — 3.5
5.0			78				
6.0	4/4		48				As above, except color Δ (7.5YR 3/4 dark brown) w/ blk stringers, T. rd brick.
7.0			66				
8.0		0.0	72				Same As above, except color Δ: brown (10YR 4/3). w/ slight plasticity. w/ red brick fragments + blk, charcol stringers.
9.0	2/2		96	SL-740-SASC-SB-9.0-10.0	0850		
10.0			78	SL-740-SASC-SB-10.0	0851		same as above.

CDM Smith

BORING LOG AND SAMPLING RECORD

PG 6360 TD = 10 ft bgs. No GW encountered.

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-741-SA5C-SB-0.0-0.5 Date/Time 07/24/2012 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 NA

Field Geologist Naeolynn Beagay

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	X
	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	X
	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) Red Brick

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 NA

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-741-SA5C-SB-4.0-5.0 **Date/Time** 07/24/2012 0925

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 Nacolynn Bcgay

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	X
	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	X
	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 3/3

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

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature]

Sample ID SL-741-SA5C-SB-4.5 Date/Time 07/24/2012 0924

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 NA

Field Geologist Nacolynn Begay

Sampler Steve Mercer

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 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 Dillon **PG Registration #** 7735

Additional Comments NA

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-741-SA5C-SB-9.0-10.0 Date/Time 07/24/2012 0930

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.0

End Depth 10.0

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 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	X
	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	X
	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 2.5 Y 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-741-SA5C-SB-9.5 Date/Time 07/24/2012 0929

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.5

End Depth 9.5

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	
		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 (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 2.5 Y 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 NA

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
DB-741	SC	7.24.12 - Tues. ~~Thurs~~ 7/24.12	

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA 7.24.12~~ SAFS	10.1, 10.2, 10.3,
GPS:	Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12 µR, 81 cpm	Borehole diameter: 2.75"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: DPT
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		0.0	12/80	SL-741-SASC-SB-0.0-0.5	0920	SC	3" Asphalt
					SM		SANDY CLAY: dyb (10YR 4/4); 75% sand, pg, f-m; ~~30%~~ clay, low plas; ~~20%~~ 7.24.12 moist,
1			9148		9112	N	no odor, r. red brick.
						25	- sandstone - weak cementation
2			9134				
							yellowish red (5YR 4/6)
3			9148				CLAY WITH SAND: dark brown (10YR 3/3); 85% clay, low plas, soft; 15% sand, pg, f, T. m; moist, no odor.
4			9172	SL-741-SASC-SB-4.0-5.0	0925	CL	
				SL-741-SASC-SB-4.5	0924		
5			9154				- color Δ: lt. yb (2.5Y 6/3)
6			9172				
7			9178				SANDY CLAY: lt. olbwn (2.5Y 5/3); 70% clay, low plas, firm; 30% sand, pg, f-m; moist,
						CL	no odor.
8			9184				- ss, oxidation.
						SP SC	SAND WITH CLAY: (2.5Y 5/3); 85% clay, low-med plas; 15% sand, pg, f-m; oxidation, moist,
9			9166	SL-741-SASC-SB-9.0-10.0	0930	SP	no odor.
							7.24.12
			9196	SL-741-SASC-SB-9.5	0929	SP	SAND: (2.5Y 5/6), 95% sand, pg, f-m, 5% silt, no plas, very soft; moist, no odor
10							

SP

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

ABBREVIATIONS:				
amt: amount	gr: grained	pg: poorly graded	t: trace	Δ = change
c: coarse	lt: light	rnd: rounded	v: very	Ss = Sandstone
dk: dark	m: medium	sa: subangular	wg: well graded	
f: fine	mod: moderate	sr: subrounded	ϕ: diameter	

Mike Robertson #7735

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-742-SA5C-SB-0.0-0.5 Date/Time 07/24/2012 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 NA

Field Geologist NaloHynn 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	X
	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	X
	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 10YR4/4

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-742	5C	7.24.12	7.24.12

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3	Total Depth: 1.3, 1.3, 1.3
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 7.24.12 SAFS	
GPS:	Drill Method: DPT	Depth Drilled into Bedrock: NA
Radiological Background: 12193	Borehole diameter: 2.75"	
PID Background: 0.0 ppm	Depth to GW: NA	Sampling Method: DPT
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		0.0	12170	SL-742-SASC-SB-0.0-0.5	1845	CL	3" Asphalt SANDY CLAY: dyb (10YR 4/4); 65% clay, low plas, soft; 35% sand, pg, f-m; T. ss; moist, no odor.
1		0.0	8142			SM SP SM	SAND W/SILT: lt.yb (2.5Y 6/4); 85% sand, pg, f-m, 15% silt, non-plas, soft w/ss pieces; moist, no odor. — 0.8 — 1.3
		0.0	8154				Hit refusal at 1.3' bgs. No GW encountered. No 5 & 10' sample collected.
2							
3							
4							
5							
6							
7							
8							
9							
10							

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

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-743-SA5C-SB-~~2.0~~ 1.0-2.0 ~~3.0~~ **Date/Time** 06/12/2012 0827

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~2.0~~ 1.0 (~~4.12.12~~)

End Depth ~~3.0~~ 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 Nicolynn Boggy

Sampler John Halseth

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	X
	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	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 Bricks

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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-743-SASC-SP-1.0-2.0 (7/6/12)

Date/Time 06/12/2012 0825

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~1.0~~ (7/6/12) 2.0

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 Macalynn Beggy

Sampler John Halseth

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	

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 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 NO CORE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SI-742-SASC SB-4.0-5.0 **Date/Time** 08/12/2012 0830

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 Nicolyn Bogan

Sampler John Halseth

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	X
	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	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 Brick

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 Marla Blechman **PG Registration #** 7735

Additional Comments _____

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By JH

Sample ID SL-748-SASC-SB-~~4.0~~ 5.0 (6.12.12) **Date/Time** 06/17/2012 ~~0836~~ 0829 (6.12.12)

Matrix (circle one): (Soil) Sediment Water

Start Depth ~~4.0~~ (6.12.12) 5.0

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 Nacklynn Begay

Sampler John Halseth

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 (%)** 100 %

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

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel N/A

Other Rubble

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 _____

PC

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-743-SA50-SB-10.0 **Date/Time** 06/12/2012 0837

Matrix (circle one): (Soil) Sediment Water

Start Depth 10

End Depth 10.0

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 Nacalynn Beggs

Sampler John Halath

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	X
	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	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 Mark Hoffman **PG Registration #** 7735

Additional Comments NONE

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SI-743 SASC-SB-[illegible]-10.0 Date/Time 08/12/2012 0835

Matrix (circle one): (Soil) Sediment Water

Start Depth 9.5 10.0

End Depth 10.3

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 Nicolynn Peeyay

Sampler John Halseth

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 _____

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 Mark E. Hoffman **PG Registration #** 7735

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SA-743-SMSB-SB-14.0-15.0 **Date/Time** 06/12/2012 0842

Matrix (circle one): (Soil) Sediment Water

Start Depth 14.0

End Depth 15.0

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 Macelyn Reagy

Sampler John Halseth

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	X
	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	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 5/1

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-748-SASC-SB-14.0-15.0 **Date/Time** 06/12/2012 0540

Matrix (circle one): (Soil) Sediment Water

Start Depth 14.0 15.0

End Depth 15.0

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 Nerayan Begay

Sampler John Halseth

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 5/1

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-743	5C	06/12/2012 @ 0810	6.12.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA ~~GAI~~ SAIC		15.1 ft bgs
GPS: ✓	Drill Method: NA ~~GAI~~ 6.7.12		Depth Drilled into Bedrock: NA
Radiological Background: 11μR/h, 8kcpm	Borehole diameter:		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: cont. macro core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed:		Geologist: N. Beggy

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
1.0		0.0	10/143	SL-743-SASC-SB-1.0-2.0	1027	SL	CLAY: 5yr 6/6 (10YR 5/4); 90% clay, low-slt, plasticity, hard, 10% sand, pg, f; roots, 1 red brick frag, dry, no odor.
2.0			154	SL-743-SASC-SB-2.0	1025		-slt. moist
4.0			154				-moist - as above; except low-N- med. plasticity
4.0			126	SL-743-SASC-SB-4.0-5.0	1050		CLAY w/SAND: 5yr 6/6 (10YR 4/4); 85% clay, low-med plas, stiff, 15% sand, pg, f-m, T red brick + lighter-colored WR, moist, no odor. 1" ~~12~~ 12.12 (SS) w/ +, max ~~1~~ 0.5" rounded gravel size bit of SS - not coarse sand grains (FILL)
5.0			130	SL-743-SASC-SB-5.0	1055		
6.0			154				SANDY CLAY: 5yr 6/6 (10YR 4/4); 70% clay, low plas, stiff, 30% SS (formation - weathered + break of mountain) with pockets of rotten SS - hard 11 yr 6/2 (2.5Y 6/2) hard consistency - 2" f-m, moist, hard, T. gravel (lightweight) pg, f, r. clay max ϕ = 0.25".
7.0			160				
8.0			137				
9.0			130	SL-743-SASC-SB-9.0-10.0	1037		CLAY WITH SAND: 5yr 6/6 (10YR 4/4); 85% clay, ~~SAND WITH CLAY~~: med plas, firm, 15% sand, pg, f; 10-137; no odor. T. siltstone + Ss.
			148	SASC-SB-10.0	1039		

CDM Smith

BORING LOG AND SAMPLING RECORD

Location ID:	Subarea:	Date Started:	Date Completed:
DE-743	5C	06/12/2012 →	→
Project: SSFL		**Geologist:** N Begay	**Total Depth:**

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
		0.0	10/48			CL	Same as above : CLAY N/ SAND
11.0	3.5/4		10/54				
						CH	CLAY : reddish brown (5YR 4/4); 95% clay, high plasticity, PI=23, LL=42.2, 5% sand, pg. 5
12.0			10/24			GP	GRAVEL w/ SAND gray (10YR 5/1); 75% gravel, (igneous) pg. C, SA-SR, max ϕ = 0.75", moist, no odor
13.0			10/76				
	2/4						
14.0			12/66	SL-743-SA5C-SB-14.0-15.0	0842		
		✓	10/54	SL-743-SA5C-SB-15.0	0840	✓	
15.0							Total depth of borehole to 15 ft. bgs. No GW encountered.

11.2
14

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ BMG

Sample ID SL-744A-SA5C-SB-0.0-0.5 Date/Time 04/10/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Micheal Hoffman~~ MB 5.17.12 MARGARET BROKA MB 5.17.12 Geologist Registration # 7735

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analysis
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 2.5Y 4/3

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ MB

Sample ID SL-744A-SA5C-SB-1.5-2.5 Date/Time 04/16/2012 1445

Matrix (circle one): (Soil) Sediment Water

Start Depth 1.5

End Depth 2.5

Depth Units (circle one): Inches (Feet)

Check if Composite ☐

Collection Method (circle one): ~~Surface Soil~~ DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Micheal Hoffman~~ MB 5.17.12 MARGARET ROSA Geologist Registration # ~~7735~~-6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Analysis
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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
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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Color 2.5 Y 5/6

Percentage Fill (%) 100

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started: @1403	Date Completed:
DE-744A	5C	16 Apr 2012	4.16.12

Client: DOE	Project Name/#: SSFL-65268-63376.1203.002.223.02231.SSPH3	Total Depth:
Company Name: CDM SMITH	Drill Contractor/Driller: NA	2.5' bgs
GPS: ✓	Drill Method: ~~HA~~ HA	Depth Drilled into Bedrock:
Radiological Background: 13 uR, 75cpm	Borehole diameter: ~~2"~~ 4"	NA
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr) (cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	54	SL-744A-SASC-SB-00-0.5	1405	ML	SILT: olive brwn (2.5Y 4/3); 85% silt, low plasticity, w/ SAND soft, 15% sand, pg, f-m, mostly m, sa-sr; trace of gravel (granule), pg, f, max Φ = 0.25"
1.0						ML	SANDY SILT: same as above, except 60% silt, 40% sand.
1.5		0.0	78				As above, except 70% silt, 30% silt
2.0		0.0	66				
2.5	0.2/1.0	0.0	60	SL-744A-SASC-SB-1.5-2.5	1445		As above, except color Δ: lt. olive brwn (2.5Y 5/6) & 60% silt, 40% sand.
3.0							Total depth of borehole to 2.5' bgs. Hand drilling around 2' bgs. 2nd attempt at 2.5' bgs. 1st refusal at 2.0' bgs. Collected sample at 1.5-2.5' bgs instead of 2.5-3.0' bgs.
3.5							
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Geologist Signature PG 6360

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ MB

Sample ID SL-744B-SA5C-SB-0.0-0.5 Date/Time 04/16/2012 1510

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOCK MB 5.17.12 Geologist Registration # ~~7795~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 2.5Y 4/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-744B-SA5C-SB-2.0-3.0 Date/Time 04/16/2012 1515

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Micheal Hoffman~~ al MARGARET BLOISA MB 5.17.12 Geologist Registration # ~~7735~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Parameter	Method	Primary
Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	Primary
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	

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

Check If Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 2.5Y 4/3

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
DG-744B	5C	16 April 2012	4.16.12

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: ~~NA~~ HA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 70cpm	Borehole diameter: 4"	
PID Background: 0.0 ppm	Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: —	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/hr)	Sample Name	Sample Time	USCS	Description of Materials
0.5	0.5/0.5	0.0	78	SL-744B-SA5C-SB-0.0-0.5	1510	ML	SILT: olive brwn (2.5Y 4/3), 95% silt/clay (fines), low plasticity, soft, 5% sand, pg, f, sa-sr, moist, no odor w/plant roots; T. gravel (granite), f, pg, max ϕ = 0.25"
1.0		0.0	66				same as above, except 90% silt, 10% sand. No plant roots
2.0		0.0	50				
2.5	0.5/1.0	0.0	48	SL-744B-SA5C-SB-2.0-3.0	1515		same as above.
3.0							Total depth of borehole to 3.0' bgs, HA to 3' bgs. No groundwater encountered.
3.5							
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

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SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID SL-744C-SA5C-SB-0.0-0.5 Date/Time 04/16/2012 1530

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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ MARGARET BLOISA MB 5.17.12 Geologist Registration # ~~7735~~ 6360 MB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Check if Staining [ ]

Percentage Fill (%) 100

Color 2.5 4/4

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ QM

Sample ID SL-744C-SA5C-SB-2.0-3.0 **Date/Time** 04/16/2012 1540

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): Surface Soil DPT (Hand Auger) Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Micheal Hoffman~~ al MB 5.17.12 MARGARET ROSA MB 5.17.12 **Geologist Registration #** ~~7735~~ 63760

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check If Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

(Igneous/Metamorphic Gravel)

Other Red brick fragments

Check if Staining [ ]

Color 2.5Y 4/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments Trace of red brick fragments throughout & granite gravel.

Location ID: DG-744C	Subarea: 5C	Date Started: @1529 16 April 2012	Date Completed: 4.16.12
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 3.0' bgs
Company Name: CDM SMITH		Drill Contractor/Driller: NA	
GPS: ✓		Drill Method: ~~NA~~ HA	Depth Drilled into Bedrock: NA
Radiological Background: 13 uR, 80 cpm		Borehole diameter: 4"	
PID Background: 0.0 ppm		Depth to GW: —	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake		Depth/Time GW after Drilling completed: —	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	14	SL-744C-SA5C-SB-0.0-0.5	1530	ML	SILT: olive brn (2.5Y 4/4); 95% silt, low plas, soft; 5% sand, f, pg, sa-sr; trace red brick fragments; no odor, moist.
1.0		0.0	—				same as above
1.5							
2.0		0.0	38				SILT: olive brn (2.5Y 4/3); 100% silt/clay(fines), low plas, firm, mxc moist; trace sand, f, pg, sa-sr, trace red brick fragments + gravel, f, pg, sr-sa, max ϕ=0.25"
2.5	0.5/1.0	0.0	60	SL-744C-SA5C-SB-2.0-3.0	1540		same as above, except; 90% silt, 10% sand color Δ: (2.5Y 4/4)
3.0		0.0	40				
3.5							Total depth of borehole is 3.0' bgs. HA to 5.0 (sampled intervals w/slide hammer). No groundwater encountered.
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

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SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑ KH

Sample ID SL-747-SA5C-SB-0.0-0.5 **Date/Time** 04/17/2012 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): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID _____

Geologist ~~Michael Hoffman~~ MARGARET BLOSA NB 5.17.12 **Geologist Registration #** ~~7735~~ 6360 NB 5.17.12

Sampler Nacolynn Begay

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present ☐

Percentage Fill (%) 0

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining ☐

Color 10 YR 3/2

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments _____

Location ID:	Subarea:	Date Started:	Date Completed:
D6-747	5C	@1355 17 April 2012	4.17.12

Client: DOE	Project Name/#: SSFL-65258-83376.1203.002.223.02231.SSPH3	Total Depth: 0.5 ft. bgs
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: NA	Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 74 cpm	Borehole diameter: 2"	
PID Background: 0.0 ppm	Depth to GW: –	Sample Method: SURFACE Slide Hammer
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: –	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
~~0.5~~ 0 – ~~1.0~~ 0.5	0.5/0.5	0.0	72	SL-747-SA5C-SB-00-0.5	1405	ML	SILT: very dgb (10YR 3/2); FINES: 95%, silt, very low plas, soft, unconsolidated. Trace of gravel (strong brn 7.5YR 4/6) moist, no odor SS
0.5							Total depth of boring to 0.5' bgs.
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

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Boring Location PB 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-747-SA5C-SB-2.5-3.5 **Date/Time** 06/26/2012 1401

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 R. Wood

Sampler S. 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 (%)** 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 10 YR - ~~5/6~~ 6/3 SM 6/26/12

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 None

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By _____

Sample ID SL-747-SA5C-SB-3.5 **Date/Time** 06/26/2012 1400

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 R. Wood

Sampler S. Mercer

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 (%)** 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 10 YR - 6/3

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 None

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
SL-747	5C	06/26/2012	06/26/2012

Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3
Company Name: CDM SMITH	Drill Contractor/Driller: NA
GPS: Yes	Drill Method: NA
Radiological Background: 13/87	Borehole diameter: 2 inch
PID Background: 0.0	Depth to GW: N/A
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: N/A

Total Depth: 3.5 ft bgs

Depth Drilled into Bedrock: NA

Sample Method: Slide hammer

Geologist: N.Begay R.WOOD

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
							1 inch of fragmented asphalt at surface
		0.0	13/76			ML	silt with SAND - Brown - 10 YR-4/3 stiff, dry, non-plastic, 20% sand, poorly graded, fine-grained, roots common no staining, no odor
1.0		0.0	13/78				
2.0		0.0	13/72	SL-747-SA5C-SB 2.5-3.5	1401	ML	Sandy Silt - Pale Brown - 10 YR-6/3 - very stiff, moist, non-plastic, 40% sand, well graded, fine to medium grained, no roots, no staining, no odor, weathered bedrock zone native sandstone/siltstone
3.0		0.0	12/78	SL-747-SA5C-SB 3.5	1400		
4.0							

TD = 3.5' bgs No GW Encountered

Julia Hoffman #7735

CDM Smith

BORING LOG AND SAMPLING RECORD

Page ___ of ___

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☒

Sample ID SL-750-SA5C-SB-0.0-0.5 Date/Time 05/29/2012 1147

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): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist Margaret Bloisa Geologist Registration # 63160

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Analyte	Method	Analyze
Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

Analyte	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	

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

Check if Fill Material Present ☒

Percentage Fill (%) 100

Fill Description (circle one)

(Asphalt) Metal Plastic

(Concrete) Wood Glass

(Igneous/Metamorphic Gravel)

Other _____

Check if Staining ☐

Color 10 YR 5/4

Odor (circle one)

(None) Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry (Moist) Wet

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SD]

Sample ID SL-750-SA5C-SB-5.5-6.5 Date/Time 05/29/2012 1156

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.5

End Depth 6.5

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist MARGARET BLOSA Geologist Registration # 6360

Sampler Sandy Do

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	X
	EPA 7470 (Water)	
Flouride	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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100 %

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 2.5Y 6/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments NONE

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check [SV]

Sample ID SL-750-SA5C-SB-6.5 Date/Time 05/29/2012 1155

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.5

End Depth 6.5

Depth Units (circle one): Inches (Feet)

Check if Composite [ ]

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): (N) FD R FB TB

Parent Sample ID Not applicable

Geologist MARGARET BLOUSA Geologist Registration # 6360

Sampler Sandy DO

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	
	EPA 6020	
	EPA 7471 (Soil)	
	EPA 7470 (Water)	
Flouride	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	

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	

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

Check if Fill Material Present [X]

Percentage Fill (%) 100

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Check if Staining [ ]

Color 2.5 Y 6/4

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments NONE

Location ID:	Subarea:	Date Started:	Date Completed:
SL-750	5C	05/29/2012	05/29/2012

Client: DOE	Project Name/#: SSFL-66258-63376.1203.002.223.02231.SSPH3	Total Depth: 6.9 ft
Company Name: CDM SMITH	Drill Contractor/Driller: NA	
GPS: ✓	Drill Method: Direct Push	Depth Drilled into Bedrock: 0 ft
Radiological Background: uR/hr 10/77	Borehole diameter: 2 1/4"	
PID Background: 0.0 ppm	Depth to GW: n/a	Sample Method: macro-core
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: n/a	Geologist: ~~N. Begay~~ R. Wood

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (µR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0.0		0.0	10/81	SL-750-SA5C-SB 0.0-0.5	1147	SP-SM	3" Asphalt poorly graded SAND w/ silt and gravel yellowish Brown (10 YR 5/4), med dense to dense, moist, non-plastic, sand very fine to fine, no odor, no discoloration gravels; 0.25 to 1 inch consist of asphalt, concrete, and igneous gravel Non-native fill
1.0			10/42				
	4/4						
2.0			10/66				
3.0			10/54				
			10/78	FW → VOIDED			
4.0				SL-750 SA5C-SB 4.0-5.0	1151		
			10/54	FW → VOIDED			
5.0	2.9/4.0			SL-750 SA5C-SB 5.0-5.5	1150	ML	sandy silt - light yellowish brown (2.5 Y 6/4), very stiff, dry, non-plastic no odor, no discoloration.
			10/60				
6.0				SL-750 SA5C-SB 5.5-6.5	1156		
			10/72	SL-750 SA5C-SB 6.5	1155		Refusal at 6.9 ft TD = 6.9 ft NO gw encountered
7.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

Professional Geologist RG 6360

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-754-SASC-SB-0.0-0.5 Date/Time 07/09/2012 1440

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	X
	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	
	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) Red brick frag.		

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 #** 7735

Additional Comments DONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-754-SA5C-SB-4.0-5.0 Date/Time 07/09/2012 1445

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 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	X
	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	
	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 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 NONE

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By STEVEN MERCER

Sample ID SL-754-SA5C-SB-6.5-7.5 **Date/Time** 07/09/2012 1450

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 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	X
	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	
	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 Mike Hoffman **PG Registration #** 7735

Additional Comments None

NA – Not Applicable

Location ID: DE-754	Subarea: ~~SB~~ 5C (Snapping)	Date Started: 0710912 - Monday (0437)	Date Completed: →
Client: DOE	Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 7.5', 7.4' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 12 SAES		
GPS:	Drill Method: ~~NA~~ 15 DPT		Depth Drilled into Bedrock: NA
Radiological Background: 12uR, 94cpm	Borehole diameter:		
PID Background: 0.0 ppm	Depth to GW: NA		Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: ↓		Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (uR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	12/92	SL-754-SASC-SB-0.0-0.5	1440	CL	CLAY WITH SAND: dyb (10YR 4/4), 85% clay, low plas, firm-soft; 15% sand, pg, f, T. c, r-sa; T. red brick fragments; slt. moist, no odor, (FILL) (org gn = wt.
1.0		0.0	10/72				
	3.0/4.0						
2.0		0.0	10/84				
3.0		0.0	10/54				
							3.2
						CL	CLAY: ol. brn (2.5Y 4/6), 90% clay, hard, low plas, 10% sand, pg, f-m, slt oxidation (trace), moist, no odor
4		0.0	10/48	SL-754-SASC-SB-4.0-6.0	1445	~~SM~~	~~SILTY SAND~~ 7.9.12
							4.0 MS 7.9.12
5		0.0	10/60				Same as above, except clay, firm → soft.
	3.0/4.0						
6		0.0	10/42				Same as above
				SL-754-SASC-SB-6.5-7.5	1450		
7		0.0	10/72			SP	SAND. yb (10YR 5/6); 95% sand, pg, m-c, sa-SR; 5% silt, non-plas, soft, moist, no odor; oxidation.
							Hit refusal at 7.5 ft bgs. (sandstone - bedrock). No GW encountered.
8		~~0~~ 7.9.12					
9							
10.0							

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL ~~DE~~ 755-SA5C-SB-0.0-0.5 (~~7.10.11~~) Date/Time 07/10/2012 0715

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) Red brick fragments		

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 Mike Hoffman **PG Registration #** 7735

Additional Comments None

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By Steve Mercer

Sample ID SL-755-SA5C-SB-4.0-5.0 Date/Time 07/10/2012 0720

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 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 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 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-755-SASC-SB-4.5 Date/Time 07/10/2012 0719

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 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 SM 7/10/12
		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 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 Mike Hoffman **PG Registration #** 7735

Additional Comments None

NA – Not Applicable

SSFL Phase 3 – Field Sample Data Sheet

CDM Smith

FSDS Checked By [signature] 7.10.12

Sample ID SL-755-SA5C-SB-6.5-6.5 Date/Time 07/10/2012 0730

Matrix (circle one): (Soil) Sediment Water

Start Depth 5.5

End Depth 6.5

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 Nawlynn Begay

Sampler Steven 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 2.5Y 6/3

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 Drill into bedrock (siltstone) ~ 1 ft. bgs.

NA – Not Applicable

SSFL Phase 3 -- Field Sample Data Sheet

CDM Smith

FSDS Checked By

Sample ID SL-755SA5C-SB-6.0 Date/Time 07/10/2012 0729

Matrix (circle one): (Soil) Sediment Water

Start Depth 6.0

End Depth 6.0

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 Nacolynn Begay

Sampler Steve Mercer

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 2.5Y 6/3

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 Bedrock- siltstone

NA – Not Applicable

Location ID:	Subarea:	Date Started:	Date Completed:
D6-755	5C	7/10/2012 - Tues	→

Client: DOE — Project Name/#: SSFL-65258-63376.1203.002.223.02231.SSPH3		Total Depth: 5.8, 6.5 ' bgs
Company Name: CDM SMITH	Drill Contractor/Driller: ~~NA~~ 7.10.12 SAFS	
GPS:	Drill Method: ~~NA~~ 7.10.12 DPT	Depth Drilled Into Bedrock: ~~NA~~ 7.10.12 1' bgs
Radiological Background: 15μR, 90cpm	Borehole diameter: 2.75 "	
PID Background: 0.0 ppm	Depth to GW: ~~2.75 LMS~~ ~~7.10.12~~ NA	Sample Method: DPT
Radiological Equipment Used: ✓ MicroR ✓ Alpha/Beta ✓ Pancake	Depth/Time GW after Drilling completed: NA	Geologist: N.Begay

Depth (feet) bgs	Recovery (feet)	PID (ppm)	Radiological (μR/cpm)	Sample Name	Sample Time	USCS	Description of Materials
0		0.0	15177	SL-755-SASC-SB-0.0-0.5	0715	CL	CLAY WITH SAND: brown (10YR 4/3); 85% clay, low plas, firm, 15% sand, pg, f-m, mostly f; T. oxidation, moist, no odor. Igneous gravel (Trace at surface) pg, f; a-sa, max ϕ = 0.75". T. red brick fragments. T. ss. (weak cementation - weathered)
1.0		0.0	10/30				
2.0	2.0/4.0	0.0	10/66				
3		0.0	10/72				
4		0.0	10/54				
				SL-755-SASC-SB-4.0-5.0	0720	CL	CLAY WITH SILTSTONE: lt. ol. brn 2.5Y 5/3 + oxidized (2.5Y 5/6), 90% clay, low plas, soft; 10% sand, moist, no odor (NATIVE) pg, f; Siltstone bedrock — 4.8
5	1.8/4.0	0.0	10/30	SL-755-SASC-SB-4.5	0719	ML	↳ st. dry-dry lt. y brn (2.5Y 6/3) weak cementation weathered
		0.0	10/30 (54)	SL-755-SASC-SB-5.5-6.5	0730		— 5.8
6							Hit refusal at 5.8 ft. bgs (1st attempt); deeper on following attempt. No GW encountered.
		0.0	10/30	SL-755-SASC-SB-6.0	0729		
7							
8							
9							

Mike Hoffman #7735

10

CDM Smith

BORING LOG AND SAMPLING RECORD

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☐

Sample ID EB 1 - 05 17 12 Date/Time 05/17/12 1400

Matrix (circle one): Soil Sediment (Water)

Start Depth NA

End Depth NA

Depth Units (circle one): Inches Feet

Check if Composite ☐

Collection Method (circle one): (Surface Soil) DPT (Hand Auger) Trenching Sediment

QC Type (circle one): N FD (R) FB TB

Parent Sample ID _____

Geologist ~~Michael Heffman~~ PH 5/19/12 Geologist Registration # ~~7735~~ PH 5/19/12

Sampler ~~Nacolynn Begay~~ Pam Hartman

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Inorganics	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	
		EPA 7470 (Water)	X
	Flouride	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	X
	pH	EPA 9045 (Soil)	
		EPA 9040 (Water)	X
	Hexavalent Chromium	EPA 7196/7199	X
	Herbicides	EPA 8151	
	Pesticides	EPA 8081	

	Parameters	Method	Analyze?
Inorganics	VOCs	EPA 8260	
	1,4 Dioxane	EPA 8260 SIM	
	TPH-GRO	EPA 8015	X
	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	X
	NDMA	EPA 1625	
Organotin	Organotin	NOAA Status and Trends, Krone et al	
Methyl Mercury	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

Check if Fill Material Present ☐

Check if Staining ☐

Color _____

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments Lot # 5130

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check

Sample ID EB2 - 051712 Date/Time 05/17/12 1445

Matrix (circle one): Soil Sediment (Water)

Start Depth NA

End Depth NA

Depth Units (circle one): Inches Feet

Check if Composite ☐

Collection Method (circle one): Surface Soil (DPT) Hand Auger Trenching Sediment

QC Type (circle one): N FD (R) FB TB

Parent Sample ID

Geologist ~~Michael Hoffman~~ 5/19/12 Geologist Registration # ~~7735~~ PG 5/19/12

Sampler ~~Nacolynn Bogay~~ Ben Hartman

Organization (circle one): (CDM Smith) EPA

Analysis

	Parameters	Method	Analyze?
Inorganics	Metals	EPA 6010	X
		EPA 6020	X
		EPA 7471 (Soil)	
		EPA 7470 (Water)	X
	Flouride	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)	
		EPA 9040 (Water)	X
	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	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	
Specialty	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

Check if Fill Material Present ☐

Check if Staining ☐

Color _____

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments Lot # 5930

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check TG

Sample ID EB-051012 **Date/Time** 05/10/12 1502

Matrix (circle one): Soil Sediment (Water)

Start Depth – NA

End Depth – NA

Depth Units (circle one): Inches Feet

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT Hand Auger Trenching Sediment

QC Type (circle one): N FD (R) FB TB

Parent Sample ID NA

Geologist – NA **Geologist Registration #** – NA

Sampler – NA

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	
	EPA 7470 (Water)	X
Flouride	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	X
pH	EPA 9045 (Soil)	
	EPA 9040 (Water)	X
Hexavalent Chromium	EPA 7196/7199	X
Herbicides	EPA 8151	X
Pesticides	EPA 8081	X

VOCs	EPA 8260	X
1,4 Dioxane	EPA 8260 SIM	X
TPH-GRO	EPA 8015	X
TPH-EFH	EPA 8015	X
Glycols	EPA 8015	X
Alcohols	EPA 8015	X
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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Color _____

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments Surface soil and hand augering

Lot # 051302 S1222

(TP) 0511013

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check TT

Sample ID ~~EB-050312~~ EB-050312 Date/Time 05/03/2012 1450

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

Start Depth NA

End Depth NA

Depth Units (circle one): Inches | Feet

Check if Composite ☐

Collection Method (circle one): (Surface Soil) | DPT | Hand Auger | Trenching | Sediment

QC Type (circle one): N | FD | (R) | FB | TB

Parent Sample ID NA

Geologist – NA

Geologist Registration # – NA

Sampler – NA

Organization (circle one): (CDM Smith) | EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	
	EPA 7470 (Water)	X
Flouride	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	X
pH	EPA 9045 (Soil)	
	EPA 9040 (Water)	X
Hexavalent Chromium	EPA 7196/7199	X
Herbicides	EPA 8151	
Pesticides	EPA 8081	

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	X
NDMA	EPA 1625	
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

Check if Fill Material Present ☐

Check if Staining ☐

Color _____

Percentage Fill (%) _____

Odor (circle one)

None Slight Strong

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments Surface soil and hand digging

Lot # 5109

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check TP

Sample ID EB-042612 Date/Time 4/26/12 1450

Matrix (circle one): Soil Sediment (Water)

Start Depth NA

End Depth NA

Depth Units (circle one): Inches Feet

Check if Composite ☐

Collection Method (circle one): (Surface Soil) DPT Hand Auger Trenching Sediment

QC Type (circle one): N FD (R) FB TB

Parent Sample ID NA

Geologist ~~Micheal Hoffman~~ NA Geologist Registration # ~~7735~~ NA

Sampler ~~Nacolynn Begay~~ Pam Hartman

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	
	EPA 7470 (Water)	X
Flouride	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	X
pH	EPA 9045 (Soil)	
	EPA 9040 (Water)	X
Hexavalent Chromium	EPA 7196/7199	X
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	

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

Check if Fill Material Present ☐

Check if Staining ☐

Percentage Fill (%) _____

Color _____

Fill Description (circle one)

Asphalt Metal Plastic

Concrete Wood Glass

Igneous/Metamorphic Gravel

Other _____

Odor (circle one)

None Slight Strong

Odor Description (circle one)

Organic Petroleum Chemical

Other _____

Moisture Condition (circle one)

Dry Moist Wet

Additional Comments Surface soil and hand augering to 3 ft bgs completed this week

lot # 51091

SSFL Phase 3 – Field Sample Data Sheet

FSDS QC Check ☑

Sample ID EB-041912 Date/Time 04/19/12 1300

Matrix (circle one): Soil Sediment (Water)

Start Depth — NA

End Depth — NA

Depth Units (circle one): Inches Feet

Check if Composite ☐

Collection Method (circle one): Surface Soil DPT Hand Auger Trenching Sediment

QC Type (circle one): N FD (R) FB TB

Parent Sample ID Surface Sample SASC

Geologist ~~Micheal Hoffman~~ NA MARGARET BROWN EMB 5.17.12

Geologist Registration # ~~7735~~ NA 6360 EMB 5.17.12

Sampler ~~Nacolynn Begay~~ Pam Hartman

Organization (circle one): (CDM Smith) EPA

Analysis

Metals	EPA 6010	X
	EPA 6020	X
	EPA 7471 (Soil)	
	EPA 7470 (Water)	X
Flouride	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	X
pH	EPA 9045 (Soil)	
	EPA 9040 (Water)	X
Hexavalent Chromium	EPA 7196/7199	X
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	X
NDMA	EPA 1625	
Organotin	NOAA Status and Trends, Krone et al	
Methyl Mercury	EPA 1630	

Additional Comments: Surface soil via hand augering

Lot # 51091

Appendix F
Chain of Custodies

SAMPLE DELIVERY GROUP

12D121

SSFL Phase 3 Chain of Custody

12/0/21

CDM Smith

DateShipped: 4/12/2012

CarrierName:

AirbillNo: NA

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120412-02

Cooler #: 1

Lab: EMAX Laboratories, Inc.

Lab Phone: 310-618-8889 x121

	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	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	SL-684-SA5C-SB-0.0-0.5	4/12/2012 13:45	SO	None	1 - SS-Sleeve	10 day	X						X			X			X								X											
2	SL-685-SA5C-SB-0.0-0.5	4/12/2012 12:10	SO	None	1 - SS-Sleeve	10 day	X						X			X			X								X											
3	SL-686-SA5C-SB-0.0-0.5	4/12/2012 11:40	SO	None	1 - SS-Sleeve	10 day	X						X			X			X								X											
4	SL-735-SA5C-SB-0.0-0.5	4/12/2012 10:00	SO	None	1 - SS-Sleeve	10 day	X									X											X											
5	SL-737-SA5C-SB-0.0-0.5	4/12/2012 10:45	SO	None	1 - SS-Sleeve	10 day	X									X											X											
6	SL-683-SA5C-SB-0.0-0.5	4/12/2012 14:10	SO	None	1 - SS-Sleeve	10 day	X						X			X			X								X											
7	SL-679-SA5C-SB-0.0-0.5	4/12/2012 15:07	SO	None	1 - SS-Sleeve	10 day	X						X			X			X								X											
8	SL-681-SA5C-SB-0.0-0.5	4/12/2012 14:35	SO	None	1 - SS-Sleeve	10 day	X						X			X			X								X											

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	4/12/12	[signature]	4/12/12	18:15						

SAMPLE DELIVERY GROUP

12D147

12D147

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 4/16/2012
CarrierName: FedEx
AirbillNo: NA

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120416-01
Cooler #:
Lab: EMAX Laboratories, Inc.
Lab Phone: 310-618-8889 x121

	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
1	SL-691-SA5C-SB-0.0-0.5	4/16/12 11:35	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X							X											
2	SL-690-SA5C-SB-0.0-0.5	4/16/12 11:05	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X							X											
3	SL-689-SA5C-SB-0.0-0.5	4/16/12 10:40	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X							X											
4	SL-688-SA5C-SB-0.0-0.5	4/16/12 09:40	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X							X											
5	SL-687-SA5C-SB-0.0-0.5	4/16/12 10:10	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X							X											
6	SL-692-SA5C-SB-0.0-0.5	4/16/12 13:05	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X							X											
7	SL-693-SA5C-SB-0.0-0.5	4/16/12 13:30	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X							X											
8	SL-744A-SA5C-SB-0.0-0.5	4/16/12 14:05	SO	None	1 - SS-Sleeve	10 day										X																					

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	4/16/12	[signature]	4/16/12	1820						

T = 3.3°C

SAMPLE DELIVERY GROUP

12E155

126155

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/21/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120521-01

Cooler #: 1

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	SL-727-SA5C-SB-0.0-0.5	5/21/12 10:29	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X	X							X	X										MS/MSD
2	SL-727-SA5C-SB-4.0-5.0MS	5/21/12 10:32	SO	None	3 - 4 oz glass	10 day	X	X					X			X			X	X							X											MS/MSD
3	SL-727-SA5C-SB-5.0MS	5/21/12 10:33	SO	None	9 - Encore	10 day																				X		X										
4	SL-727-SA5C-SB-9.0-10.0	5/21/12 10:36	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X	X							X											
5	SL-727-SA5C-SB-10.0	5/21/12 10:37	SO	None	3 - Encore	10 day																				X		X										
6	SL-1027-SA5C-SB-4.0-5.0	5/21/12 11:00	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X	X							X											
7	SL-1027-SA5C-SB-5.0	5/21/12 11:02	SO	None	3 - Encore	10 day																				X		X										
8	SL-734-SA5C-SB-0.0-0.5	5/21/12 09:29	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X	X							X											
9	SL-734-SA5C-SB-4.0-5.0	5/21/12 09:33	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X	X							X											
10	SL-734-SA5C-SB-5.0	5/21/12 09:34	SO	None	3 - Encore	10 day																				X		X										
11	SL-734-SA5C-SB-9.0-10.0	5/21/12 09:38	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X	X							X											
12	SL-734-SA5C-SB-10.0	5/21/12 09:39	SO	None	3 - Encore	10 day																				X		X										
13	SL-740-SA5C-SB-9.0-10.0	5/21/12 08:50	SO	None	1 - 4 oz glass	10 day																				X		X										
14	SL-740-SA5C-SB-10.0	5/21/12 08:51	SO	None	3 - Encore	10 day																				X		X										
15	SL-728-SA5C-SB-0.0-0.5	5/21/12 13:32	SO	None	1 - 4 oz glass	10 day																				X		X										
16	SL-728-SA5C-SB-4.0-5.0	5/21/12 13:34	SO	None	1 - 4 oz glass	10 day																				X		X										
17	SL-728-SA5C-SB-5.0	5/21/12 13:35	SO	None	3 - Encore	10 day																				X		X										
18	SL-728-SA5C-SB-9.0-10.0	5/21/12 13:37	SO	None	1 - 4 oz glass	10 day																				X		X										
19	SL-728-SA5C-SB-10.0	5/21/12 13:38	SO	None	3 - Encore	10 day																				X		X										
20	SL-729-SA5C-SB-0.0-0.5	5/21/12 14:26	SO	None	1 - 4 oz glass	10 day																				X		X										
21	SL-729-SA5C-SB-4.0-5.0	5/21/12 14:29	SO	None	1 - 4 oz glass	10 day																				X		X										
22	SL-729-SA5C-SB-5.0	5/21/12 14:28	SO	None	3 - Encore	10 day																				X		X										
23	SL-729-SA5C-SB-9.0-10.0	5/21/12 14:34	SO	None	1 - 4 oz glass	10 day																				X		X										
24	SL-729-SA5C-SB-10.0	5/21/12 14:33	SO	None	3 - Encore	10 day																				X		X										
25	TB-052112	5/21/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																																

T = 3.5° C

SSFL Phase 3 Chain of Custody

125155

CDM Smith
DateShipped: 5/21/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120521-01
Cooler #: 1
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121

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	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[illegible]	5/21/12	[illegible]	5/21/12	1735						

sampler: [illegible]

SAMPLE DELIVERY GROUP

12D165

12D/65

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 4/18/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120418-01

Cooler #:

Lab: EMAX Laboratories, Inc.

Lab Phone: 310-618-8889 x121

	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	SL-570-SA5C-SB-0.0-0.5	4/18/12 09:00	SO	None	1 - SS-Sleeve	10 day	X						X				X	X	X	X							X											
2	SL-570-SA5C-SB-2.0-3.0	4/18/12 10:30	SO	None	1 - SS-Sleeve	10 day	X						X				X	X	X	X							X											
3	SL-580-SA5C-SB-0.0-0.5	4/18/12 11:00	SO	None	1 - SS-Sleeve	10 day	X						X				X	X	X	X							X											
	SL-580-SA5C-SB-0.0-0.5	4/18/12 11:00	SO	None	1 - 4 oz glass	10 day															X																	
4	SL-580-SA5C-SB-4.0-5.0	4/18/12 11:30	SO	None	1 - SS-Sleeve	10 day	X						X				X	X	X	X							X											
	SL-580-SA5C-SB-4.0-5.0	4/18/12 11:30	SO	None	1 - 4 oz glass	10 day															X																	
5	SL-579-SA5C-SB-0.0-0.5	4/18/12 14:04	SO	None	1 - SS-Sleeve	10 day	X						X				X	X	X	X							X											
	SL-579-SA5C-SB-0.0-0.5	4/18/12 14:04	SO	None	1 - 4 oz glass	10 day															X																	
6	SL-579-SA5C-SB-4.0-5.0	4/18/12 14:30	SO	None	1 - SS-Sleeve	10 day	X						X				X	X	X	X							X											
	SL-579-SA5C-SB-4.0-5.0	4/18/12 14:30	SO	None	1 - 4 oz glass	10 day															X																	

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		4/18/12		4/18/12	18:10						

T = 2.0°

SAMPLE DELIVERY GROUP

12D175

12075

SSFL Phase 3 Chain of Custody

No: 20120419-03

CDM Smith
DateShipped: 4/19/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

Cooler #:
Lab: EMAX Laboratories, Inc.
Lab Phone: 310-618-8889 x121

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-041912	4/19/12 13:00	WQ	None	7 - 1 L Amber	10 day							X			X										X											
EB-041912	4/19/12 13:00	WQ	None	1 - 500 mL Poly	10 day												X		X	X																
EB-041912	4/19/12 13:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X																														

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	4/19/12	[signature]	4/19/12	18:30						

120175

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 4/19/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120419-01

Cooler #:

Lab: EMAX Laboratories, Inc.

Lab Phone: 310-618-8889 x121

	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
2	SL-513-SA5C-SB-0.0-0.5	4/19/12 10:50	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X							X											
3	SL-515-SA5C-SB-0.0-0.5	4/19/12 10:10	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X							X											
4	SL-516-SA5C-SB-0.0-0.5	4/19/12 09:15	SO	None	1 - SS-Sleeve	10 day	X						X			X			X	X							X											
5	SL-516-SA5C-SB-4.0-5.0	4/19/12 09:40	SO	None	1 - SS-Sleeve	10 day	X						X			X			X	X							X											
6	SL-575-SA5C-SB-0.0-0.5	4/19/12 11:15	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X							X											
7	SL-510-SA5C-SB-0.0-0.5	4/19/12 14:35	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																		
8	SL-518-SA5C-SB-0.0-0.5	4/19/12 14:00	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																		
9	SL-517-SA5C-SB-0.0-0.5	4/19/12 15:00	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																		

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	4/19/12	[signature]	4/19/12	18:30						

COC Rev 1

COC: 20120419-01 Page 1 of 1

SAMPLE DELIVERY GROUP

12D191

12D191

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 4/20/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120420-03
Cooler #:
Lab: EMAX Laboratories, Inc.
Lab Phone: 310-618-8889 x121

	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	SL-501-SA5C-SB-0.0-0.5	4/20/12 09:30	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																	
2	SL-502-SA5C-SB-0.0-0.5MS	4/20/12 08:50	SO	None	3 - SS-Sleeve	10 day	X						X			X		X	X	X																	
3	SL-802-SA5C-SB-0.0-0.5	4/20/12 08:55	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																	
4	SL-507-SA5C-SB-0.0-0.5	4/20/12 10:45	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																	
5	SL-508-SA5C-SB-0.0-0.5	4/20/12 11:05	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																	
6	SL-509-SA5C-SB-0.0-0.5	4/20/12 10:05	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																	
7	SL-574-SA5C-SB-0.0-0.5	4/20/12 13:00	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																	
8	SL-633-SA5C-SB-0.0-0.5	4/20/12 13:30	SO	None	1 - SS-Sleeve	10 day										X																					
9	SL-633-SA5C-SB-2.0-3.0	4/20/12 13:45	SO	None	1 - SS-Sleeve	10 day										X																					
10	SL-634-SA5C-SB-0.0-0.5	4/20/12 14:15	SO	None	1 - SS-Sleeve	10 day										X																					
11	SL-634-SA5C-SB-2.0-3.0	4/20/12 14:40	SO	None	1 - SS-Sleeve	10 day										X																					

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	4/20/12	[signature]	4/20/12	1855						

T = 2.0°C

SAMPLE DELIVERY GROUP

12D198

12D198

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 4/23/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120423-01
Cooler #:
Lab: EMAX Laboratories, Inc.
Lab Phone: 310-618-8889 x121

	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	SL-512-SA5C-SB-0.0-0.5	4/23/12 11:20	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X								X										
2	SL-635-SA5C-SB-0.0-0.5	4/23/12 09:40	SO	None	1 - SS-Sleeve	10 day										X																					
3	SL-635-SA5C-SB-2.0-3.0	4/23/12 10:05	SO	None	1 - SS-Sleeve	10 day										X																					
4	SL-632-SA5C-SB-0.0-0.5	4/23/12 10:35	SO	None	1 - SS-Sleeve	10 day										X																					
5	SL-632-SA5C-SB-2.0-3.0	4/23/12 10:50	SO	None	1 - SS-Sleeve	10 day										X																					
6	SL-520-SA5C-SB-0.0-0.5	4/23/12 14:15	SO	None	1 - SS-Sleeve	10 day										X																					
	SL-520-SA5C-SB-0.0-0.5	4/23/12 14:15	SO	None	1 - 4 oz glass	10 day	X						X			X		X	X																		
7	SL-532-SA5C-SB-0.0-0.5	4/23/12 13:25	SO	None	1 - SS-Sleeve	10 day														X																	
	SL-532-SA5C-SB-0.0-0.5	4/23/12 13:25	SO	None	1 - 4 oz glass	10 day	X						X			X		[redacted]	X																		No Perchlorate SL-532
8	SL-533-SA5C-SB-0.0-0.5	4/23/12 15:15	SO	None	1 - SS-Sleeve	10 day	X						X			X		[redacted]	X																		Do Perchlorate

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	4/23/12	[signature]	4/23/12	1810						

T = 2.2°C

SAMPLE DELIVERY GROUP

12D208

12D208

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 4/24/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120424-01

Cooler #:

Lab: EMAX Laboratories, Inc.

Lab Phone: 310-618-8889 x121

	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	SL-635-SA5C-SB-2.0-3.0	4/23/12 10:05	SO	None	1 - SS-Sleeve	10 day										X																						
2	SL-556A-SA5C-SB-0.0-0.5	4/24/12 11:10	SO	None	1 - SS-Sleeve	10 day										X																						
3	SL-557A-SA5C-SB-0.0-0.5	4/24/12 08:35	SO	None	1 - SS-Sleeve	10 day										X																						
4	SL-557B-SA5C-SB-0.0-0.5	4/24/12 09:00	SO	None	1 - SS-Sleeve	10 day										X																						
5	SL-557C-SA5C-SB-0.0-0.5	4/24/12 09:40	SO	None	1 - SS-Sleeve	10 day										X																						
6	SL-557D-SA5C-SB-0.0-0.5	4/24/12 10:30	SO	None	1 - SS-Sleeve	10 day										X																						
7	SL-524-SA5C-SB-0.0-0.5	4/24/12 15:10	SO	None	1 - SS-Sleeve	10 day	X						X			X			X								X										
8	SL-525-SA5C-SB-0.0-0.5	4/24/12 14:50	SO	None	1 - SS-Sleeve	10 day	X						X			X			X								X										
9	SL-556B-SA5C-SB-0.0-0.5	4/24/12 12:55	SO	None	1 - SS-Sleeve	10 day										X																						
10	SL-556C-SA5C-SB-0.0-0.5	4/24/12 13:40	SO	None	1 - SS-Sleeve	10 day										X																						
11	SL-556D-SA5C-SB-0.0-0.5MS	4/24/12 14:20	SO	None	1 - SS-Sleeve	10 day										X																						
12	SL-856D-SA5C-SB-0.0-0.5	4/24/12 14:30	SO	None	1 - SS-Sleeve	10 day										X																						

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		4/24/12		4/24/12	1730						

T = 2.3°C

SAMPLE DELIVERY GROUP

12D231

SSFL Phase 3 Chain of Custody 120231

CDM Smith

DateShipped: 4/25/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120425-01

Cooler #:

Lab:

Lab Phone:

	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	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	SL-522-SA5C-SB-0.0-0.5	4/25/12 11:20	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X							X											
2	SL-527-SA5C-SB-0.0-0.5	4/25/12 08:40	SO	None	1 - SS-Sleeve	10 day	X						X			X				X							X											
3	SL-528-SA5C-SB-0.0-0.5	4/25/12 09:10	SO	None	1 - SS-Sleeve	10 day	X						X			X				X							X											
4	SL-529-SA5C-SB-0.0-0.5	4/25/12 09:30	SO	None	1 - SS-Sleeve	10 day	X						X			X				X							X											
5	SL-530-SA5C-SB-0.0-0.5	4/25/12 10:30	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																	
6	SL-623-SA5C-SB-0.0-0.5	4/25/12 09:55	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																	
7	SL-523-SA5C-SB-0.0-0.5	4/25/12 14:00	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																	
8	SL-526-SA5C-SB-0.0-0.5	4/25/12 14:35	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X							X											
9	SL-531-SA5C-SB-0.0-0.5	4/25/12 13:25	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X																	
10	SL-698-SA5C-SB-0.0-0.5	4/25/12 15:15	SO	None	1 - SS-Sleeve	10 day							X														X											
11	SL-699-SA5C-SB-0.0-0.5	4/25/12 15:00	SO	None	1 - SS-Sleeve	10 day							X														X											

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	4/25/12									
			[signature]	4/25/12	1800						

T = 4.0°C

SAMPLE DELIVERY GROUP

12D256

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 4/26/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

120256

No: 20120426-01

Cooler #:

Lab: EMAX Laboratories, Inc.

Lab Phone: 310-618-8889 x121

	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-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	SL-571-SA5C-SB-0.0-0.5	4/26/12 08:45	SO	None	1 - SS-Sleeve	10 day	X						X			X			X							X	X	X									
2	SL-695-SA5C-SB-0.0-0.5MS	4/26/12 09:25	SO	None	1 - SS-Sleeve	10 day	X						X			X										X											MS/MSD
	SL-695-SA5C-SB-0.0-0.5MS	4/26/12 09:25	SO	None	1 - 4 oz glass	10 day															X																MS/MSD
3	SL-995-SA5C-SB-0.0-0.5	4/26/12 09:30	SO	None	1 - SS-Sleeve	10 day	X						X			X										X											[redacted]
	SL-995-SA5C-SB-0.0-0.5	4/26/12 09:30	SO	None	1 - 4 oz glass	10 day															X																[redacted]
4	SL-697-SA5C-SB-0.0-0.5	4/26/12 10:40	SO	None	1 - SS-Sleeve	10 day																					X											
5	SL-701-SA5C-SB-0.0-0.5	4/26/12 11:25	SO	None	1 - SS-Sleeve	10 day							X														X											
6	SL-702-SA5C-SB-0.0-0.5	4/26/12 10:55	SO	None	1 - SS-Sleeve	10 day	X												X																			
7	SL-703-SA5C-SB-0.0-0.5	4/26/12 10:20	SO	None	1 - SS-Sleeve	10 day	X						X			X			X								X	X	X									
	SL-703-SA5C-SB-0.0-0.5	4/26/12 10:20	SO	None	1 - 4 oz glass	10 day															X																[redacted]
8	EB-042612	4/19/12 14:50	WQ	None	6 - 1 L Amber	10 day							X			X											X										
	EB-042612	4/19/12 14:50	WQ	None	1 - 1L poly	10 day													X		X																
	EB-042612	4/19/12 14:50	WQ	HNO3 pH<2	1 - 500 mL Poly	10 day	X																														
	EB-042612	4/19/12 14:50	WQ	None	1 - 40 mL Vial	10 day																							X	X							
9	SL-700-SA5C-SB-0.0-0.5	4/26/12 13:30	SO	None	1 - SS-Sleeve	10 day																					X										
10	SL-709-SA5C-SB-0.0-0.5	4/26/12 13:50	SO	None	1 - SS-Sleeve	10 day		X																													
11	SL-711-SA5C-SB-0.0-0.5	4/26/12 14:40	SO	None	1 - SS-Sleeve	10 day	X						X			X			X								X										

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		4/26/12									
										4/26/12	1800

T= 2.3°C

SAMPLE DELIVERY GROUP

12D275

SSFL Phase 3 Chain of Custody

12D275

CDM Smith

DateShipped: 4/30/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120430-01

Cooler #:

Lab: EMAX Laboratories, Inc.

Lab Phone: 310-618-8889 x121

	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	SL-710A-SA5C-SB-0.0-0.5	4/30/12 08:50	SO	None	1 - SS-Sleeve	10 day										X																					
2	SL-710A-SA5C-SB-2.0-3.0	4/30/12 09:00	SO	None	1 - SS-Sleeve	10 day										X																					
3	SL-710B-SA5C-SB-0.0-0.5	4/30/12 09:45	SO	None	1 - SS-Sleeve	10 day										X																					
4	SL-710B-SA5C-SB-2.0-3.0	4/30/12 10:00	SO	None	1 - SS-Sleeve	10 day										X																					
5	SL-710C-SA5C-SB-0.0-0.5	4/30/12 10:20	SO	None	1 - SS-Sleeve	10 day										X																					
6	SL-710C-SA5C-SB-2.0-3.0	4/30/12 10:35	SO	None	1 - SS-Sleeve	10 day										X																					
7	SL-710D-SA5C-SB-0.0-0.5	4/30/12 11:10	SO	None	1 - SS-Sleeve	10 day										X																					
8	SL-710D-SA5C-SB-2.0-3.0	4/30/12 11:15	SO	None	1 - SS-Sleeve	10 day										X																					
9	SL-712-SA5C-SB-0.0-0.5	4/30/12 11:35	SO	None	1 - SS-Sleeve	10 day	X						X			X				X							X										
10	SL-713-SA5C-SB-0.0-0.5	4/30/12 14:15	SO	None	1 - SS-Sleeve	10 day	X						X			X				X							X										
	SL-715-SA5C-SB-0.0-0.5	4/30/12 14:45	SO	None	1 - SS-Sleeve	10 day	X						X			X				X							X										
4	SL-715-SA5C-SB-0.0-0.5	4/30/12 14:45	SO	None	1 - 4 oz glass	10 day															X																
12	SL-720-SA5C-SB-0.0-0.5	4/30/12 15:30	SO	None	1 - SS-Sleeve	10 day	X						X			X				X							X										

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		4/30/12		4/30/12	17:45						

T=2.2°

SAMPLE DELIVERY GROUP

12E004

SSFL Phase 3 Chain of Custody

12E004

CDM Smith

DateShipped: 5/1/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120501-01

Cooler #:

Lab: EMAX Laboratories, Inc.

Lab Phone: 310-618-8889 x121

	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	Terpenvls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	SL-516-SA5C-SB-5.0	5/1/12 10:00	SO	None	3 - Encore	10 day																				X												
2	SL-570-SA5C-SB-1.5	5/1/12 10:30	SO	None	3 - Encore	10 day																				X												
3	SL-579-SA5C-SB-5.0	5/1/12 09:40	SO	None	3 - Encore	10 day																				X												
4	SL-580-SA5C-SB-5.0	5/1/12 09:10	SO	None	3 - Encore	10 day																				X												
5	SL-722-SA5C-SB-0.0-0.5MS	5/1/12 13:25	SO	None	2 - SS-Sleeve	10 day	X						X			X				X							X											MS/MSD
6	SL-1022-SA5C-SB-0.0-0.5	5/1/12 13:30	SO	None	1 - SS-Sleeve	10 day	X						X			X				X							X											
7	TB-050112	5/1/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	05/01/12	1630 [signature]	5/1/12	17:20						

T=4.9°

SAMPLE DELIVERY GROUP

12E018

SSFL Phase 3 Chain of Custody

12E018

No: 20120502-01

CDM Smith

DateShipped: 5/2/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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-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	SL-587-SA5C-SB-0.0-0.5	5/2/12 11:35	SO	None	1 - SS-Sleeve	10 day	X						X		X		X							X											
2	SL-604-SA5C-SB-0.0-0.5	5/2/12 11:55	SO	None	1 - SS-Sleeve	10 day	X						X		X	X	X							X											
3	SL-716-SA5C-SB-0.0-0.5	5/2/12 08:35	SO	None	1 - SS-Sleeve	10 day	X								X		X																		
4	SL-717-SA5C-SB-0.0-0.5	5/2/12 09:15	SO	None	1 - SS-Sleeve	10 day	X								X		X																		
5	SL-718-SA5C-SB-0.0-0.5	5/2/12 09:35	SO	None	1 - SS-Sleeve	10 day	X								X		X																		
6	SL-719-SA5C-SB-0.0-0.5	5/2/12 10:00	SO	None	1 - SS-Sleeve	10 day	X						X		X		X							X											
7	SL-585-SA5C-SB-0.0-0.5	5/2/12 14:00	SO	None	1 - SS-Sleeve	10 day	X						X		X	X	X							X											
8	SL-599-SA5C-SB-0.0-0.5	5/2/12 14:45	SO	None	1 - SS-Sleeve	10 day	X						X		X	X	X							X											
9	SL-600-5A5C-SB-0.0-0.5	5/2/12 14:15	SO	None	1 - SS-Sleeve	10 day	X						X				X																		
10	SL-591-SA5C-SB-0.0-0.5	5/2/12 15:25	SO	None	1 - SS-Sleeve	10 day	X						X																						

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	05/02/12	[signature]	5/2/12	1720						

T = 4.8°C

SAMPLE DELIVERY GROUP

12E034

SSFL Phase 3 Chain of Custody

12E034

CDM Smith

DateShipped: 5/3/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120503-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	SL-602-SA5C-SB-0.0-0.5	5/2/12 15:50	SO	None	1 - SS-Sleeve	10 day							X			X		X	X								X										
2	EB-050312	5/3/12 14:50	WQ	None	7 - 1 L Amber	10 day							X			X											X										
	EB-050312	5/3/12 14:50	WQ	None	1 - 500 mL Poly	10 day											X			X	X																
	EB-050312	5/3/12 14:50	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X																															
	EB-050312	5/3/12 14:50	WQ	HCl	2 - 40 mL Vial	10 day																				X											
	EB-050312	5/3/12 14:50	WQ																																		MS/MSD
3	SL-603-SA5C-SB-0.0-0.5MS	5/3/12 09:15	SO	None	2 - SS-Sleeve	10 day	X						X			X		X	X								X										
4	SL-903-SA5C-SB-0.0-0.5	5/3/12 09:20	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X								X										
5	SL-584-SA5C-SB-0.0-0.5	5/3/12 10:00	SO	None	1 - SS-Sleeve	10 day	X						X			X			X								X										
6	SL-606-SA5C-SB-0.0-0.5	5/3/12 11:30	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X								X										
7	SL-612-SA5C-SB-0.0-0.5	5/3/12 10:55	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X								X										

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	05/04	[signature]	5/3/12	1755						

T=4.8°C

SAMPLE DELIVERY GROUP

12E049

12E049

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/7/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120507-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	EB-050312	5/3/12 14:50	WQ	HCl	2 - 40 mL Vial	10 day																				X												
2	TB-050712	5/7/12 08:00	WQ	HCl	9 - 40 mL Vial	10 day																		X	X	X												
3	SL-586-SA5C-SB-0.0-0.5	5/7/12 10:45	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X	X						X											
4	SL-589-SA5C-SB-0.0-0.5	5/7/12 11:15	SO	None	1 - SS-Sleeve	10 day	X						X							X																	
5	SL-592-SA5C-SB-0.0-0.5	5/7/12 09:00	SO	None	1 - SS-Sleeve	10 day	X													X																	PID=19.6
6	SL-592-SA5C-SB-0.5	5/7/12 09:10	SO	None	9 - Encore	10 day																		X	X	X											
7	SL-595-SA5C-SB-1.0-2.0	5/7/12 13:45	SO	None	1 - SS-Sleeve	10 day										X																					
8	SL-595-SA5C-SB-2.0-3.0	5/7/12 13:50	SO	None	1 - SS-Sleeve	10 day										X																					
9	SL-615-SA5C-SB-0.0-0.5	5/7/12 15:15	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X			X	X				X										

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	05/07/12	[signature]	5/7/12	1720						

Temp = 4.0°C

SAMPLE DELIVERY GROUP

12E055

12E055

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 5/8/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120508-01
Cooler #:
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121

	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-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	SL-536-SA5C-SB-0.0-0.5	5/8/12 11:25	SO	None	1 - SS-Sleeve	10 day	X						X			X			X							X	X	X									
2	SL-547-SA5C-SB-0.0-0.5	5/8/12 10:10	SO	None	1 - SS-Sleeve	10 day	X						X			X			X		X					X	X	X									
3	SL-548-SA5C-SB-0.0-0.5	5/8/12 09:45	SO	None	1 - SS-Sleeve	10 day	X						X			X			X		X					X	X	X									
4	SL-671-SA5C-SB-0.0-0.5	5/8/12 08:30	SO	None	1 - SS-Sleeve	10 day	X						X			X			X							X											
5	SL-673-SA5C-SB-0.0-0.5	5/8/12 08:50	SO	None	1 - SS-Sleeve	10 day	X						X			X			X							X											
6	SL-566-SA5C-SB-0.0-0.5	5/8/12 14:40	SO	None	1 - SS-Sleeve	10 day							X			X																					
7	SL-644-SA5C-SB-1.0-2.0	5/8/12 13:50	SO	None	1 - SS-Sleeve	10 day										X																					
8	SL-644-SA5C-SB-2.0-3.0	5/8/12 14:00	SO	None	1 - SS-Sleeve	10 day										X																					

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	05/08/12	[signature]	5/8/12	1730						

Temp = 6.0 C

SAMPLE DELIVERY GROUP

12E067

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/9/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

128067

No: 20120509-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 7000	Mercury 7471 (Soil)	Mercury 7470 (Water)	Fluoride 300.0/9056	SVOC 8270	TIC 8270	1,4 Dioxane 8270 SIM	[illegible]	Dioxins 1613	[illegible]	Perchlorate 314.0/331	Perchlorate Confirm 6850/6860	[illegible]	pH 9040 (Water)	[illegible]	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-GRO 8015	[illegible]	[illegible]	[illegible]	Terpenols 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	SL-542-SA5C-SB-0.0-0.5	5/9/12 09:00	SO	None	1 - SS-Sleeve	10 day	X						X							X																		
	SL-542-SA5C-SB-0.0-0.5	5/9/12 09:00	SO	None	1 - 4 oz glass	10 day																X																
2	SL-542-SA5C-SB-1.0-2.0	5/9/12 09:30	SO	None	1 - SS-Sleeve	10 day	X						X							X																		
	SL-542-SA5C-SB-1.0-2.0	5/9/12 09:30	SO	None	1 - 4 oz glass	10 day																X																
3	SL-609-SA5C-SB-0.0-0.5	5/9/12 11:13	SO	None	1 - SS-Sleeve	10 day	X										X			X								X	X	X								
4	SL-608-SA5C-SB-0.0-0.5	5/9/12 13:20	SO	None	1 - SS-Sleeve	10 day	X										X			X								X	X	X								
5	SL-613-SA5C-SB-0.0-0.5	5/9/12 13:55	SO	None	1 - SS-Sleeve	10 day							X				X																				

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	5/9/12	[signature]	5/9/12	17:30						

SAMPLE DELIVERY GROUP

12E082

120082

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/10/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120510-03

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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	Terpenvis 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB-051012	5/10/12 15:00	WQ	None	9 - 1 L Amber	10 day							X			X						X	X			X												
EB-051012	5/10/12 15:00	WQ	None	1 - 500 mL Poly	10 day												X		X	X																	
EB-051012	5/10/12 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X																															
EB-051012	5/10/12 15:00	WQ	HCl	8 - 40 mL Vial	10 day																		X	X	X											
EB-051012	5/10/12 15:00	WQ	None	6 - 40 mL Vial	10 day																					X	X									

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Z. Vut m	05/10/12		5-10-12	18:10						

SSFL Phase 3 Chain of Custody

12E082

DateShipped: 5/10/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120510-01
Cooler #:
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121

	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
2	SL-529-SA5C-SB-4.0-5.0	5/9/12 15:20	SO	None	1 - SS-Sleeve	10 day	X						X			X			X								X										
3	SL-529-SA5C-SB-5.0	5/10/12 08:55	SO	None	3 - Encore	10 day																				X											
4	SL-512-SA5C-SB-4.0-5.0	5/10/12 10:30	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X								X										
5	SL-512-SA5C-SB-5.0	5/10/12 10:40	SO	None	3 - Encore	10 day																				X											
6	SL-812-SA5C-SB-0.0-0.5	5/10/12 11:40	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X								X										
7	TB-051012	5/10/12 08:00	WQ	None	3 - 40 mL Vial	10 day																				X											
8	SL-513-SA5C-SB-4.0-5.0	5/10/12 15:00	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X								X										
9	SL-513-SA5C-SB-5.0	5/10/12 15:05	SO	None	3 - Encore	10 day																				X											
10	SL-512-SA5C-SB-0.0-0.5MS	5/10/12 10:00	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X								X										MS/MSD
11	SL-512-SA5C-SB-6.0-7.0	5/10/12 14:05	SO	None	1 - SS-Sleeve	10 day	X						X			X		X	X								X										
12	SL-512-SA5C-SB-7.0	5/10/12 14:15	SO	None	3 - Encore	10 day																				X											

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		51012		5-10-12	1810						

Temp = 6.0°C
= 72°C

SAMPLE DELIVERY GROUP

12E098

12E098

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/14/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120514-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	SL-513-SA5C-SB-9.0-10.0	5/14/12 10:10	SO	None	1 - SS-Sleeve	10 day	X	X					X			X		X	X	X							X											
2	SL-513-SA5C-SB-10.0	5/14/12 10:20	SO	None	3 - Encore	10 day																				X													
3	SL-514-SA5C-SB-4.0-5.0	5/14/12 11:20	SO	None	1 - SS-Sleeve	10 day	X	X					X			X		X	X	X								X											
4	SL-514-SA5C-SB-5.0	5/14/12 11:25	SO	None	3 - Encore	10 day																				X													
5	SL-514-SA5C-SB-9.0-10.0	5/14/12 12:25	SO	None	1 - SS-Sleeve	10 day	X	X					X			X		X	X	X							X											
6	SL-514-SA5C-SB-10.0	5/14/12 12:30	SO	None	3 - Encore	10 day																				X													
7	TB-051412	5/14/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X													

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		5/14/12		5/14/12	17:30						

T = 4.3

SAMPLE DELIVERY GROUP

12E108

SSFL Phase 3 Chain of Custody

12E108

CDM Smith

DateShipped: 5/15/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120515-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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
1	SL-556B-SA5C-SB-2.0-3.0	5/15/12 09:00	SO	None	1 - SS-Sleeve	10 day										X																					
2	SL-556C-SA5C-SB-2.0-3.0	5/15/12 10:30	SO	None	1 - SS-Sleeve	10 day										X																					MS/MSD
3	SL-556D-SA5C-SB-2.0-3.0MS	5/15/12 11:05	SO	None	1 - SS-Sleeve	10 day										X																					
4	SL-856D-SA5C-SB-2.0-3.0	5/15/12 11:10	SO	None	1 - SS-Sleeve	10 day										X																					
5	SL-557A-SA5C-SB-2.0-3.0	5/15/12 15:05	SO	None	1 - SS-Sleeve	10 day										X																					
6	SL-557B-SA5C-SB-2.0-3.0	5/15/12 14:40	SO	None	1 - SS-Sleeve	10 day										X																					
7	SL-557C-SA5C-SB-2.0-3.0	5/15/12 14:00	SO	None	1 - SS-Sleeve	10 day										X																					
8	SL-557D-SA5C-SB-2.0-3.0	5/15/12 13:18	SO	None	1 - SS-Sleeve	10 day										X																					

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	5/15/12	[signature]	5/15/12	1750						

T=3.1C

SAMPLE DELIVERY GROUP

12E116

SSFL Phase 3 Chain of Custody

12E116

CDM Smith

DateShipped: 5/16/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120516-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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)	HexCr 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	SL-695-SA5C-SB-4.0-5.0	5/16/12 08:55	SO	None	1 - SS-Sleeve	10 day	X	X					X			X											X											
	SL-695-SA5C-SB-4.0-5.0	5/16/12 08:55	SO	None	1 - 4 oz glass	10 day															X					X											
2	SL-695-SA5C-SB-5.0	5/16/12 09:15	SO	None	3 - Encore	10 day																				X											
3	SL-695-SA5C-SB-9.0-10.0	5/16/12 09:56	SO	None	1 - SS-Sleeve	10 day	X	X					X			X											X											
	SL-695-SA5C-SB-9.0-10.0	5/16/12 09:56	SO	None	1 - 4 oz glass	10 day															X					X											
4	SL-695-SA5C-SB-10.0	5/16/12 10:10	SO	None	3 - Encore	10 day																				X											
5	SL-697-SA5C-SB-4.0-5.0	5/16/12 11:00	SO	None	1 - SS-Sleeve	10 day																				X											
6	SL-697-SA5C-SB-5.0	5/16/12 11:10	SO	None	3 - Encore	10 day																				X											
7	SL-697-SA5C-SB-9.0-10.0	5/16/12 11:40	SO	None	1 - SS-Sleeve	10 day																				X											
8	SL-697-SA5C-SB-10.0	5/16/12 11:45	SO	None	3 - Encore	10 day																				X											
9	SL-698-SA5C-SB-4.0-5.0	5/16/12 14:05	SO	None	1 - SS-Sleeve	10 day							X																								
10	SL-698-SA5C-SB-5.0	5/16/12 14:10	SO	None	3 - Encore	10 day																				X											
11	SL-698-SA5C-SB-9.0-10.0	5/16/12 15:23	SO	None	1 - SS-Sleeve	10 day							X																								
12	SL-698-SA5C-SB-10.0	5/16/12 15:25	SO	None	3 - Encore	10 day																				X											
13	TB-051612	5/16/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X											

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		05/16/12		5/16/12	1735						

T = 2.7°C

SAMPLE DELIVERY GROUP

12E134

SSFL Phase 3 Chain of Custody 12E134

No: 20120517-03

CDM Smith

DateShipped: 5/17/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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
	EB1-051712	5/17/12 14:00	WQ	None	7 - 1 L Amber	10 day							X			X											X										
	EB1-051712	5/17/12 14:00	WQ	None	1 - 500 mL Poly	10 day												X		X	X																
1	EB1-051712	5/17/12 14:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												
	EB1-051712	5/17/12 14:00	WQ	HCl	2 - 40 mL Vial	10 day																				X											
	EB2-051712	5/17/12 14:45	WQ	None	7 - 1 L Amber	10 day							X			X											X										
	EB2-051712	5/17/12 14:45	WQ	None	1 - 500 mL Poly	10 day														X																	
2	EB2-051712	5/17/12 14:45	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												
	EB2-051712	5/17/12 14:45	WQ	HCl	2 - 40 mL Vial	10 day																				X											

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		5/17/12									
										5/17/12	1815

1) T = 3.2°C

2) T = 4.6°C

SSFL Phase 3 Chain of Custody 12E134

CDM Smith

DateShipped: 5/17/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120517-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	SL-735-SA5C-SB-4.0-5.0	5/17/12 08:53	SO	None	1 - 4 oz glass	10 day	X	X								X			X								X										
4	SL-735-SA5C-SB-5.0	5/17/12 08:55	SO	None	3 - Encore	10 day																				X											
5	SL-735-SA5C-SB-9.0-10.0	5/17/12 08:58	SO	None	1 - 4 oz glass	10 day	X	X								X											X										
6	SL-735-SA5C-SB-10.0	5/17/12 08:59	SO	None	3 - Encore	10 day																				X											
7	SL-736-SA5C-SB-2.0-3.0	5/17/12 09:45	SO	None	1 - 4 oz glass	10 day	X	X																													
8	SL-736-SA5C-SB-4.0-5.0	5/17/12 09:48	SO	None	1 - 4 oz glass	10 day	X	X											X								X										
9	SL-736-SA5C-SB-5.0	5/17/12 09:49	SO	None	3 - Encore	10 day																				X											
10	SL-736-SA5C-SB-9.0-10.0	5/17/12 09:51	SO	None	1 - 4 oz glass	10 day	X	X											X								X										
11	SL-736-SA5C-SB-10.0	5/17/12 09:52	SO	None	3 - Encore	10 day																				X											
12	SL-737-SA5C-SB-2.5-3.5	5/17/12 10:45	SO	None	1 - 4 oz glass	10 day	X	X																													
13	SL-737-SA5C-SB-4.0-5.0	5/17/12 10:47	SO	None	1 - 4 oz glass	10 day	X	X								X			X								X										
14	SL-737-SA5C-SB-5.0	5/17/12 10:48	SO	None	3 - Encore	10 day																				X											
15	SL-737-SA5C-SB-9.0-10.0	5/17/12 10:51	SO	None	1 - 4 oz glass	10 day	X	X								X			X								X										
16	SL-737-SA5C-SB-10.0	5/17/12 10:52	SO	None	3 - Encore	10 day																				X											
17	SL-686-SA5C-SB-4.0-5.0	5/17/12 13:56	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X								X										
18	SL-686-SA5C-SB-5.0	5/17/12 13:57	SO	None	3 - Encore	10 day																				X											
19	SL-686-SA5C-SB-9.0-10.0	5/17/12 14:00	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X								X										
20	SL-686-SA5C-SB-10.0	5/17/12 14:01	SO	None	3 - Encore	10 day																				X											
21	SL-738-SA5C-SB-0.0-0.5	5/17/12 12:50	SO	None	1 - 4 oz glass	10 day	X	X								X			X								X										
22	SL-738-SA5C-SB-4.0-5.0	5/17/12 13:01	SO	None	1 - 4 oz glass	10 day	X	X								X			X								X										
23	SL-738-SA5C-SB-5.0	5/17/12 13:02	SO	None	3 - Encore	10 day																				X											
24	SL-738-SA5C-SB-9.0-10.0	5/17/12 13:08	SO	None	1 - 4 oz glass	10 day	X	X								X			X								X										
25	SL-738-SA5C-SB-10.0	5/17/12 13:09	SO	None	3 - Encore	10 day																				X											
26	SL-739-SA5C-SB-0.0-0.5	5/17/12 14:45	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X								X										
27	SL-739-SA5C-SB-4.0-5.0	5/17/12 14:50	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X								X										
28	SL-739-SA5C-SB-5.0	5/17/12 14:51	SO	None	3 - Encore	10 day																				X											
29	SL-739-SA5C-SB-9.0-10.0	5/17/12 14:55	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X								X										
30	SL-739-SA5C-SB-10.0	5/17/12 14:56	SO	None	3 - Encore	10 day																				X											
31	TB-051712	5/17/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X											

3) T= 6.3 °C

SSFL Phase 3 Chain of Custody

12E134

CDM Smith

DateShipped: 5/17/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120517-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	05/17/12									
									[signature]	5/17/12	1815

SAMPLE DELIVERY GROUP

12E155

12E155

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/21/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120521-01

Cooler #: 1

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	SL-727-SA5C-SB-0.0-0.5	5/21/12 10:29	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X								X										
2	SL-727-SA5C-SB-4.0-5.0MS	5/21/12 10:32	SO	None	3 - 4 oz glass	10 day	X	X					X			X			X								X										MS/MSD
3	SL-727-SA5C-SB-5.0MS	5/21/12 10:33	SO	None	9 - Encore	10 day																				X											MS/MSD
4	SL-727-SA5C-SB-9.0-10.0	5/21/12 10:36	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X								X										
5	SL-727-SA5C-SB-10.0	5/21/12 10:37	SO	None	3 - Encore	10 day																				X											
6	SL-1027-SA5C-SB-4.0-5.0	5/21/12 11:00	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X								X										
7	SL-1027-SA5C-SB-5.0	5/21/12 11:02	SO	None	3 - Encore	10 day																				X											
8	SL-734-SA5C-SB-0.0-0.5	5/21/12 09:29	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X								X										
9	SL-734-SA5C-SB-4.0-5.0	5/21/12 09:33	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X								X										
10	SL-734-SA5C-SB-5.0	5/21/12 09:34	SO	None	3 - Encore	10 day																				X											
11	SL-734-SA5C-SB-9.0-10.0	5/21/12 09:38	SO	None	1 - 4 oz glass	10 day	X	X					X			X			X								X										
12	SL-734-SA5C-SB-10.0	5/21/12 09:39	SO	None	3 - Encore	10 day																				X											
13	SL-740-SA5C-SB-9.0-10.0	5/21/12 08:50	SO	None	1 - 4 oz glass	10 day																				X											
14	SL-740-SA5C-SB-10.0	5/21/12 08:51	SO	None	3 - Encore	10 day																				X											
15	SL-728-SA5C-SB-0.0-0.5	5/21/12 13:32	SO	None	1 - 4 oz glass	10 day																				X											
16	SL-728-SA5C-SB-4.0-5.0	5/21/12 13:34	SO	None	1 - 4 oz glass	10 day																				X											
17	SL-728-SA5C-SB-5.0	5/21/12 13:35	SO	None	3 - Encore	10 day																				X											
18	SL-728-SA5C-SB-9.0-10.0	5/21/12 13:37	SO	None	1 - 4 oz glass	10 day																				X											
19	SL-728-SA5C-SB-10.0	5/21/12 13:38	SO	None	3 - Encore	10 day																				X											
20	SL-729-SA5C-SB-0.0-0.5	5/21/12 14:26	SO	None	1 - 4 oz glass	10 day																				X											
21	SL-729-SA5C-SB-4.0-5.0	5/21/12 14:29	SO	None	1 - 4 oz glass	10 day																				X											
22	SL-729-SA5C-SB-5.0	5/21/12 14:28	SO	None	3 - Encore	10 day																				X											
23	SL-729-SA5C-SB-9.0-10.0	5/21/12 14:34	SO	None	1 - 4 oz glass	10 day																				X											
24	SL-729-SA5C-SB-10.0	5/21/12 14:33	SO	None	3 - Encore	10 day																				X											
25	TB-052112	5/21/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																															

T = 3.5° C

SSFL Phase 3 Chain of Custody

12E155

CDM Smith
DateShipped: 5/21/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120521-01
Cooler #: 1
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121

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	Terpenols 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	5/21/12	[signature]	5/21/12	1735						

sampler: RDeep

SAMPLE DELIVERY GROUP

12E169

SSFL Phase 3 Chain of Custody

12E169

CDM Smith

DateShipped: 5/22/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120522-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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 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
1	SL-730-SA5C-SB-0.0-0.5	5/22/12 08:13	SO	None	1 - 8 oz glass	10 day	X	X					X							X		X					X										
2	SL-730-SA5C-SB-4.0-5.0	5/22/12 08:19	SO	None	1 - 8oz glass	10 day	X	X					X							X		X					X										
3	SL-730-SA5C-SB-5.0	5/22/12 08:18	SO	None	3 - Encore	10 day																				X											
4	SL-730-SA5C-SB-9.0-10.0	5/22/12 08:23	SO	None	1 - 8 oz glass	10 day	X	X					X							X		X					X										
5	SL-730-SA5C-SB-10.0	5/22/12 08:22	SO	None	3 - Encore	10 day																				X											
6	SL-731-SA5C-SB-0.0-0.5	5/22/12 10:48	SO	None	1 - 8 oz glass	10 day	X	X					X							X		X					X										
7	SL-731-SA5C-SB-4.0-5.0	5/22/12 10:54	SO	None	1 - 8 oz glass	10 day	X	X					X							X		X					X										
8	SL-731-SA5C-SB-5.0	5/22/12 10:53	SO	None	3 - Encore	10 day																				X											
9	SL-731-SA5C-SB-9.0-10.0	5/22/12 10:57	SO	None	1 - 8 oz glass	10 day	X	X					X							X		X					X										
10	SL-731-SA5C-SB-10.0	5/22/12 10:56	SO	None	3 - Encore	10 day																				X											
11	SL-733-SA5C-SB-0.0-0.5	5/22/12 09:23	SO	None	1 - 8 oz glass	10 day	X	X					X		X					X		X					X										
12	SL-733-SA5C-SB-4.0-5.0	5/22/12 09:42	SO	None	1 - 8oz glass	10 day	X	X					X		X					X		X					X										
13	SL-733-SA5C-SB-5.0	5/22/12 09:43	SO	None	3 - Encore	10 day																				X											
14	SL-733-SA5C-SB-9.0-10.0	5/22/12 09:58	SO	None	1 - 8 oz glass	10 day	X	X					X		X					X		X					X										
15	SL-733-SA5C-SB-10.0	5/22/12 09:57	SO	None	3 - Encore	10 day																				X											
16	SL-682-SA5C-SB-0.0-0.5	5/22/12 14:50	SO	None	1 - 8 oz glass	10 day	X	X					X		X					X							X										
17	SL-682-SA5C-SB-4.0-5.0	5/22/12 14:54	SO	None	1 - 8 oz glass	10 day	X	X					X		X					X							X										
18	SL-682-SA5C-SB-5.0	5/22/12 14:53	SO	None	3 - Encore	10 day																				X											
19	SL-682-SA5C-SB-9.0-10.0	5/22/12 14:58	SO	None	1 - 8 oz glass	10 day	X	X					X		X					X							X										
20	SL-682-SA5C-SB-10.0	5/22/12 14:57	SO	None	3 - Encore	10 day																				X											
21	SL-732-SA5C-SB-5.0-6.0	5/22/12 13:25	SO	None	1 - 8 oz glass	10 day	X	X					X							X		X					X										
22	SL-732-SA5C-SB-6.0	5/22/12 13:24	SO	None	3 - Encore	10 day																				X											
23	SL-732-SA5C-SB-10.5-11.5	5/22/12 13:30	SO	None	1 - 8 oz glass	10 day	X	X					X							X		X					X										
24	SL-732-SA5C-SB-11.5	5/22/12 13:29	SO	None	3 - Encore	10 day																				X											
25	TB-052212	5/22/12 08:00		None	3 - 40 mL Vial	10 day																				X											

T=5.5°C

SSFL Phase 3 Chain of Custody

12E169

CDM Smith

DateShipped: 5/22/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120522-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		5/22/12		5/24/12	1800						

SAMPLE DELIVERY GROUP

12E187

SSFL Phase 3 Chain of Custody

125187

No: 20120523-02

CDM Smith

DateShipped: 5/23/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	SL-674-SA5C-SB-0.0-0.5	5/23/12 10:59	SO	None	1 - 8 oz glass	10 day	X	X					X			X		X	X								X	X	X								
2	SL-674-SA5C-SB-2.5-3.5	5/23/12 11:02	SO	None	1 - 8 oz glass	10 day	X	X					X			X		X	X								X	X	X								
3	SL-674-SA5C-SB-3.5	5/23/12 11:01	SO	None	3 - Encore	10 day																				X											
4	SL-675-SA5C-SB-0.0-0.5	5/23/12 10:26	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X					X			X										
5	SL-675-SA5C-SB-1.5	5/23/12 10:27	SO	None	3 - Encore	10 day																				X											
6	SL-675-SA5C-SB-0.5-1.5	5/23/12 10:28	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X					X			X										
7	SL-678-SA5C-SB-0.0-0.5	5/23/12 09:42	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X					X			X										
8	SL-678-SA5C-SB-2.5-3.5	5/23/12 09:46	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X					X			X										
9	SL-678-SA5C-SB-3.5	5/23/12 09:45	SO	None	3 - Encore	10 day																				X											
10	SL-679-SA5C-SB-0.5-1.5	5/23/12 09:23	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X									X									
11	SL-679-SA5C-SB-1.5	5/23/12 09:22	SO	None	3 - Encore	10 day																				X											
12	SL-681-SA5C-SB-4.0-5.0	5/23/12 07:59	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X									X									
13	SL-681-SA5C-SB-5.0	5/23/12 07:58	SO	None	3 - Encore	10 day																				X											
14	SL-681-SA5C-SB-7.5-8.5	5/23/12 08:05	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X									X									
15	SL-681-SA5C-SB-8.5	5/23/12 08:06	SO	None	3 - Encore	10 day																				X											
16	SL-676-SA5C-SB-0.0-0.5	5/23/12 14:40	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X					X				X									MS/MSD
17	SL-676-SA5C-SB-4.0-5.0MS	5/23/12 14:43	SO	None	2 - 8 oz glass	10 day	X	X					X			X			X					X				X									MS/MSD
18	SL-676-SA5C-SB-5.0MS	5/23/12 14:42	SO	None	9 - Encore	10 day																				X											
19	SL-976-SA5C-SB-4.0-5.0	5/23/12 15:11	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X					X				X									
20	SL-976-SA5C-SB-5.0	5/23/12 15:08	SO	None	3 - Encore	10 day																				X											
21	SL-671-SA5C-SB-2.0-3.0	5/23/12 13:38	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X									X									
22	SL-671-SA5C-SB-3.0	5/23/12 13:37	SO	None	3 - Encore	10 day																				X											
23	SL-673-SA5C-SB-0.5-1.5	5/23/12 12:45	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X									X									
24	SL-673-SA5C-SB-1.5	5/23/12 12:46	SO	None	3 - Encore	10 day																				X											

T = 2.3°C

SSFL Phase 3 Chain of Custody

12E187

No: 20120523-02

CDM Smith

DateShipped: 5/23/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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	Organotin	Methyl Mercury 1630	Other Analysis/Notes
25 TB-052312	5/23/12	WQ	HCL	3 40mlVials	10day																			X												

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	5/23/12	[signature]	5/23/12	1830						

SAMPLE DELIVERY GROUP

12E204

SSFL Phase 3 Chain of Custody

12E204

CDM Smith

DateShipped: 5/24/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120524-03

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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-052412	5/24/12 15:00	WQ	None	9 - 1 L Amber	10 day								X		X							X			X											
EB-052412	5/24/12 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												
EB-052412	5/24/12 15:00	WQ	HCl	2 - 40 mL Vial	10 day																			X												
EB-052412	5/24/12 15:00	WQ	None	6 - 40 mL Vial	10 day																					X	X									
EB-052412	5/24/12 15:00	WQ	None	1 - 500 mL Poly	10 day													X	X	X	X															

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		5/24/12		5/24/12	18:00						

1) T = 2.3°C

SSFL Phase 3 Chain of Custody

12E204

CDM Smith

DateShipped: 5/24/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120524-02

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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
2	SL-704-SA5C-SB-0.0-0.5	5/24/12 08:46	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X											
3	SL-704-SA5C-SB-4.0-5.0	5/24/12 08:52	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X											
4	SL-704-SA5C-SB-5.0	5/24/12 08:51	SO	None	3 - Encore	10 day																				X												
5	SL-704-SA5C-SB-9.0-10.0	5/24/12 08:57	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X											
6	SL-704-SA5C-SB-10.0	5/24/12 08:56	SO	None	3 - Encore	10 day																				X												
7	SL-694-SA5C-SB-0.0-0.5	5/24/12 11:03	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X								X											
8	SL-694-SA5C-SB-5.0	5/24/12 11:07	SO	None	3 - Encore	10 day																				X												
9	SL-694-SA5C-SB-4.0-5.0	5/24/12 11:08	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X								X											
10	SL-694-SA5C-SB-10.0	5/24/12 11:12	SO	None	3 - Encore	10 day																				X												
11	SL-694-SA5C-SB-9.0-10.0	5/24/12 11:13	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X									X										
12	SL-672-SA5C-SB-0.0-0.5	5/24/12 09:50	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X									X										
13	SL-672-SA5C-SB-5.0	5/24/12 09:48	SO	None	3 - Encore	10 day																				X												
14	SL-672-SA5C-SB-4.0-5.0	5/24/12 09:55	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X									X										
15	SL-739A-SA5C-SB-9.0-10.0	5/24/12 07:45	SO	None	1 - 8 oz glass	10 day										X																						
16	SL-677-SA5C-SB-0.0-0.5	5/24/12 14:23	SO	None	2 - 8 oz glass	10 day	X	X					X			X			X									X										
17	SL-677-SA5C-SB-4.0-5.0	5/24/12 14:33	SO	None	2 - 8 oz glass	10 day	X	X					X			X			X									X										
18	SL-677-SA5C-SB-5.0	5/24/12 14:30	SO	None	3 - Encore	10 day																				X												
19	SL-705-SA5C-SB-0.0-0.5	5/24/12 13:40	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X									X										
20	SL-705-SA5C-SB-4.0-5.0	5/24/12 13:43	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X									X										
21	SL-705-SA5C-SB-5.0	5/24/12 13:42	SO	None	3 - Encore	10 day																				X												
22	SL-705-SA5C-SB-9.0-10.0	5/24/12 13:48	SO	None	1 - 8 oz glass	10 day	X	X					X			X			X									X										
23	SL-705-SA5C-SB-10.0	5/24/12 13:46	SO	None	3 - Encore	10 day																				X												
24	TB-052412	5/24/12 08:00	WQ	None	3 - 40 mL Vial	10 day																				X												

Sampler:

2) T = 2.5°C

SSFL Phase 3 Chain of Custody 12E204

CDM Smith

DateShipped: 5/24/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120524-02

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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 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:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	5/24/12	[signature]	5/24/12	18:00						

SAMPLE DELIVERY GROUP

12E229

SSFL Phase 3 Chain of Custody

12E229

CDM Smith

DateShipped: 5/29/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120529-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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
1	SL-706-SA5C-SB-0.0-0.5	5/29/12 10:54	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X							X											
2	SL-706-SA5C-SB-4.0-5.0	5/29/12 10:59	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X							X											
3	SL-706-SA5C-SB-5.0	5/29/12 10:58	SO	None	3 - Encore	10 day																				X												
4	SL-706-SA5C-SB-9.0-10.0	5/29/12 11:04	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X							X											
5	SL-706-SA5C-SB-10.0	5/29/12 11:03	SO	None	3 - Encore	10 day																				X												
6	SL-723-SA5C-SB-0.0-0.5	5/29/12 10:05	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X							X											
7	SL-723-SA5C-SB-4.0-5.0	5/29/12 10:09	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X							X											
8	SL-723-SA5C-SB-5.0	5/29/12 10:08	SO	None	3 - Encore	10 day																				X												
9	SL-723-SA5C-SB-9.0-10.0	5/29/12 10:13	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X							X											
10	SL-723-SA5C-SB-10.0	5/29/12 10:12	SO	None	3 - Encore	10 day																				X												
11	SL-724-SA5C-SB-0.0-0.5	5/29/12 08:57	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X							X											
12	SL-724-SA5C-SB-4.0-5.0	5/29/12 09:00	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X							X											
13	SL-724-SA5C-SB-5.0	5/29/12 08:59	SO	None	3 - Encore	10 day																				X												
14	SL-724-SA5C-SB-9.0-10.0	5/29/12 09:04	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X							X											
15	SL-724-SA5C-SB-10.0	5/29/12 09:03	SO	None	3 - Encore	10 day																				X												
16	SL-750-SA5C-SB-0.0-0.5	5/29/12 11:47	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X								X										
17	SL-750-SA5C-SB-5.5-6.5	5/29/12 11:56	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X								X										
18	SL-750-SA5C-SB-6.5	5/29/12 11:55	SO	None	3 - Encore	10 day																				X												
19	SL-554-SA5C-SB-0.0-0.5	5/29/12 14:45	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X								X	X	X								
20	SL-555-SA5C-SB-0.0-0.5	5/29/12 14:12	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X								X	X	X								
21	SL-555-SA5C-SB-2.5-3.5	5/29/12 14:14	SO	None	1 - 16 oz glass	10 day	X	X						X			X			X								X	X	X								
22	SL-555-SA5C-SB-3.5	5/29/12 14:13	SO	None	3 - Encore	10 day																				X												
23	SL-620-SA5C-SB-0.0-0.5	5/29/12 15:10	SO	None	1 - 16 oz glass	10 day	X	X						X			X		X	X								X										
24	TB-052912	5/29/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												

T = 2.0 C

SSFL Phase 3 Chain of Custody

12 E229

CDM Smith

DateShipped: 5/29/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120529-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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 314.0/331.1	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

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		05/24/12		5/29/12	1120						

Sample: Received

SAMPLE DELIVERY GROUP

12E244

SSFL Phase 3 Chain of Custody

1 2E 244

CDM Smith

DateShipped: 5/30/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120530-03

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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-053012	5/30/12 15:00	WQ	None	7 - 1 L Amber	10 day							X			X										X											
EB-053012	5/30/12 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												
EB-053012	5/30/12 15:00	WQ	HCl	2 - 40 mL Vial	10 day																			X												
EB-053012	5/30/12 15:00	WQ	None	6 - 40 mL Vial	10 day																					X	X									
EB-053012	5/30/12 15:00	WQ	None	1 - 500 mL Poly	10 day												X		X	X																

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time

12E244

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/30/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120530-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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
2	SL-544-SA5C-SB-0.0-0.5	5/30/12 11:45	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
3	SL-544-SA5C-SB-5.0-6.0	5/30/12 11:51	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
4	SL-544-SA5C-SB-6.0	5/30/12 11:50	SO	None	3 - Encore	10 day																				X												
5	SL-550-SA5C-SB-0.0-0.5	5/30/12 11:15	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
6	SL-560-SA5C-SB-0.0-0.5	5/30/12 10:29	SO	None	1 - SS-Sleeve	10 day	X	X					X			X			X								X	X	X									
	SL-560-SA5C-SB-0.0-0.5	5/30/12 10:29	SO	None	1 - 4 oz glass	10 day															X																
7	SL-560-SA5C-SB-6.5-7.5	5/30/12 10:15	SO	None	1 - SS-Sleeve	10 day	X	X					X			X			X								X	X	X									
8	SL-560-SA5C-SB-7.5	5/30/12 10:14	SO	None	3 - Encore	10 day																				X												
9	SL-752-SA5C-SB-0.0-0.5	5/30/12 08:28	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
	SL-752-SA5C-SB-0.0-0.5	5/30/12 08:28	SO	None	1 - 4 oz glass	10 day															X																
10	SL-621-SA5C-SB-0.0-0.5	5/30/12 14:05	SO	None	1 - 16 oz glass	10 day	X	X								X		X	X								X											
7	SL-560-SA5C-SB-6.5-7.5	5/30/12 10:15	SO	None	1 - 4 oz glass	10 day															X																

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		05/30/12		5/30/12	1840						

T = 4.8°C

SSFL Phase 3 Chain of Custody

12E244

CDM Smith

DateShipped: 5/30/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120530-03

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	Terpenivs 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	EB-053012	5/30/12 15:00	WQ	None	7 - 1 L Amber	10 day							X			X										X											
	EB-053012	5/30/12 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												
	EB-053012	5/30/12 15:00	WQ	HCl	2 - 40 mL Vial	10 day																				X											
	EB-053012	5/30/12 15:00	WQ	None	6 - 40 mL Vial	10 day																					X	X									
	EB-053012	5/30/12 15:00	WQ	None	1 - 500 mL Poly	10 day												X		X	X	X															

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		5/30/12		5/30/12	1840						

T=4.1C

SAMPLE DELIVERY GROUP

12E267

SSFL Phase 3 Chain of Custody

12E267

No: 20120531-03

CDM Smith

DateShipped: 5/31/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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 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
1	EB-053112	5/31/12 15:15	WQ	None	7 - 1 L Amber	10 day							X			X										X											
	EB-053112	5/31/12 15:15	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												
	EB-053112	5/31/12 15:15	WQ	HCl	2 - 40 mL Vial	10 day																				X											
	EB-053112	5/31/12 15:15	WQ	None	6 - 40 mL Vial	10 day																						X	X								
	EB-053112	5/31/12 15:15	WQ	None	1 - 500 mL Poly	10 day											X			X	X	X															

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		5/31/12		5/31/12	1830						

T=5.8

SSFL Phase 3 Chain of Custody

12E267

No: 20120531-01

CDM Smith

DateShipped: 5/31/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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
2	SL-619-SA5C-SB-0.0-0.5	5/30/12 15:20	SO	None	1 - 4 oz glass	10 day	X	X											X																		
3	SL-618-SA5C-SB-0.0-1.0	5/30/12 14:48	SO	None	2 - 4 oz glass	10 day	X	X									X		X						X	X	X										
4	SL-618-SA5C-SB-1.0	5/31/12 08:30	SO	None	9 - Encore	10 day																															
5	SL-608-SA5C-SB-2.0-3.0	5/31/12 11:07	SO	None	1 - 16 oz glass	10 day	X	X								X			X									X	X	X							
6	SL-608-SA5C-SB-3.0	5/31/12 11:06	SO	None	3 - Encore	10 day																				X											
7	SL-611-SA5C-SB-0.0-0.5	5/31/12 11:29	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X								X										
8	SL-611-SA5C-SB-5.0-6.0	5/31/12 11:33	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X								X										
9	SL-611-SA5C-SB-6.0	5/31/12 11:32	SO	None	3 - Encore	10 day																				X											
10	SL-613-SA5C-SB-4.0-5.0	5/31/12 10:15	SO	None	1 - 8 oz glass	10 day										X			X																		
11	SL-613-SA5C-SB-7.5-8.5	5/31/12 10:21	SO	None	1 - 8 oz glass	10 day										X			X																		
12	SL-614-SA5C-SB-0.0-0.5	5/31/12 08:56	SO	None	1 - SS-Sleeve	10 day										X			X																		
13	SL-614-SA5C-SB-3.0-4.0	5/31/12 09:20	SO	None	1 - 8 oz glass	10 day										X			X									X	X	X							
14	SL-610-SA5C-SB-0.0-0.5	5/31/12 14:08	SO	None	2 - SS-Sleeve	10 day	X	X								X			X						X	X	X										
15	TB-053112	5/31/12 08:00	WQ	HCl	9 - 40 mL Vial	10 day																						X	X	X							
16	SL-609-SA5C-SB-3.0-4.0	5/31/12 13:31	SO	None	1 - 16 oz glass	10 day	X	X								X			X								X										
17	SL-609-SA5C-SB-4.0	5/31/12 13:30	SO	None	3 - Encore	10 day																						X									
18	SL-612-SA5C-SB-4.0-5.0MS	5/31/12 14:54	SO	None	2 - 16 oz glass	10 day	X	X					X			X		X	X								X										
19	SL-612-SA5C-SB-5.0MS	5/31/12 14:53	SO	None	9 - Encore	10 day																					X										
20	SL-912-SA5C-SB-4.0-5.0	5/31/12 14:58	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X								X										
21	SL-912-SA5C-SB-5.0	5/31/12 14:57	SO	None	3 - Encore	10 day																					X										
22	SL-612-SA5C-SB-7.0-8.0	5/31/12 15:08	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X								X										
23	SL-612-SA5C-SB-8.0	5/31/12 15:07	SO	None	3 - Encore	10 day																					X										

T=5.5°C

SSFL Phase 3 Chain of Custody

12E267

CDM Smith

DateShipped: 5/31/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120531-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	05/31/12	[signature]	5/31/12	1830						
	[signature]	05/31/12									

COC Rev 1

SAMPLE DELIVERY GROUP

12F020

SSFL Phase 3 Chain of Custody

12F020

CDM Smith

DateShipped: 6/1/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120601-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	EB-060112	6/1/12 14:25	WQ	HCl	6 - 40 mL Vial	10 day																		X	X													
2	SL-558A-SA5C-0.0-0.5	6/1/12 09:22	SO	None	1 - 8 oz glass	10 day										X																						
3	SL-558A-SA5C-2.0-3.0	6/1/12 09:29	SO	None	1 - 8 oz glass	10 day										X																						
4	SL-558B-SA5C-0.0-0.5	6/1/12 09:48	SO	None	1 - SS-Sleeve	10 day										X																						
5	SL-558B-SA5C-2.0-3.0	6/1/12 09:59	SO	None	1 - SS-Sleeve	10 day										X																						
6	SL-558C-SA5C-0.0-0.5	6/1/12 10:41	SO	None	1 - 8 oz glass	10 day										X																						
7	SL-558C-SA5C-2.0-3.0	6/1/12 10:50	SO	None	1 - SS-Sleeve	10 day										X																						
8	SL-558D-SA5C-0.0-0.5	6/1/12 08:48	SO	None	1 - 8 oz glass	10 day										X																						
9	SL-563-SA5C-SB-0.0-0.5	6/1/12 11:31	SO	None	1 - 8 oz glass	10 day							X														X										
10	SL-563-SA5C-SB-4.0-5.0	6/1/12 11:35	SO	None	1 - 8 oz glass	10 day							X														X										
11	SL-563-SA5C-SB-5.0	6/1/12 11:34	SO	None	3 - Encore	10 day																				X											
12	SL-563-SA5C-SB-9.0-10.0	6/1/12 11:38	SO	None	1 - 8 oz glass	10 day							X														X										
13	SL-563-SA5C-SB-10.0	6/1/12 11:37	SO	None	3 - Encore	10 day																				X											
14	TB-060112	6/1/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X											
15	SL-536-SA5C-SB-4.0-5.0	6/1/12 14:27	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X	X	X							
16	SL-536-SA5C-SB-5.0	6/1/12 14:26	SO	None	3 - Encore	10 day																				X											
17	SL-536-SA5C-SB-9.0-10.0	6/1/12 14:33	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X	X	X							
18	SL-536-SA5C-SB-10.0	6/1/12 14:31	SO	None	3 - Encore	10 day																				X											
19	SL-562-SA5C-SB-0.0-0.5	6/1/12 13:39	SO	None	1 - 8 oz glass	10 day							X														X										
20	SL-562-SA5C-SB-4.0-5.0	6/1/12 13:48	SO	None	1 - 8 oz glass	10 day							X														X										
21	SL-562-SA5C-SB-5.0	6/1/12 13:46	SO	None	3 - Encore	10 day																				X											
22	SL-562-SA5C-SB-9.0-10.0	6/1/12 13:51	SO	None	1 - 8 oz glass	10 day							X														X										
23	SL-562-SA5C-SB-10.0	6/1/12 13:50	SO	None	3 - Encore	10 day																				X											

T=2.5°

12F020

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 6/1/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120601-01
Cooler #:
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121

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

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	06/01/12	[signature]	6/1/12	18:30						

Sampler : [signature]

SAMPLE DELIVERY GROUP

12F029

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/4/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

12F029

No: 20120604-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	SL-564-SA5C-SB-0.0-0.5	6/4/12 11:30	SO	None	1 - 8 oz glass	10 day							X			X																					
2	SL-564-SA5C-SB-4.0-5.0	6/4/12 11:35	SO	None	1 - 8 oz glass	10 day							X			X																					
3	SL-564-SA5C-SB-9.0-10.0	6/4/12 11:37	SO	None	1 - 8 oz glass	10 day							X			X																					
4	SL-573-SA5C-SB-0.0-0.5	6/4/12 10:30	SO	None	1 - 16 oz glass	10 day										X			X									X	X								
	SL-573-SA5C-SB-0.0-0.5	6/4/12 10:30	SO	None	1 - 4 oz glass	10 day															X																
5	SL-573-SA5C-SB-4.0-5.0	6/4/12 10:40	SO	None	1 - 16 oz glass	10 day										X			X									X	X								
	SL-573-SA5C-SB-4.0-5.0	6/4/12 10:40	SO	None	1 - 4 oz glass	10 day															X																
6	SL-573-SA5C-SB-9.0-10.0	6/4/12 10:45	SO	None	1 - 16 oz glass	10 day										X			X									X	X								
	SL-573-SA5C-SB-9.0-10.0	6/4/12 10:45	SO	None	1 - 8 oz glass	10 day															X																
7	SL-565-SA5C-SB-0.0-0.5	6/4/12 01:27	SO	None	1 - 8 oz glass	10 day						X				X																					
8	SL-565-SA5C-SB-4.0-5.0	6/4/12 01:30	SO	None	1 - 8 oz glass	10 day						X				X																					
9	SL-565-SA5C-SB-9.0-10.0	6/4/12 01:35	SO	None	1 - 8 oz glass	10 day						X				X																					
10	SL-566-SA5C-SB-4.0-5.0	6/4/12 02:12	SO	None	1 - 8 oz glass	10 day						X				X																					
11	SL-566-SA5C-SB-9.0-10.0	6/4/12 02:15	SO	None	1 - 8 oz glass	10 day						X				X																					

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		6/4/12		6/4/12	18:05						

T=2.2°

SAMPLE DELIVERY GROUP

12F037

SSFL Phase 3 Chain of Custody

12F037

CDM Smith

DateShipped: 6/5/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120605-02

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	FB-060512	6/5/12 15:00	WQ	None	10 - 1 L Amber	10 day					X		X	X		X						X	X				X				X						
	FB-060512	6/5/12 15:00	WQ	None	1 - 500 mL Poly	10 day												X		X	X																
	FB-060512	6/5/12 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																													
	FB-060512	6/5/12 15:00	WQ	HCl	8 - 40 mL Vial	10 day																		X	X	X											
	FB-060512	6/5/12 15:00	WQ	None	6 - 40 mL Vial	10 day																						X	X								

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	6/5/12	[signature]	6/5/12	1830						

T = 2.6°C

SSFL Phase 3 Chain of Custody

12F037

CDM Smith

DateShipped: 6/5/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120605-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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 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-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
2	SL-545-SA5C-SB-0.0-0.5	6/4/12 03:20	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
3	SL-545-SA5C-SB-4.0-5.0	6/4/12 03:25	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
4	SL-545-SA5C-SB-5.0	6/4/12 15:23	SO	None	3 - Encore	10 day																				X												
5	SL-545-SA5C-SB-9.0-10.0	6/4/12 15:30	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
6	SL-545-SA5C-SB-10.0	6/4/12 03:28	SO	None	3 - Encore	10 day																				X												
7	SL-543-SA5C-SB-0.0-0.5	6/5/12 08:40	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
8	SL-543-SA5C-SB-3.5-4.5	6/5/12 08:47	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
9	SL-543-SA5C-SB-4.5	6/5/12 08:45	SO	None	3 - Encore	10 day																				X												
10	SL-552-SA5C-SB-0.0-0.5	6/5/12 09:30	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
11	SL-561-SA5C-SB-0.0-0.5	6/5/12 10:20	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
	SL-561-SA5C-SB-0.0-0.5	6/5/12 10:20	SO	None	1 - 4 oz glass	10 day															X																
12	SL-561-SA5C-SB-5.5-6.5	6/5/12 10:25	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
	SL-561-SA5C-SB-5.5-6.5	6/5/12 10:25	SO	None	1 - 4 oz glass	10 day															X																
13	SL-561-SA5C-SB-6.5	6/5/12 10:22	SO	None	3 - Encore	10 day																				X												
14	SL-615-SA5C-SB-4.0-5.0	6/5/12 11:50	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X	X			X	X			X											
15	SL-615-SA5C-SB-5.0	6/5/12 11:52	SO	None	3 - Encore	10 day																				X												
16	SL-615-SA5C-SB-9.0-10.0	6/5/12 11:55	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X	X			X	X			X											
17	SL-615-SA5C-SB-10.0	6/5/12 11:58	SO	None	3 - Encore	10 day																				X												
18	SL-539-SA5C-SB-0.0-0.5	6/5/12 01:55	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
19	SL-539-SA5C-SB-6.0-7.0	6/5/12 02:05	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
20	SL-539-SA5C-SB-7.0	6/5/12 02:00	SO	None	3 - Encore	10 day																				X												
21	SL-551-SA5C-SB-0.0-0.5	6/5/12 03:10	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
22	SL-551-SA5C-SB-4.0-5.0	6/5/12 03:15	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X									
23	SL-551-SA5C-SB-5.0	6/5/12 03:12	SO	None	3 - Encore	10 day																				X												
24	TB-060512	6/5/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												

T = 2.8°C

SSFL Phase 3 Chain of Custody

12F037

CDM Smith
DateShipped: 6/5/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120605-01
Cooler #:
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121

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

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		6/5/12		6/5/12	1830						

SAMPLE DELIVERY GROUP

12F044

SSFL Phase 3 Chain of Custody

12F044

CDM Smith

DateShipped: 6/6/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120606-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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
1	SL-546-SA5C-SB-0.0-0.5	6/6/12 09:22	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X	X							X	X	X								
2	SL-546-SA5C-SB-4.0-5.0MS	6/6/12 09:30	SO	None	2 - 16 oz glass	10 day	X	X					X			X			X	X							X	X	X								MS/MSD sample
3	SL-546-SA5C-SB-5.0MS	6/6/12 09:15	SO	None	9 - Encore	10 day																				X											MS/MSD sample
4	SL-546-SA5C-SB-9.0-10.0	6/6/12 09:45	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X	X							X	X	X								
5	SL-546-SA5C-SB-10.0	6/6/12 09:38	SO	None	3 - Encore	10 day																				X											
6	SL-567-SA5C-SB-0.0-0.5	6/6/12 08:30	SO	None	1 - 4 oz glass	10 day							X																							
7	SL-567-SA5C-SB-3.0-4.0	6/6/12 08:34	SO	None	1 - 4 oz glass	10 day							X																							
8	SL-568-SA5C-SB-0.0-0.5	6/6/12 10:45	SO	None	2 - 4 oz glass	10 day							X								X															
9	SL-568-SA5C-SB-4.0-5.0	6/6/12 11:00	SO	None	2 - 4 oz glass	10 day							X								X															
10	SL-568-SA5C-SB-9.0-10.0	6/6/12 11:25	SO	None	2 - 4 oz glass	10 day							X								X															
11	SL-846-SA5C-SB-4.0-5.0	6/6/12 09:27	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X	X	X								
12	SL-846-SA5C-SB-5.0	6/6/12 09:18	SO	None	1 - Encore	10 day																				X											
13	SL-636-SA5C-SB-0.0-0.5	6/6/12 13:50	SO	None	1 - SS-Sleeve	10 day										X																				
14	SL-636-SA5C-SB-2.0-3.0	6/6/12 13:55	SO	None	1 - SS-Sleeve	10 day										X																				
15	SL-638-SA5C-SB-0.0-0.5	6/6/12 14:10	SO	None	1 - SS-Sleeve	10 day										X																				
16	SL-638-SA5C-SB-2.0-3.0	6/6/12 14:30	SO	None	1 - SS-Sleeve	10 day										X																				
17	TB-060612	6/6/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X										

Special Instructions: T = 4.3°C

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		6/6/12		6-6-12	1815						

SAMPLE DELIVERY GROUP

12F051

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/7/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

12 F051

No: 20120607-02

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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
EB1-060712	6/7/12 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												
EB1-060712	6/7/12 15:00	WQ	None	1 - 500 mL Poly	10 day												X		X	X																
EB1-060712	6/7/12 15:00	WQ	None	9 - 1 L Amber	10 day							X			X						X	X			X											
EB1-060712	6/7/12 15:00	WQ	HCl	2 - 40 mL Vial	10 day																			X												
EB1-060712	6/7/12 15:00	WQ	None	6 - 40 mL Vial	10 day																					X	X									
EB2-060712	6/7/12 14:30	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												
EB2-060712	6/7/12 14:30	WQ	None	1 - 500 mL Poly	10 day															X																
EB2-060712	6/7/12 14:30	WQ	None	7 - 1 L Amber	10 day							X			X											X										
EB2-060712	6/7/12 14:30	WQ	HCl	2 - 40 mL Vial	10 day																				X											
EB2-060712	6/7/12 14:30	WQ	None	6 - 40 mL Vial	10 day																						X	X								

1) EB1-060712 (6/7/12 15:00 WQ)
2) EB2-060712 (6/7/12 14:30 WQ)

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	6/7/12	[signature]	6/7/12	18:00						

1) T = 2.0 °C
2) T = 3.0 °C
3) T = 4.5 °C
4) T = 3.0 °C

SAMPLE DELIVERY GROUP

12F071

12F071

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/11/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120611-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	Terpenoyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	SL-518-SA5C-SB-4.0-5.0	6/11/12 09:24	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
2	SL-518-SA5C-SB-9.0-10.0	6/11/12 09:28	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
3	SL-509-SA5C-SB-9.0-10.0	6/11/12 08:38	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
4	SL-509-SA5C-SB-4.0-5.0MS	6/11/12 08:43	SO	None	2 - 16 oz glass	10 day	X	X					X			X		X	X																		MS/MSD
5	SL-809-SA5C-SB-4.0-5.0	6/11/12 08:30	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
6	SL-574-SA5C-SB-9.0-10.0	6/11/12 11:30	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
7	SL-574-SA5C-SB-4.0-5.0	6/11/12 11:25	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
8	SL-508-SA5C-SB-4.0-5.0	6/11/12 10:50	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
9	SL-508-SA5C-SB-6.5-7.5	6/11/12 10:55	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
10	SL-507-SA5C-SB-2.5-3.5	6/11/12 13:30	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
11	SL-520-SA5C-SB-6.5-7.5	6/11/12 14:50	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
	SL-520-SA5C-SB-6.5-7.5	6/11/12 14:50	SO	None	1 - 4 oz glass	10 day															X																
12	SL-521-SA5C-SB-0.0-0.5	6/11/12 15:20	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
	SL-521-SA5C-SB-0.0-0.5	6/11/12 15:20	SO	None	1 - 4 oz glass	10 day															X																
13	SL-521-SA5C-SB-4.0-5.0	6/11/12 15:25	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
	SL-521-SA5C-SB-4.0-5.0	6/11/12 15:25	SO	None	1 - 4 oz glass	10 day															X																
14	SL-521-SA5C-SB-9.0-10.0	6/11/12 15:30	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
	SL-521-SA5C-SB-9.0-10.0	6/11/12 15:30	SO	None	1 - 4 oz glass	10 day															X																

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		6/11/12		6-11-12	1810						

T = 4.3° C

SAMPLE DELIVERY GROUP

12F074

12F074

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/12/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120612-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	SL-690-SA5C-SB-3.5-4.5	6/12/12 11:25	SO	None	1 - 16 oz glass	10 day	X	X					X			X				X						X											
2	SL-690-SA5C-SB-4.5	6/12/12 11:20	SO	None	3 - Encore	10 day																				X												
3	SL-692-SA5C-SB-5.0-6.0	6/12/12 10:15	SO	None	1 - 16 oz glass	10 day	X	X					X			X				X							X											
4	SL-692-SA5C-SB-6.0	6/12/12 10:12	SO	None	3 - Encore	10 day																				X												
5	SL-743-SA5C-SB-1.0-2.0	6/12/12 08:27	SO	None	1 - 8 oz glass	10 day							X														X											
6	SL-743-SA5C-SB-2.0	6/12/12 08:25	SO	None	3 - Encore	10 day																				X												
7	SL-743-SA5C-SB-4.0-5.0	6/12/12 08:30	SO	None	1 - 8 oz glass	10 day							X														X											
8	SL-743-SA5C-SB-5.0	6/12/12 08:29	SO	None	3 - Encore	10 day																				X												
9	SL-743-SA5C-SB-9.0-10.0	6/12/12 08:37	SO	None	1 - 8 oz glass	10 day							X														X											
10	SL-743-SA5C-SB-10.0	6/12/12 08:35	SO	None	3 - Encore	10 day																				X												
11	SL-743-SA5C-SB-14.0-15.0	6/12/12 08:42	SO	None	1 - 8 oz glass	10 day							X														X											
12	SL-743-SA5C-SB-15.0	6/12/12 08:40	SO	None	3 - Encore	10 day																				X												
13	SL-693-SA5C-SB-4.0-5.0	6/12/12 09:25	SO	None	1 - 16 oz glass	10 day	X	X					X			X				X							X											
14	SL-693-SA5C-SB-5.0	6/12/12 09:23	SO	None	3 - Encore	10 day																				X												
15	SL-693-SA5C-SB-9.0-10.0	6/12/12 09:35	SO	None	1 - 16 oz glass	10 day	X	X					X			X				X							X											
16	SL-693-SA5C-SB-10.0	6/12/12 09:32	SO	None	3 - Encore	10 day																				X												
17	TB-061212	6/12/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												
18	SL-687-SA5C-SB-4.0-5.0	6/12/12 14:10	SO	None	1 - 16 oz glass	10 day	X	X					X			X				X							X											
19	SL-687-SA5C-SB-5.0	6/12/12 14:08	SO	None	3 - Encore	10 day******																				X												
20	SL-689-SA5C-SB-4.0-5.0	6/12/12 13:25	SO	None	1 - 16 oz glass	10 day	X	X					X			X				X							X											
21	SL-689-SA5C-SB-5.0	6/12/12 13:20	SO	None	3 - Encore	10 day																				X												
22	SL-689-SA5C-SB-7.5-8.5	6/12/12 13:45	SO	None	1 - 16 oz glass	10 day	X	X					X			X				X							X											
23	SL-689-SA5C-SB-8.5	6/12/12 13:42	SO	None	3 - Encore	10 day																				X												
24	SL-688-SA5C-SB-9.0-10.0	6/12/12 15:00	SO	None	1 - 16 oz glass	10 day	X	X					X			X				X							X											
25	SL-688-SA5C-SB-10.0	6/12/12 14:58	SO	None	3 - Encore	10 day																				X												
26	SL-688-SA5C-SB-4.0-5.0	6/12/12 14:50	SO	None	1 - 16 oz glass	10 day	X	X					X			X				X							X											
27	SL-688-SA5C-SB-5.0	6/12/12 14:48	SO	None	3 - Encore	10 day																				X												

TPH 6

12F074

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/12/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120612-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Stefan Mupel	06/12/2012	[illegible]	6/12/12	17:35						

T=4.6°

SAMPLE DELIVERY GROUP

12F093

SSFL Phase 3 Chain of Custody

12F093

CDM Smith

DateShipped: 6/13/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120613-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	SL-683-SA5C-SB-4.0-5.0	6/13/12 09:31	SO	None	1 - 16 oz glass	10 day	X	X					X					X	X								X										
2	SL-683-SA5C-SB-5.0	6/13/12 09:30	SO	None	3 - Encore	10 day																				X											
3	SL-683-SA5C-SB-7.0-8.0	6/13/12 09:45	SO	None	1 - 16 oz glass	10 day	X	X					X					X	X								X										
4	SL-683-SA5C-SB-8.0	6/13/12 09:40	SO	None	3 - Encore	10 day																				X											
5	SL-684-SA5C-SB-2.5-3.5	6/13/12 08:18	SO	None	1 - 16 oz glass	10 day	X	X					X					X	X								X										
6	SL-684-SA5C-SB-3.5	6/13/12 08:15	SO	None	3 - Encore	10 day																				X											
7	SL-685-SA5C-SB-4.0-5.0	6/13/12 09:00	SO	None	1 - 16 oz glass	10 day	X	X					X					X	X								X										
8	SL-685-SA5C-SB-5.0	6/13/12 08:59	SO	None	3 - Encore	10 day																				X											
9	SL-685-SA5C-SB-7.0-8.0	6/13/12 08:48	SO	None	1 - 16 oz glass	10 day	X	X					X					X	X								X										
10	SL-685-SA5C-SB-8.0	6/13/12 08:45	SO	None	3 - Encore	10 day																				X											
11	SL-722-SA5C-SB-6.0-7.0	6/13/12 14:18	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X										
12	SL-722-SA5C-SB-7.0	6/13/12 14:14	SO	None	3 - Encore	10 day																				X											
13	SL-718-SA5C-SB-4.0-5.0	6/13/12 13:08	SO	None	1 - 16 oz glass	10 day	X	X								X			X																		
14	SL-718-SA5C-SB-8.0-9.0	6/13/12 13:10	SO	None	1 - 16 oz glass	10 day	X	X								X			X																		
15	SL-720-SA5C-SB-5.5	6/13/12 12:35	SO	None	3 - Encore	10 day																				X											
16	SL-720-SA5C-SB-4.5-5.5	6/13/12 12:37	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X										
17	SL-717-SA5C-SB-6.0-7.0	6/13/12 14:45	SO	None	1 - 16 oz glass	10 day	X	X								X			X																		
18	TB-061312	6/13/12 08:00	WQ	HCl	3 - 40 ml	10 day																				X											

Special Instructions: T=4.5°C

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Shay Mapel	06/13/2012	D Hartman	6/13/12	1745						

SAMPLE DELIVERY GROUP

12F102

12F102

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/14/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120614-02

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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-EFFH 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
2	SL-716-SA5C-SB-5.5-6.5	6/13/12 15:24	SO	None	1 - 16 oz glass	10 day	X	X								X			X																		
3	SL-715-SA5C-SB-7.0	6/14/12 11:15	SO	None	3 - Encore	10 day																				X											
4	SL-715-SA5C-SB-6.0-7.0	6/14/12 11:20	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X																		
	SL-715-SA5C-SB-6.0-7.0	6/14/12 11:20	SO	None	1 - 4 oz glass	10 day															X																
5	SL-719-SA5C-SB-6.0-7.0	6/14/12 12:00	SO	None	1 - 16 oz glass	10 day	X	X								X			X																		
6	SL-711-SA5C-SB-9.0-10.0	6/14/12 08:46	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X									
7	SL-711-SA5C-SB-10.0	6/14/12 08:44	SO	None	3 - Encore	10 day																				X											
8	SL-711-SA5C-SB-4.0-5.0	6/14/12 08:55	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X										
9	SL-711-SA5C-SB-5.0	6/14/12 08:50	SO	None	3 - Encore	10 day																				X											
10	SL-712-SA5C-SB-9.0-10.0	6/14/12 09:44	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X									
11	SL-712-SA5C-SB-10.0	6/14/12 09:35	SO	None	3 - Encore	10 day																				X											
12	SL-712-SA5C-SB-5.0	6/14/12 09:40	SO	None	3 - Encore	10 day																				X											
13	SL-712-SA5C-SB-4.0-5.0	6/14/12 09:50	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X									
14	SL-713-SA5C-SB-7.0	6/14/12 10:35	SO	None	3 - Encore	10 day																				X											
15	SL-713-SA5C-SB-6.0-7.0	6/14/12 10:40	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X									
16	TB-061412	6/14/12 08:00	WQ	HCl	3 - 40 ml	10 day																					X									
17	SL-707-SA5C-SB-14.0	6/14/12 14:40	SO	None	3 - Encore	10 day																				X											
18	SL-707-SA5C-SB-13.0-14.0	6/14/12 14:45	SO	None	1 - 16 oz glass	10 day	X	X					X						X								X									
19	SL-709-SA5C-SB-4.0-5.0	6/14/12 15:20	SO	None	1 - 4 oz glass	10 day	X	X																													
20	SL-709-SA5C-SB-9.0-10.0	6/14/12 15:25	SO	None	1 - 4 oz glass	10 day	X	X																													

SAMPLE DELIVERY GROUP

12F120

12F120

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/18/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120618-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	Terpenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	SL-699-SA5C-SB-9.0-10.0	6/18/12 11:39	SO	None	1 - 8 oz glass	10 day							X														X										
2	SL-699-SA5C-SB-10.0	6/18/12 11:32	SO	None	3 - Encore	10 day																				X											
3	SL-699-SA5C-SB-4.0-5.0	6/18/12 11:35	SO	None	1 - 8 oz glass	10 day							X														X										
4	SL-699-SA5C-SB-5.0	6/18/12 11:28	SO	None	3 - Encore	10 day																				X											
5	SL-700-SA5C-SB-5.0MS	6/18/12 08:55	SO	None	9 - Encore	10 day																				X											
6	SL-1000-SA5C-SB-5.0	6/18/12 08:58	SO	None	3 - Encore	10 day																				X											
7	SL-700-SA5C-SB-4.0-5.0MS	6/18/12 09:00	SO	None	1 - 16 oz glass	10 day																					X										
8	SL-1000-SA5C-SB-4.0-5.0	6/18/12 09:05	SO	None	1 - 4 oz glass	10 day																					X										
9	SL-700-SA5C-SB-10.0	6/18/12 09:10	SO	None	3 - Encore	10 day																				X											
10	SL-700-SA5C-SB-9.0-10.0	6/18/12 09:13	SO	None	1 - 4 oz glass	10 day																					X										
11	SL-702-SA5C-SB-4.0-5.0	6/18/12 09:57	SO	None	1 - 8 oz glass	10 day	X	X											X																		
12	SL-702-SA5C-SB-9.0-10.0	6/18/12 10:00	SO	None	1 - 8 oz glass	10 day	X	X											X																		
13	SL-701-SA5C-SB-9.0-10.0	6/18/12 10:50	SO	None	1 - 8 oz glass	10 day							X														X										
14	SL-701-SA5C-SB-5.0	6/18/12 10:36	SO	None	3 - Encore	10 day																				X											
15	SL-701-SA5C-SB-4.0-5.0	6/18/12 10:46	SO	None	1 - 8 oz glass	10 day							X														X										
16	SL-701-SA5C-SB-10.0	6/18/12 10:42	SO	None	3 - Encore	10 day																				X											
17	TB-061812	6/18/12 08:00	WQ	HCl	3 - 40 ml	10 day																				X											
18	SL-696-SA5C-SB-1.0-2.0	6/18/12 14:35	SO	None	1 - 4 oz glass	10 day	X	X																													
19	SL-696-SA5C-SB-4.0-5.0	6/18/12 14:20	SO	None	1 - 4 oz glass	10 day	X	X																													
20	SL-696-SA5C-SB-9.0-10.0	6/18/12 14:25	SO	None	1 - 4 oz glass	10 day	X	X																													
21	SL-703-SA5C-SB-9.0-10.0	6/18/12 15:10	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X	X	X							
21	SL-703-SA5C-SB-9.0-10.0	6/18/12 15:10	SO	None	1 - 4 oz glass	10 day															X																
22	SL-703-SA5C-SB-10.0	6/18/12 15:00	SO	None	3 - Encore	10 day																				X											
23	SL-703-SA5C-SB-4.0-5.0	6/18/12 15:05	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X	X	X							
23	SL-703-SA5C-SB-4.0-5.0	6/18/12 15:05	SO	None	1 - 4 oz glass	10 day															X																
24	SL-703-SA5C-SB-5.0	6/18/12 14:55	SO	None	3 - Encore	10 day																				X											

T=4.5°C

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/18/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120618-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		6/18/2012		6/19/12	1805						

SAMPLE DELIVERY GROUP

12F132

SSFL Phase 3 Chain of Custody

12F132

CDM Smith

DateShipped: 6/19/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120619-01

Cooler #:

Lab:

Lab Phone:

	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
1	SL-527-SA5C-SB-4.0-5.0	6/19/12 10:40	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X										
2	SL-527-SA5C-SB-5.0	6/19/12 10:35	SO	None	3 - Encore	10 day																				X											
3	SL-528-SA5C-SB-4.0-5.0MS	6/19/12 10:00	SO	None	3 - 16 oz glass	10 day	X	X					X			X			X								X										MS/MSD
4	SL-528-SA5C-SB-5.0MS	6/19/12 09:55	SO	None	9 - Encore	10 day																				X										MS/MSD
5	SL-828-SA5C-SB-4.0-5.0	6/19/12 10:10	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X										
6	SL-828-SA5C-SB-5.0	6/19/12 09:55	SO	None	3 - Encore	10 day																				X											[redacted]
7	SL-572-SA5C-SB-0.0-0.5	6/19/12 08:55	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X	X	X							
8	SL-572-SA5C-SB-4.0-5.0MS	6/19/12 09:10	SO	None	3 - 16 oz glass	10 day	X	X					X			X			X									X	X	X							
9	SL-572-SA5C-SB-5.0MS	6/19/12 09:00	SO	None	9 - Encore	10 day																				X										ms/msd
10	SL-872-SA5C-SB-4.0-5.0	6/19/12 09:15	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X	X	X							ms/msd
11	SL-872-SA5C-SB-5.0	6/19/12 09:05	SO	None	3 - Encore	10 day																				X										
12	SL-643-SA5C-SB-1.0-2.0	6/19/12 08:00	SO	None	1 - SS-Sleeve	10 day										X																				
13	SL-643-SA5C-SB-2.0-3.0	6/19/12 08:05	SO	None	1 - SS-Sleeve	10 day										X																				
14	TB-061912	6/19/12 08:00	WQ	HCl	3 - 40 ml	10 day																				X										
15	SL-524-SA5C-SB-4.0-5.0	6/19/12 13:00	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X									
16	SL-524-SA5C-SB-5.0	6/19/12 12:55	SO	None	3 - Encore	10 day																				X										
17	SL-526-SA5C-SB-5.0	6/19/12 13:25	SO	None	3 - Encore	10 day																				X										
18	SL-526-SA5C-SB-4.0-5.0	6/19/12 13:35	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X									
19	SL-526-SA5C-SB-10.0	6/19/12 13:30	SO	None	3 - Encore	10 day																				X										
20	SL-526-SA5C-SB-9.0-10.0	6/19/12 13:40	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X									
21	SL-525-SA5C-SB-4.0-5.0	6/19/12 14:30	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X									
22	SL-525-SA5C-SB-5.0	6/19/12 14:20	SO	None	3 - Encore	10 day																				X										
23	SL-525-SA5C-SB-9.0-10.0	6/19/12 14:35	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X									
24	SL-525-SA5C-SB-10.0	6/19/12 14:25	SO	None	3 - Encore	10 day																				X										
25	SL-670-SA5C-SB-4.0-5.0	6/19/12 15:20	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X									
27	SL-670-SA5C-SB-4.0-5.0	6/19/12 15:20	SO	None	3 - Encore	10 day																				X										
26	SL-670-SA5C-SB-0.0-0.5	6/19/12 15:50	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X									

T = 2.3C

SSFL Phase 3 Chain of Custody

12F132

CDM Smith

DateShipped: 6/19/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120619-01
Cooler #:
Lab:
Lab Phone:

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:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Stephanie	06/19/2012		6-19-12	1830						

SAMPLE DELIVERY GROUP

12F146

SSFL Phase 3 Chain of Custody

12F/46

CDM Smith

DateShipped: 6/20/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120620-03

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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	Terpenols 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
FB-062012	6/20/12 15:00	WQ	None	9 - 1 L Amber	10 day					X		X			X						X	X			X					X							
FB-062012	6/20/12 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																													
FB-062012	6/20/12 15:00	WQ	HCl	8 - 40 mL Vial	10 day																		X	X	X												
FB-062012	6/20/12 15:00	WQ	None	6 - 40 mL Vial	10 day																					X	X										
FB-062012	6/20/12 15:00	WQ	None	1 - 500 mL Poly	10 day												X		X	X																	

Special Instructions:	SAMPLES TRANSFERRED FROM
	CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		6/20/12		6/20/12	1845						

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/20/2012

CarrierName:

AirbillNo: [redacted]

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

12F146

No: 20120620-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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
2	TB-062012	6/20/12 08:00	WQ	HCl	9 - 40 ml	10 day																		X	X	X												
3	SL-587-SA5C-SB-5.0MS	6/20/12 13:50	SO	None	9 - Encore	10 day																				X												MS/MSD
4	SL-587-SA5C-SB-4.0-5.0MS	6/20/12 14:05	SO	None	2 - 16 oz glass	10 day	X	X					X			X			X								X											MS/MSD
5	SL-887-SA5C-SB-5.0	6/20/12 14:00	SO	None	3 - Encore	10 day																				X												
6	SL-887-SA5C-SB-4.0-5.0	6/20/12 14:15	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X											
7	SL-587-SA5C-SB-9.5	6/20/12 13:55	SO	None	3 - Encore	10 day																				X												
8	SL-587-SA5C-SB-8.5-9.5	6/20/12 14:10	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X											
9	SL-604-SA5C-SB-4.0-5.0	6/20/12 15:10	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X								X											
10	SL-628-SA5C-SB-10.5	6/20/12 10:50	SO	None	9 - Encore	10 day																		X	X	X												
11	SL-628-SA5C-SB-11.5-12.5	6/20/12 11:00	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X								X											
12	SL-628-SA5C-SB-12.5	6/20/12 10:15	SO	None	9 - Encore	10 day																		X	X	X												
13	SL-630-SA5C-SB-8.0-9.0	6/20/12 11:55	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X								X											
14	SL-630-SA5C-SB-9.0	6/20/12 11:50	SO	None	3 - Encore	10 day																				X												

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[illegible]	6/20/12	[illegible]	6/20/12	1845						

SAMPLE DELIVERY GROUP

12F162

SSFL Phase 3 Chain of Custody

12F162

CDM Smith

DateShipped: 6/21/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120621-03

Cooler #:

Lab:

Lab Phone:

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-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
EB2-062112	6/21/12 15:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X	X																													
EB2-062112	6/21/12 15:00	WQ	None	7 - 1 L Amber	10 day							X			X										X											
EB2-062112	6/21/12 15:00	WQ	None	1 - 500 mL Poly	10 day											X			X	X																
EB2-062112	6/21/12 15:00	WQ	HCl	8 - 40 mL Vial	10 day																			X												
EB2-062112	6/21/12 15:00	WQ	None	6 - 40 mL Vial	10 day																					X	X									
EB1-062112	6/21/12 15:30	WQ	None	2 - 1 L Amber	10 day										X																					

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	6/21/2012	[signature]	6/21/12	17:45						

Cooler #1 5.4°C

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/21/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120621-01

Cooler #:

Lab: 12F162

Lab Phone:

	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-062112	6/21/12 08:00	WQ	HCl	9 - 40 mL Vial	10 day																		X	X	X												
4	SL-600-SA5C-SB-4.0-5.0	6/21/12 09:35	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X	X							X											
5	SL-602-SA5C-SB-4.0-5.0	6/21/12 11:35	SO	None	1 - 16 oz glass	10 day							X			X		X									X											
6	SL-602-SA5C-SB-5.0	6/21/12 11:30	SO	None	3 - Encore	10 day							X			X		X									X											
7	SL-603-SA5C-SB-4.0-5.0	6/21/12 11:05	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X	X							X											
8	SL-603-SA5C-SB-5.0	6/21/12 11:00	SO	None	3 - Encore	10 day																					X											
9	SL-584-SA5C-SB-5.0	6/21/12 10:30	SO	None	3 - Encore	10 day																					X											
10	SL-584-SA5C-SB-4.0-5.0	6/21/12 10:35	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X										
11	SL-599-SA5C-SB-4.0-5.0	6/21/12 10:00	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X	X							X											
12	SL-599-SA5C-SB-5.0	6/21/12 09:55	SO	None	3 - Encore	10 day																					X											
13	SL-600-SA5C-SB-5.0	6/21/12 09:30	SO	None	3 - Encore	10 day																					X											
14	SL-585-SA5C-SB-5.0	6/21/12 08:20	SO	None	3 - Encore	10 day																					X											
15	SL-585-SA5C-SB-4.0-5.0	6/21/12 08:25	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X									X										
16	SL-594-SA5C-SB-0.0-0.5	6/21/12 14:05	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X									X											
17	SL-594-SA5C-SB-5.0-6.0	6/21/12 14:10	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X									X											
18	SL-594-SA5C-SB-9.0-10.0	6/21/12 14:15	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X									X											
19	SL-594-SA5C-SB-9.0	6/21/12 13:50	SO	None	9 - Encore	10 day																		X	X	X											
20	SL-594-SA5C-SB-6.0	6/21/12 13:45	SO	None	9 - Encore	10 day																		X	X	X											

6-21-12

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		6/21/12		6/21/12	17:45						

Cooler #2 T=4.2°C

SAMPLE DELIVERY GROUP

12F182

12F182

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/25/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120625-01
Cooler #:
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121

	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	Formaldenyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
1	SL-575-SA5C-SB-4.0-5.0	6/25/12 10:30	SO	None	1 - SS-Sleeve	10 day	X	X					X			X		X																				
	SL-575-SA5C-SB-4.0-5.0	6/25/12 10:30	SO	None	1 - 4 oz glass	10 day													X																			
2	TB-062512	6/25/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X											
3	SL-515-SA5C-SB-10.0	6/25/12 15:29	SO	None	3 - Encore	10 day																				X											
4	SL-515-SA5C-SB-4.0-5.0	6/25/12 14:45	SO	None	1 - SS-Sleeve	10 day	X	X					X			X		X										X									
	SL-515-SA5C-SB-4.0-5.0	6/25/12 14:45	SO	None	1 - 4 oz glass	10 day													X																		
5	SL-515-SA5C-SB-5.0	6/25/12 14:44	SO	None	3 - Encore	10 day																				X											
6	SL-515-SA5C-SB-9.0-10.0	6/25/12 15:30	SO	None	1 - SS-Sleeve	10 day	X	X					X			X		X										X									
	SL-515-SA5C-SB-9.0-10.0	6/25/12 15:30	SO	None	1 - 4 oz glass	10 day													X																		

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	06/25/2012	[signature]	6/25/12	1825						

T=3.8°C

SAMPLE DELIVERY GROUP

12F197

SSFL Phase 3 Chain of Custody

12F192

CDM Smith

DateShipped: 6/26/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120626-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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
1	SL-581-SA5C-SB-4.0-5.0MS	6/26/12 10:31	SO	None	3 - SS-Sleeve	10 day	X	X					X			X		X									X											ms/msd
1	SL-581-SA5C-SB-4.0-5.0MS	6/26/12 10:31	SO	None	1 - 16 oz glass	10 day													X		X																	ms/msd
2	SL-581-SA5C-SB-5.0MS	6/26/12 10:30	SO	None	9 - Encore	10 day																				X												ms/msd
3	SL-881-SA5C-SB-4.0-5.0	6/26/12 10:33	SO	None	1 - SS-Sleeve	10 day	X	X					X			X		X									X											
3	SL-881-SA5C-SB-4.0-5.0	6/26/12 10:33	SO	None	1 - 8 oz glass	10 day													X		X																	
4	SL-881-SA5C-SB-5.0	6/26/12 10:32	SO	None	3 - Encore	10 day																				X												
5	SL-747-SA5C-SB-2.5-3.5	6/26/12 14:01	SO	None	3 - SS-Sleeve	10 day	X	X					X			X											X											
5	SL-747-SA5C-SB-2.5-3.5	6/26/12 14:01	SO	None	1 - 4 oz glass	10 day													X																			
6	SL-747-SA5C-SB-3.5	6/26/12 14:00	SO	None	3 - Encore	10 day																				X												
7	TB-062612	6/26/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	6/26/2012	[signature]	6/26/12	17:30						

T = 4.6 °C

SAMPLE DELIVERY GROUP

12F215

12F215

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/27/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120627-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	SL-578-SA5C-SB-4.0-5.0	6/27/12 10:15	SO	None	1 - 55-Sleeve	10 day	X	X					X			X		X																				
	SL-578-SA5C-SB-4.0-5.0	6/27/12 10:15	SO	None	1 - 4 oz glass	10 day													X																			

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	6/27/2012	[signature]	6/27/12	1730						

T = 3.7°C

SAMPLE DELIVERY GROUP

12F232

12F232

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/28/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120628-03

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	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
1	EB-062812	6/28/12 15:15	WQ	None	7 - 1L amber	10 day							X			X											X											
	EB-062812	6/28/12 15:15	WQ	HCl	2 - 40 mL Vial	10 day																				X											
	EB-062812	6/28/12 15:15	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																													
	EB-062812	6/28/12 15:15	WQ	None	1 - 500 mL Poly	10 day												X		X	X																	

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	6/28/2012	[signature]	6/28/12	1730						

T = 3.4°C

SAMPLE DELIVERY GROUP

12G030

12 G030

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 7/9/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120709-01
Cooler #:
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121

	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	SL-530-SA5C-SB-4.0-5.0	7/9/12 09:05	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
2	SL-530-SA5C-SB-9.0-10.0	7/9/12 09:20	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
3	SL-522-SA5C-SB-4.0-5.0MS	7/9/12 10:05	SO	None	2 - 16 oz glass	10 day	X	X					X			X		X	X																		MS/MSD
4	SL-522-SA5C-SB-9.0-10.0	7/9/12 10:15	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
5	SL-822-SA5C-SB-4.0-5.0	7/9/12 10:30	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
6	SL-531-SA5C-SB-4.0-5.0	7/9/12 11:30	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
7	SL-531-SA5C-SB-9.0-10.0	7/9/12 11:35	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
8	SL-623-SA5C-SB-4.0-5.0	7/9/12 10:55	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
9	SL-623-SA5C-SB-9.0-10.0	7/9/12 11:00	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
10	SL-523-SA5C-SB-4.0-5.0	7/9/12 13:20	SO	None	2 - 8 oz glass	10 day	X	X					X			X		X	X																		
11	SL-523-SA5C-SB-9.0-10.0	7/9/12 13:25	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
12	SL-533-SA5C-SB-4.0-5.0	7/9/12 13:55	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
13	SL-533-SA5C-SB-9.0-10.0	7/9/12 14:00	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
14	SL-754-SA5C-SB-0.0-0.5	7/9/12 14:40	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
15	SL-754-SA5C-SB-4.0-5.0	7/9/12 14:45	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		
16	SL-754-SA5C-SB-6.5-7.5	7/9/12 14:50	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X																		

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	7/9/2012	[signature]	7/9/12	1740						

T = 4.4°C

SAMPLE DELIVERY GROUP

12G048

12G048

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 7/10/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120710-01
Cooler #:
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121

	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	TRC 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	SL-755-SA5C-SB-0.0-0.5	7/10/12 07:15	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X							X											
2	SL-755-SA5C-SB-4.0-5.0	7/10/12 07:20	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X							X											
3	SL-755-SA5C-SB-4.5	7/10/12 07:19	SO	None	3 - Encore	10 day																				X											
4	SL-755-SA5C-SB-5.5-6.5	7/10/12 07:30	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X								X										
5	SL-755-SA5C-SB-6.0	7/10/12 07:29	SO	None	3 - Encore	10 day																				X											
6	SL-640-SA5C-SB-5.0-6.0	7/10/12 08:40	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X		X																
7	SL-640-SA5C-SB-10.0-11.0	7/10/12 08:45	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X		X																
8	SL-640-SA5C-SB-15.0-16.0	7/10/12 08:50	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X		X																
9	SL-640-SA5C-SB-19.0-20.0	7/10/12 08:55	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X		X																
10	SL-641-SA5C-SB-4.0-5.0	7/10/12 10:10	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X		X																
11	SL-641-SA5C-SB-9.0-10.0	7/10/12 10:20	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X		X																
12	SL-641-SA5C-SB-14.0-15.0	7/10/12 10:25	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X		X																
13	SL-641-SA5C-SB-18.5-19.5	7/10/12 10:30	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X		X																
14	TB-071012	7/10/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X											
15	SL-642-SA5C-SB-4.0-5.0	7/10/12 12:40	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X		X																
16	SL-642-SA5C-SB-9.0-10.0	7/10/12 12:45	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X		X																
17	SL-642-SA5C-SB-14.0-15.0	7/10/12 12:50	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X		X																
18	SL-642-SA5C-SB-17.5-18.5	7/10/12 12:55	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X		X																

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Steph Mupal	7/10/2012	[illegible]	7/10/12	16:30						

T=4.5°C

SAMPLE DELIVERY GROUP

12G064

12G064

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 7/11/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120711-03

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

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-071112	7/11/12 14:00	WQ	None	9 - 1L amber	10 day							X			X						X	X				X										
FB-071112	7/11/12 14:00	WQ	None	6 - 40 mL Vial	10 day																						X	X								
FB-071112	7/11/12 14:00	WQ	HCl	8 - 40 mL Vial	10 day																	X	X	X												
FB-071112	7/11/12 14:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																												
FB-071112	7/11/12 14:00	WQ	None	1 - 500 mL Poly	10 day												X		X	X																

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		07/11/2012		7/11/12	17:00						

T = 3.2°C

T = 3.6°C

SSFL Phase 3 Chain of Custody 12G064

CDM Smith

DateShipped: 7/11/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120711-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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
2	TB-071112	7/11/12 08:00	WQ	HCl	3 - 40 mL Vial	10 day																				X												
3	SL-586-SA5C-SB-4.0-5.0	7/11/12 08:40	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X	X							X											
4	SL-586-SA5C-SB-4.5	7/11/12 08:39	SO	None	3 - Encore	10 day																				X												
5	SL-586-SA5C-SB-9.0-10.0	7/11/12 08:45	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X	X							X											
6	SL-586-SA5C-SB-9.5	7/11/12 08:44	SO	None	3 - Encore	10 day																				X												
7	SL-589-SA5C-SB-4.0-5.0	7/11/12 10:10	SO	None	1 - 16 oz glass	10 day	X	X					X						X																			
8	SL-591-SA5C-SB-4.0-5.0	7/11/12 09:50	SO	None	1 - 16 oz glass	10 day	X	X					X						X																			
9	SL-592-SA5C-SB-5.0-6.0	7/11/12 07:35	SO	None	1 - 8 oz glass	10 day	X	X											X																			
10	SL-607-SA5C-SB-0.0-0.5	7/11/12 11:00	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X	X							X											
11	SL-607-SA5C-SB-4.0-5.0	7/11/12 11:05	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X	X							X											
12	SL-607-SA5C-SB-4.5	7/11/12 11:04	SO	None	3 - Encore	10 day																				X												
13	SL-607-SA5C-SB-9.0-10.0	7/11/12 11:10	SO	None	1 - 16 oz glass	10 day	X	X					X			X		X	X	X							X											
14	SL-607-SA5C-SB-9.5	7/11/12 11:09	SO	None	3 - Encore	10 day																				X												

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[illegible] Mypel	07/11/2012	Claudia Celis	7/11/12	1700						

SAMPLE DELIVERY GROUP

12G081

SSFL Phase 3 Chain of Custody 120081

CDM Smith

DateShipped: 7/12/2012
CarrierName:
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120712-03
Cooler #:
Lab: EMAX LABORATORIES
Lab Phone: 310-618-8889 x121

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-071212	7/12/12 14:00	WQ	None	7 - 1 L Amber	10 day						X	X			X											X											TIC 8270 is Morpholine only
EB-071212	7/12/12 14:00	WQ	None	1 - 500 mL Poly	10 day												X		X	X																	
EB-071212	7/12/12 14:00	WQ	HNO3 pH<2	1 - 250 mL Poly	10 day	X		X																													
EB-071212	7/12/12 14:00	WQ	HCl	2 - 40 mL Vial	10 day																				X											

14

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	7/12/2012	[signature]		17:15						

SAMPLE DELIVERY GROUP

12G199

5CE

SSFL Phase 3 Chain of Custody

12G199

CDM Smith

DateShipped: 7/24/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120724-01

Cooler #:

Lab: EMAX LABORATORIES

Lab Phone: 310-618-8889 x121

	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	SL-583-SA5C-SB-0.0-0.5	7/24/12 07:30	SO	None	1 - 16 oz glass	10 day	X	X					X						X																		
2	SL-583-SA5C-SB-4.0-5.0	7/24/12 07:35	SO	None	1 - 16 oz glass	10 day	X	X					X						X																		
3	SL-741-SA5C-SB-0.0-0.5	7/24/12 09:20	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X		X						X										
4	SL-741-SA5C-SB-4.0-5.0	7/24/12 09:25	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X		X						X										
5	SL-741-SA5C-SB-9.0-10.0	7/24/12 09:30	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X		X						X										
6	SL-741-SA5C-SB-4.5	7/24/12 09:24	SO	None	3 - Encore	10 day																				X											
7	SL-741-SA5C-SB-9.5	7/24/12 09:29	SO	None	3 - Encore	10 day																				X											
8	SL-742-SA5C-SB-0.0-0.5	7/24/12 08:45	SO	None	1 - 16 oz glass	10 day	X	X					X			X			X		X						X										

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time
	[illegible]	7/24/2012	[illegible]		16:45

Items/Reason	Relinquished by	Date	Received by	Date	Time

T = 5.7°C

SAMPLE DELIVERY GROUP

PH001

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

April 27, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 04/14/2012
Group Number: 1302316
SDG: PH001
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-684-SA5C-SB-0.0-0.5 Soil	6617039
SL-685-SA5C-SB-0.0-0.5 Soil	6617040
SL-686-SA5C-SB-0.0-0.5 Soil	6617041
SL-735-SA5C-SB-0.0-0.5 Soil	6617042
SL-737-SA5C-SB-0.0-0.5 Soil	6617043
SL-683-SA5C-SB-0.0-0.5 Soil	6617044
SL-679-SA5C-SB-0.0-0.5 Soil	6617045
SL-681-SA5C-SB-0.0-0.5 Soil	6617046

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct# Gp# 1302316 Sample# 6617039-46

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 4/13/2012
CarrierName: FedEx
AirbillNo: 7982 8308 6668

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120413-01
Cooler #:
Lab: Lancaster Laboratories, Inc.
Lab Phone: 717-556-7259

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
SL-684-SA5C-SB-0.0-0.5	4/12/2012 13:45	SO	None	1 - SS-Sleeve	10 day									X																							
SL-685-SA5C-SB-0.0-0.5	4/12/2012 12:10	SO	None	1 - SS-Sleeve	10 day									X																							
SL-686-SA5C-SB-0.0-0.5	4/12/2012 11:40	SO	None	1 - SS-Sleeve	10 day									X																							
SL-735-SA5C-SB-0.0-0.5	4/12/2012 10:00	SO	None	1 - SS-Sleeve	10 day									X																							
SL-737-SA5C-SB-0.0-0.5	4/12/2012 10:45	SO	None	1 - SS-Sleeve	10 day									X																							
SL-683-SA5C-SB-0.0-0.5	4/12/2012 14:10	SO	None	1 - SS-Sleeve	10 day									X																							
SL-679-SA5C-SB-0.0-0.5	4/12/2012 15:07	SO	None	1 - SS-Sleeve	10 day									X																							
SL-681-SA5C-SB-0.0-0.5	4/12/2012 14:35	SO	None	1 - SS-Sleeve	10 day									X																							

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	4/13/12									
									[signature]	4.14.12	1080

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Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

April 30, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 04/18/2012
Group Number: 1303085
SDG: PH001
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-691-SA5C-SB-0.0-0.5 Soil	6620861
SL-690-SA5C-SB-0.0-0.5 Soil	6620862
SL-689-SA5C-SB-0.0-0.5 Soil	6620863
SL-688-SA5C-SB-0.0-0.5 Soil	6620864
SL-687-SA5C-SB-0.0-0.5 Soil	6620865
SL-692-SA5C-SB-0.0-0.5 Soil	6620866
SL-693-SA5C-SB-0.0-0.5 Soil	6620867
SL-514-SA5C-SB-0.0-0.5 Soil	6620868
SL-514-SA5C-SB-0.0-0.5 MS Soil	6620869
SL-514-SA5C-SB-0.0-0.5 MSD Soil	6620870
SL-814-SA5C-SB-0.0-0.5 Soil	6620871
SL-578-SA5C-SB-0.0-0.5 Soil	6620872
SL-680-SA5C-SB-0.0-0.5 Soil	6620873

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct#13013 GP#1303085 Sample#6620861-73

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 4/17/2012
CarrierName: FedEx
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120417-02
Cooler #:
Lab: Lancaster Laboratories, Inc.
Lab Phone: 717-556-7259

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-ERH 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-691-SA5C-SB-0.0-0.5	4/16/12 11:35	SO	None	1 - SS-Sleeve	10 day									X																						
SL-690-SA5C-SB-0.0-0.5	4/16/12 11:05	SO	None	1 - SS-Sleeve	10 day									X																						
SL-689-SA5C-SB-0.0-0.5	4/16/12 10:40	SO	None	1 - SS-Sleeve	10 day									X																						
SL-688-SA5C-SB-0.0-0.5	4/16/12 09:40	SO	None	1 - SS-Sleeve	10 day									X																						
SL-687-SA5C-SB-0.0-0.5	4/16/12 10:10	SO	None	1 - SS-Sleeve	10 day									X																						
SL-692-SA5C-SB-0.0-0.5	4/16/12 13:05	SO	None	1 - SS-Sleeve	10 day									X																						
SL-693-SA5C-SB-0.0-0.5	4/16/12 13:30	SO	None	1 - SS-Sleeve	10 day									X																						
SL-514-SA5C-SB-0.0-0.5MS	4/17/12 10:15	SO	None	3 - SS-Sleeve	10 day									X																						
SL-814-SA5C-SB-0.0-0.5	4/17/12 10:10	SO	None	1 - SS-Sleeve	10 day									X																						
SL-578-SA5C-SB-0.0-0.5	4/17/12 11:35	SO	None	1 - SS-Sleeve	10 day									X																						
SL-680-SA5C-SB-0.0-0.5	4/17/12 09:05	SO	None	1 - SS-Sleeve	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
										4/18/12	0940

SAMPLE DELIVERY GROUP

PH002

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

May 02, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 04/19/2012
Group Number: 1303409
SDG: PH002
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-577-SA5C-SB-0.0-0.5 Soil	6622593
SL-581-SA5C-SB-0.0-0.5 Soil	6622594
SL-747-SA5C-SB-0.0-0.5 Soil	6622595
SL-570-SA5C-SB-0.0-0.5 Soil	6622596
SL-570-SA5C-SB-2.0-3.0 Soil	6622597
SL-580-SA5C-SB-0.0-0.5 Soil	6622598
SL-580-SA5C-SB-4.0-5.0 Soil	6622599

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

Acct#13013 Cap#1303409
Sample#6022593-99

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 4/18/2012
CarrierName: FedEx
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120418-02
Cooler #:
Lab: Lancaster Laboratories, Inc.
Lab Phone: 717-556-7259

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	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-577-SA5C-SB-0.0-0.5	4/17/12 13:30	SO	None	1 - SS-Sleeve	10 day									X																						
SL-581-SA5C-SB-0.0-0.5	4/17/12 14:40	SO	None	1 - SS-Sleeve	10 day									X																			X				
SL-747-SA5C-SB-0.0-0.5	4/17/12 14:05	SO	None	1 - SS-Sleeve	10 day									X																						
SL-570-SA5C-SB-0.0-0.5	4/18/12 09:00	SO	None	1 - SS-Sleeve	10 day									X																			X				
SL-570-SA5C-SB-2.0-3.0	4/18/12 10:30	SO	None	1 - SS-Sleeve	10 day									X																			X				
SL-580-SA5C-SB-0.0-0.5	4/18/12 11:00	SO	None	1 - SS-Sleeve	10 day									X																			X				
SL-580-SA5C-SB-4.0-5.0	4/18/12 11:30	SO	None	1 - SS-Sleeve	10 day									X																			X				

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
			Brandy	4-19-12	910						

Brandy

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

May 03, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 04/20/2012
Group Number: 1303748
SDG: PH002
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-579-SA5C-SB-0.0-0.5 Soil	6624292
SL-579-SA5C-SB-4.0-5.0 Soil	6624293
EB-041912 Water	6624294
SL-513-SA5C-SB-0.0-0.5 Soil	6624295
SL-515-SA5C-SB-0.0-0.5 Soil	6624296
SL-516-SA5C-SB-0.0-0.5 Soil	6624297
SL-516-SA5C-SB-4.0-5.0 Soil	6624298
SL-575-SA5C-SB-0.0-0.5 Soil	6624299

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

.acct#13013 Gp#1303748 Sample#6624292-99

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 4/19/2012

CarrierName: FedEx

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120419-02

Cooler #:

Lab: Lancaster Laboratories, Inc.

Lab Phone: 717-556-7259

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	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-S79-SASC-SB-0.0-0.5	4/18/12 14:04	SO	None	1 - SS-Sleeve	10 day									X																						
SL-S79-SASC-SB-4.0-5.0	4/18/12 14:30	SO	None	1 - SS-Sleeve	10 day									X																		X				
EB-041912	4/19/12 13:00	WQ	None	1 - 250 mL Amber	10 day																											X				
EB-041912	4/19/12 13:00	WQ	None	1 - 1 L Amber	10 day									X																						
SL-S13-SASC-SB-0.0-0.5	4/19/12 10:50	SO	None	1 - SS-Sleeve	10 day									X																						
SL-S15-SASC-SB-0.0-0.5	4/19/12 10:10	SO	None	1 - SS-Sleeve	10 day									X																						
SL-S16-SASC-SB-0.0-0.5	4/19/12 09:15	SO	None	1 - SS-Sleeve	10 day									X																						
SL-S16-SASC-SB-4.0-5.0	4/19/12 09:40	SO	None	1 - SS-Sleeve	10 day									X																						
SL-S75-SASC-SB-0.0-0.5	4/19/12 11:15	SO	None	1 - SS-Sleeve	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time

The signed field COC was not received. The samples were entered per the pre-entry COC emailed on 4/19/12 at 19:18.

NLM 4/25/12

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Analysis Report

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ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

May 01, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 04/21/2012
Group Number: 1303880
SDG: PH002
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-510-SA5C-SB-0.0-0.5 Soil	6625130
SL-518-SA5C-SB-0.0-0.5 Soil	6625131
SL-517-SA5C-SB-0.0-0.5 Soil	6625132
SL-501-SA5C-SB-0.0-0.5 Soil	6625133
SL-502-SA5C-SB-0.0-0.5 Soil	6625134
SL-502-SA5C-SB-0.0-0.5 MS Soil	6625135
SL-502-SA5C-SB-0.0-0.5 MSD Soil	6625136
SL-802-SA5C-SB-0.0-0.5 Soil	6625137

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct# 13013 Gp# 1303880 sample# 6625130-37

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 4/20/2012
CarrierName: FedEx
AirbillNo: 7983 1085 3893

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120420-02
Cooler #:
Lab: Lancaster Laboratories, Inc.
Lab Phone: 717-556-7259

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	TPH-EPH 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
SL-510-SA5C-SB-0.0-0.5	4/19/12 14:35	SO	None	1 - 55-Sleeve	10 day									X																								
SL-518-SA5C-SB-0.0-0.5	4/19/12 14:00	SO	None	1 - 55-Sleeve	10 day									X																								
SL-517-SA5C-SB-0.0-0.5	4/19/12 15:00	SO	None	1 - 55-Sleeve	10 day									X																								
SL-SD1-SA5C-SB-0.0-0.5	4/20/12 09:30	SO	None	1 - 55-Sleeve	10 day									X																				X				
SL-SD2-SA5C-SB-0.0-0.5MS	4/20/12 08:50	SO	None	3 - 55-Sleeve	10 day									X																								
SL-BD2-SA5C-SB-0.0-0.5	4/20/12 08:55	SO	None	1 - 55-Sleeve	10 day									X																								
SL-507-SA5C-SB-0.0-0.5	4/20/12 10:45	SO	None	1 - 55-Sleeve	10 day									X																								
SL-508-SA5C-SB-0.0-0.5	4/20/12 11:05	SO	None	1 - 55-Sleeve	10 day									X																								
SL-509-SA5C-SB-0.0-0.5	4/20/12 10:05	SO	None	1 - 55-Sleeve	10 day									X																								
SL-574-SA5C-SB-0.0-0.5	4/20/12 13:00	SO	None	1 - 55-Sleeve	10 day									X																								

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		4/20/12									
										4/21/12	1000

acct# 13013 Cap# 1303882 sample# 6625140-43

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 4/20/2012
CarrierName: FedEx
AirbillNo: 7983 1085 3893

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120420-02
Cooler #:
Lab: Lancaster Laboratories, Inc.
Lab Phone: 717-556-7259

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 9040/9045 (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	Terbemyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8325	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-510-SA5C-SB-0.0-0.5	4/19/12 14:35	SO	None	1 - 5S-Sleeve	10 day									X																							
SL-518-SA5C-SB-0.0-0.5	4/19/12 14:00	SO	None	1 - 5S-Sleeve	10 day									X																							
SL-517-SA5C-SB-0.0-0.5	4/19/12 15:00	SO	None	1 - 5S-Sleeve	10 day									X																							
SL-501-SA5C-SB-0.0-0.5	4/20/12 09:30	SO	None	1 - 5S-Sleeve	10 day									X																			X				
SL-502-SA5C-SB-0.0-0.5MS	4/20/12 08:50	SO	None	3 - 5S-Sleeve	10 day									X																							
SL-802-SA5C-SB-0.0-0.5	4/20/12 08:55	SO	None	1 - 5S-Sleeve	10 day									X																							
SL-507-SA5C-SB-0.0-0.5	4/20/12 10:45	SO	None	1 - 5S-Sleeve	10 day									X																							
SL-508-SA5C-SB-0.0-0.5	4/20/12 11:05	SO	None	1 - 5S-Sleeve	10 day									X																							
SL-509-SA5C-SB-0.0-0.5	4/20/12 10:05	SO	None	1 - 5S-Sleeve	10 day									X																							
SL-574-SA5C-SB-0.0-0.5	4/20/12 13:00	SO	None	1 - 5S-Sleeve	10 day									X																							

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		4/20/12									
										4/21/12	1000

SAMPLE DELIVERY GROUP

PH003

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

May 08, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 04/24/2012
Group Number: 1304248
SDG: PH003
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-512-SA5C-SB-0.0-0.5 Soil	6626916
SL-520-SA5C-SB-0.0-0.5 Soil	6626917
SL-532-SA5C-SB-0.0-0.5 Soil	6626918
SL-533-SA5C-SB-0.0-0.5 Soil	6626919

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

13013 1304248 6626916-20

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 4/23/2012

CarrierName: FedEx

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120423-02

Cooler #:

Lab: Lancaster Laboratories, Inc.

Lab Phone: 717-556-7259

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-SA5C-SB-0.0-0.5	4/23/12 11:20	SO	None	1 - SS-Sleeve	10 day									X																						
SL-520-SA5C-SB-0.0-0.5	4/23/12 14:15	SO	None	1 - SS-Sleeve	10 day									X																						
SL-532-SA5C-SB-0.0-0.5	4/23/12 13:25	SO	None	1 - SS-Sleeve	10 day									X																						
SL-533-SA5C-SB-0.0-0.5	4/23/12 15:15	SO	None	1 - SS-Sleeve	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		4/24/12								4/24/12	0926

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

May 08, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 04/27/2012
Group Number: 1305180
SDG: PH003
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-522-SA5C-SB-0.0-0.5 Soil	6632082
SL-523-SA5C-SB-0.0-0.5 Soil	6632083
SL-530-SA5C-SB-0.0-0.5 Soil	6632084
SL-531-SA5C-SB-0.0-0.5 Soil	6632085
SL-623-SA5C-SB-0.0-0.5 Soil	6632086
SL-702-SA5C-SB-0.0-0.5 Soil	6632087
EB-042612 Water	6632088
SL-708-SA5C-SB-0.0-0.5 Soil	6632089
SL-711-SA5C-SB-0.0-0.5 Soil	6632090

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct#13013 Cap#1305180 sample# 6032082-90

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 4/26/2012

CarrierName:

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120426-02

Cooler #:

Lab: Lancaster Laboratories, Inc.

Lab Phone: 717-556-7259

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
SL-522-SA5C-SB-0.0-0.5	4/25/12 11:20	SO	None	1 - SS-Sleeve	10 day									X																						
SL-523-SA5C-SB-0.0-0.5	4/25/12 14:00	SO	None	1 - SS-Sleeve	10 day									X																						
SL-530-SA5C-SB-0.0-0.5	4/25/12 10:30	SO	None	1 - SS-Sleeve	10 day									X																						
SL-531-SA5C-SB-0.0-0.5	4/25/12 13:25	SO	None	1 - SS-Sleeve	10 day									X																						
SL-623-SA5C-SB-0.0-0.5	4/25/12 09:55	SO	None	1 - SS-Sleeve	10 day									X																						
SL-702-SA5C-SB-0.0-0.5	4/26/12 10:55	SO	None	1 - SS-Sleeve	10 day									X																						
SL-695-SA5C-SB-0.0-0.5MS	4/26/12 09:25	SO	None	1 - SS-Sleeve	10 day																										X					NRS/111550
SL-995-SA5C-SB-0.0-0.5	4/26/12 09:30	SO	None	1 - SS-Sleeve	10 day																										X					
EB-042612 4/26/12	~~4/26/12~~ 14:50	WQ	None	2 - 1 L Amber	10 day									X																	X					
SL-708-SA5C-SB-0.0-0.5	4/26/12 14:10	SO	None	1 - SS-Sleeve	10 day									X																						
SL-711-SA5C-SB-0.0-0.5	4/26/12 14:40	SO	None	1 - SS-Sleeve	10 day									X																						

Special Instructions: The EB collection time was updated per PH. The bottle labels and sample ID confirm this change. NLH 4/30/12

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
									Brandy Brandy	4-27-12	1005

SAMPLE DELIVERY GROUP

PH004

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Sample Reference List for SDG Number PH004 with a Data Package Type of I

13013 - CDM Federal Programs Corp.

Project: SSFL Phase 3 Sampling

Lab Sample Number	Lab Sample Code	Client Sample Description
6638643	SL712	SL-712-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638644	SL713	SL-713-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638645	SL715	SL-715-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638646	SL720	SL-720-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638647	SL722	SL-722-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638648	SL722	SL-722-SA5C-SB-0.0-0.5 MS Soil SSFL Phase 3 Soil Sampling
6638649	SL722	SL-722-SA5C-SB-0.0-0.5 MSD Soil SSFL Phase 3 Soil Sampling
6638650	S1022	SL-1022-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638651	SL587	SL-587-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638652	SL716	SL-716-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638653	SL717	SL-717-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638654	SL718	SL-718-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638655	SL719	SL-719-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638656	SL599	SL-599-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638657	SL600	SL-600-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling
6638658	SL591	SL-591-SA5C-SB-0.0-0.5 Soil SSFL Phase 3 Soil Sampling

acct#13013 Qp#1306440 Sample#6638643-58

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/2/2012
CarrierName: FedEx
AirbillNo: 793522854901

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120502-02
Cooler #:
Lab: Landcaster
Lab Phone: 717-556-7259

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 314.0/331.1	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-712-SA5C-SB-0.0-0.5	4/30/12 11:35	SO	None	1 - SS-Sleeve	10 day										X																					
SL-713-SA5C-SB-0.0-0.5	4/30/12 14:15	SO	None	1 - SS-Sleeve	10 day										X																					
SL-715-SA5C-SB-0.0-0.5	4/30/12 14:45	SO	None	1 - SS-Sleeve	10 day										X																	X				
SL-720-SA5C-SB-0.0-0.5	4/30/12 15:30	SO	None	1 - SS-Sleeve	10 day										X																					
SL-722-SA5C-SB-0.0-0.5MS	5/1/12 13:25	SO	None	2 - SS-Sleeve	10 day										X																					MS/MSD
SL-1022-SA5C-SB-0.0-0.5	5/1/12 13:30	SO	None	1 - SS-Sleeve	10 day										X																					
SL-587-SA5C-SB-0.0-0.5	5/2/12 11:35	SO	None	1 - SS-Sleeve	10 day										X																					
SL-716-SA5C-SB-0.0-0.5	5/2/12 08:35	SO	None	1 - SS-Sleeve	10 day										X																					
SL-717-SA5C-SB-0.0-0.5	5/2/12 09:15	SO	None	1 - SS-Sleeve	10 day										X																					
SL-718-SA5C-SB-0.0-0.5	5/2/12 09:35	SO	None	1 - SS-Sleeve	10 day										X																					
SL-719-SA5C-SB-0.0-0.5	5/2/12 10:00	SO	None	1 - SS-Sleeve	10 day										X																					
SL-599-SA5C-SB-0.0-0.5	5/2/12 14:45	SO	None	1 - SS-Sleeve	10 day										X																					
SL-600-SA5C-SB-0.0-0.5	5/2/12 14:15	SO	None	1 - SS-Sleeve	10 day										X																					
SL-591-SA5C-SB-0.0-0.5	5/2/12 15:25	SO	None	1 - SS-Sleeve	10 day										X																					

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	05/02/12							[signature]	5/3/12	0915

SAMPLE DELIVERY GROUP

PH005

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Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

May 18, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 05/04/2012
Group Number: 1306698
SDG: PH005
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-602-SA5C-SB-0.0-0.5 Soil	6639998
EB-050312 Water	6639999
SL-603-SA5C-SB-0.0-0.5 Soil	6640000
SL-603-SA5C-SB-0.0-0.5 MS Soil	6640001
SL-603-SA5C-SB-0.0-0.5 MSD Soil	6640002
SL-903-SA5C-SB-0.0-0.5 Soil	6640003
SL-606-SA5C-SB-0.0-0.5 Soil	6640004
SL-612-SA5C-SB-0.0-0.5 Soil	6640005
SL-596-SA5C-SB-2.0-3.0 Soil	6640006
SL-596-SA5C-SB-3.0-4.0 Soil	6640007

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

13013 1306698 6639998-07

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/3/2012
CarrierName: FedEx
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120503-02
Cooler #:
Lab: Landcaster
Lab Phone: 717-556-7259

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	Terpenes 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Orthoprotin	Methyl Mercury 1630	Other Analysis/Notes
SL-602-SA5C-SB-0.0-0.5	5/2/12 15:50	SO	None	1 - SS-Sleeve	10 day									X																						
EB-050312	5/3/12 14:59	WQ	None	1 - 1 L Amber	10 day									X																						
EB-050312	5/3/12 14:50	WQ	None	1 - 250 mL Amber	10 day																											X				
SL-603-SA5C-SB-0.0-0.5MS	5/3/12 09:15	SO	None	2 - SS-Sleeve	10 day									X																						MS/MSD
SL-903-SA5C-SB-0.0-0.5	5/3/12 09:20	SO	None	1 - SS-Sleeve	10 day									X																						
SL-606-SA5C-SB-0.0-0.5	5/3/12 11:30	SO	None	1 - SS-Sleeve	10 day									X																						
SL-612-SA5C-SB-0.0-0.5	5/3/12 10:55	SO	None	1 - SS-Sleeve	10 day									X																						
SL-596-SA5C-SB-2.0-3.0	5/3/12 14:00	SO	None	1 - SS-Sleeve	10 day									X																						
SL-596-SA5C-SB-3.0-4.0	5/3/12 14:05	SO	None	1 - SS-Sleeve	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[illegible]	05/04/12									
									[illegible]	5.4.12	910

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

May 23, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 05/09/2012
Group Number: 1307624
SDG: PH005
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-586-SA5C-SB-0.0-0.5 Soil	6645109
SL-588-SA5C-SB-0.0-0.5 Soil	6645110
SL-589-SA5C-SB-0.0-0.5 Soil	6645111
SL-592-SA5C-SB-0.0-0.5 Soil	6645112
SL-595-SA5C-SB-1.0-2.0 Soil	6645113
SL-595-SA5C-SB-2.0-3.0 Soil	6645114
SL-615-SA5C-SB-0.0-0.5 Soil	6645115
SL-671-SA5C-SB-0.0-0.5 Soil	6645116
SL-673-SA5C-SB-0.0-0.5 Soil	6645117

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct#13013 Cap# 1307624 Sample# 6645109-17

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/8/2012
CarrierName: FedEx
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120508-02
Cooler #:
Lab: Landcaster
Lab Phone: 717-556-7259

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 7196/7198	Herbicides 8151	Pesticides 8081	VOCs 8260	1,4 Dioxane 8260 SIM	TPH-EFH 8015	TPH-GRO 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-586-SA5C-SB-0.0-0.5	5/7/12 10:45	SO	None	1 - SS-Sleeve	10 day									X																						
SL-588-SA5C-SB-0.0-0.5	5/7/12 10:00	SO	None	1 - SS-Sleeve	10 day									X																						
SL-589-SA5C-SB-0.0-0.5	5/7/12 11:15	SO	None	1 - SS-Sleeve	10 day									X																						
SL-592-SA5C-SB-0.0-0.5	5/7/12 09:00	SO	None	1 - SS-Sleeve	10 day									X																						
SL-595-SA5C-SB-1.0-2.0	5/7/12 13:45	SO	None	1 - SS-Sleeve	10 day									X																						
SL-595-SA5C-SB-2.0-3.0	5/7/12 13:30	SO	None	1 - SS-Sleeve	10 day									X																						
SL-615-SA5C-SB-0.0-0.5	5/7/12 15:15	SO	None	1 - SS-Sleeve	10 day									X																						
SL-671-SA5C-SB-0.0-0.5	5/8/12 08:30	SO	None	1 - SS-Sleeve	10 day									X																						
SL-673-SA5C-SB-0.0-0.5	5/8/12 08:50	SO	None	1 - SS-Sleeve	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	05/08/12									
									Sweeta Bertman	5/9/12	0925

SAMPLE DELIVERY GROUP

PH006

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

May 29, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 05/11/2012
Group Number: 1308379
SDG: PH006
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-542-SA5C-SB-0.0-0.5 Soil	6649207
SL-542-SA5C-SB-1.0-2.0 Soil	6649208
SL-566-SA5C-SB-0.0-0.5 Soil	6649209
SL-613-SA5C-SB-0.0-0.5 Soil	6649210
EB-051012 Water	6649211
SL-512-SA5C-SB-4.0-5.0 Soil	6649212
SL-812-SA5C-SB-0.0-0.5 Soil	6649213
SL-513-SA5C-SB-4.0-5.0 Soil	6649214
SL-512-SA5C-SB-6.0-7.0 Soil	6649215
SL-512-SA5C-SB-0.0-0.5 Soil	6649216
SL-512-SA5C-SB-0.0-0.5 MS Soil	6649217
SL-512-SA5C-SB-0.0-0.5 MSD Soil	6649218

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct# 13013 Qp# 1308379 Sample# 6649207-18

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/10/2012
CarrierName: FedEx
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120510-02
Cooler #:
Lab: Landcaster
Lab Phone: 717-556-7259

Sample	Date/ Time	Matrix	Preserv.	Type/No of Containers	Turn Around Time	Metals 6010 and 6020	Mercury 7471 (Soil)	Mercury 7470A (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	Nitrates 300.0/9056	Ethanol 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-SA5C-SB-0.0-0.5	5/9/12 09:00	SO	None	1 - SS-Sleeve	10 day									X																							
SL-542-SA5C-SB-1.0-2.0	5/9/12 09:30	SO	None	1 - SS-Sleeve	10 day									X																							
SL-566-SA5C-SB-0.0-0.5	5/8/12 14:40	SO	None	1 - SS-Sleeve	10 day									X																							
SL-613-SA5C-SB-0.0-0.5	5/9/12 13:55	SO	None	1 - SS-Sleeve	10 day									X																							
EB-051012	5/10/12 15:00	WQ	None	2 - 1 L Amber	10 day									X																							
SL-512-SA5C-SB-4.0-5.0	5/10/12 10:30	SO	None	1 - SS-Sleeve	10 day									X																							
SL-812-SA5C-SB-0.0-0.5	5/10/12 11:40	SO	None	1 - SS-Sleeve	10 day									X																							
SL-513-SA5C-SB-4.0-5.0	5/10/12 15:00	SO	None	1 - SS-Sleeve	10 day									X																							
SL-512-SA5C-SB-6.0-7.0	5/10/12 14:05	SO	None	1 - SS-Sleeve	10 day									X																							
SL-512-SA5C-SB-0.0-0.5MS	5/10/12 10:00	SO	None	1 - SS-Sleeve	10 day									X																							MS/MSD

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		5/10/12									
										5/11/12	940

SAMPLE DELIVERY GROUP

PH007

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 04, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 05/18/2012
Group Number: 1309905
SDG: PH007
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-513-SA5C-SB-9.0-10.0 Soil	6657011
SL-514-SA5C-SB-4.0-5.0 Soil	6657012
SL-514-SA5C-SB-9.0-10.0 Soil	6657013
EB1-051712 Water	6657014
SL-735-SA5C-SB-4.0-5.0 Soil	6657015
SL-735-SA5C-SB-9.0-10.0 Soil	6657016
SL-737-SA5C-SB-4.0-5.0 Soil	6657017
SL-737-SA5C-SB-9.0-10.0 Soil	6657018
EB2-051712 Water	6657019
SL-686-SA5C-SB-4.0-5.0 Soil	6657020
SL-686-SA5C-SB-9.0-10.0 Soil	6657021
SL-738-SA5C-SB-0.0-0.5 Soil	6657022
SL-738-SA5C-SB-4.0-5.0 Soil	6657023
SL-738-SA5C-SB-9.0-10.0 Soil	6657024
SL-739-SA5C-SB-0.0-0.5 Soil	6657025
SL-739-SA5C-SB-4.0-5.0 Soil	6657026
SL-739-SA5C-SB-9.0-10.0 Soil	6657027

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO CDM Federal Services Program Attn: Todd Burgesser

acct#13013 Cap#1309905 sample# 6657011-27

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/17/2012
CarrierName: FedEx
AirbillNo: 793579665707

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120517-02
Cooler #:
Lab: Landcaster
Lab Phone: 717-556-7259

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-513-SA5C-SB-9.0-10.0	5/14/12 10:10	SO	None	1 - SS-Sleeve	10 day									X																						
SL-514-SA5C-SB-4.0-5.0	5/14/12 11:20	SO	None	1 - SS-Sleeve	10 day									X																						
SL-514-SA5C-SB-9.0-10.0	5/14/12 12:25	SO	None	1 - SS-Sleeve	10 day									X																						
SL-695-SA5C-SB-4.0-5.0	5/16/12 08:55	SO	None	1 - SS-Sleeve	10 day																												X			
SL-695-SA5C-SB-9.0-10.0	5/16/12 09:56	SO	None	1 - SS-Sleeve	10 day																												X			
EB1-051712	5/17/12 14:00	WQ	None	2 - 1 L Amber	10 day									X																			X			
SL-735-SA5C-SB-4.0-5.0	5/17/12 08:53	SO	None	1 - 4 oz glass	10 day									X																						
SL-735-SA5C-SB-9.0-10.0	5/17/12 08:58	SO	None	1 - 4 oz glass	10 day									X																						
SL-737-SA5C-SB-4.0-5.0	5/17/12 10:47	SO	None	1 - 4 oz glass	10 day									X																						
SL-737-SA5C-SB-9.0-10.0	5/17/12 10:51	SO	None	1 - 4 oz glass	10 day									X																						
EB2-051712	5/17/12 14:45	WQ	None	2 - 1 L Amber	10 day									X																						
SL-686-SA5C-SB-4.0-5.0	5/17/12 13:56	SO	None	1 - 4 oz glass	10 day									X																						
SL-686-SA5C-SB-9.0-10.0	5/17/12 14:00	SO	None	1 - 4 oz glass	10 day									X																						
SL-738-SA5C-SB-0.0-0.5	5/17/12 12:50	SO	None	1 - 4 oz glass	10 day									X																						
SL-738-SA5C-SB-4.0-5.0	5/17/12 13:01	SO	None	1 - 4 oz glass	10 day									X																						
SL-738-SA5C-SB-9.0-10.0	5/17/12 13:08	SO	None	1 - 4 oz glass	10 day									X																						
SL-739-SA5C-SB-0.0-0.5	5/17/12 14:45	SO	None	1 - 4 oz glass	10 day									X																						
SL-739-SA5C-SB-4.0-5.0	5/17/12 14:50	SO	None	1 - 4 oz glass	10 day									X																						
SL-739-SA5C-SB-9.0-10.0	5/17/12 14:55	SO	None	1 - 4 oz glass	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		5/17/12									
										5/18/12	0925

SAMPLE DELIVERY GROUP

PH008

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 07, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 05/24/2012
Group Number: 1311345
SDG: PH008
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-727-SA5C-SB-0.0-0.5 Soil	6665297
SL-727-SA5C-SB-4.0-5.0 Soil	6665298
SL-727-SA5C-SB-4.0-5.0MS Soil	6665299
SL-727-SA5C-SB-4.0-5.0MSD Soil	6665300
SL-734-SA5C-SB-0.0-0.5 Soil	6665301
SL-734-SA5C-SB-4.0-5.0 Soil	6665302
SL-734-SA5C-SB-9.0-10.0 Soil	6665303
SL-1027-SA5C-SB-4.0-5.0 Soil	6665304
SL-682-SA5C-SB-0.0-0.5 Soil	6665305
SL-682-SA5C-SB-4.0-5.0 Soil	6665306
SL-682-SA5C-SB-9.0-10.0 Soil	6665307
SL-733-SA5C-SB-0.0-0.5 Soil	6665308
SL-733-SA5C-SB-4.0-5.0 Soil	6665309
SL-733-SA5C-SB-9.0-10.0 Soil	6665310
SL-727-SA5C-SB-9.0-10.0 Soil	6665311
SL-674-SA5C-SB-0.0-0.5 Soil	6665312
SL-674-SA5C-SB-2.5-3.5 Soil	6665313
SL-675-SA5C-SB-0.0-0.5 Soil	6665314
SL-678-SA5C-SB-0.0-0.5 Soil	6665315
SL-678-SA5C-SB-2.5-3.5 Soil	6665316
SL-681-SA5C-SB-4.0-5.0 Soil	6665317
SL-681-SA5C-SB-7.5-8.5 Soil	6665318

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

13013 1311345 GG05297-318

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/23/2012

CarrierName: FedEx

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120523-01

Cooler #:

Lab: Lancaster

Lab Phone: 717-556-7259

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	SVOCs 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-727-SA5C-SB-0.0-0.5	5/21/12 10:29	SO	None	1 - 4 oz glass	10 day									X																						
SL-727-SA5C-SB-4.0-5.0MS	5/21/12 10:32	SO	None	1 - 4 oz glass	10 day									X																						MS/MSD
SL-734-SA5C-SB-0.0-0.5	5/21/12 09:29	SO	None	1 - 4 oz glass	10 day									X																						
SL-734-SA5C-SB-4.0-5.0	5/21/12 09:33	SO	None	1 - 4 oz glass	10 day									X																						
SL-734-SA5C-SB-9.0-10.0	5/21/12 09:38	SO	None	1 - 4 oz glass	10 day									X																						
SL-1027-SA5C-SB-4.0-5.0	5/21/12 11:00	SO	None	1 - 4 oz glass	10 day									X																						
SL-682-SA5C-SB-0.0-0.5	5/22/12 14:50	SO	None	1 - 4 oz. glass	10 day									X																						
SL-682-SA5C-SB-4.0-5.0	5/22/12 14:54	SO	None	1 - 4 oz. glass	10 day									X																						
SL-682-SA5C-SB-9.0-10.0	5/22/12 14:58	SO	None	1 - 4 oz. glass	10 day									X																						
SL-730-SA5C-SB-0.0-0.5	5/22/12 08:13	SO	None	1 - 4 oz glass	10 day																											X				
SL-730-SA5C-SB-4.0-5.0	5/22/12 08:19	SO	None	1 - 4 oz glass	10 day																											X				
SL-730-SA5C-SB-9.0-10.0	5/22/12 08:23	SO	None	1 - 4 oz glass	10 day																											X				
SL-731-SA5C-SB-0.0-0.5	5/22/12 10:48	SO	None	1 - 4 oz glass	10 day																											X				
SL-731-SA5C-SB-4.0-5.0	5/22/12 10:54	SO	None	1 - 4 oz glass	10 day																											X				
SL-731-SA5C-SB-9.0-10.0	5/22/12 10:57	SO	None	1 - 4 oz glass	10 day																											X				
SL-732-SA5C-SB-5.0-6.0	5/22/12 13:25	SO	None	1 - 4 oz. glass	10 day																											X				
SL-732-SA5C-SB-10.5-11.5	5/22/12 13:30	SO	None	1 - 4 oz. glass	10 day																											X				
SL-733-SA5C-SB-0.0-0.5	5/22/12 09:23	SO	None	1 - 4 oz. glass	10 day									X																						
SL-733-SA5C-SB-4.0-5.0	5/22/12 09:42	SO	None	1 - 4 oz. glass	10 day									X																						
SL-733-SA5C-SB-9.0-10.0	5/22/12 09:58	SO	None	1 - 4 oz. glass	10 day									X																						
SL-727-SA5C-SB-9.0-10.0	5/21/12 10:36	SO	None	1 - 4 oz glass	10 day									X																						
SL-674-SA5C-SB-0.0-0.5	5/23/12 10:59	SO	None	1 - 4 oz glass	10 day									X																						
SL-674-SA5C-SB-2.5-3.5	5/23/12 11:02	SO	None	1 - 4 oz glass	10 day									X																						
SL-675-SA5C-SB-0.0-0.5	5/23/12 10:26	SO	None	1 - 4 oz glass	10 day									X																						
SL-675-SA5C-SB-0.5-1.5	5/23/12 10:28	SO	None	1 - 4 oz glass	10 day									X																						
SL-678-SA5C-SB-0.0-0.5	5/23/12 09:42	SO	None	1 - 4 oz glass	10 day									X																						
SL-678-SA5C-SB-2.5-3.5	5/23/12 09:46	SO	None	1 - 4 oz glass	10 day									X																						
SL-679-SA5C-SB-0.5-1.5	5/23/12 09:23	SO	None	1 - 4 oz glass	10 day									X																						
SL-681-SA5C-SB-4.0-5.0	5/23/12 07:59	SO	None	1 - 4 oz glass	10 day									X																						
SL-681-SA5C-SB-7.5-8.5	5/23/12 08:05	SO	None	1 - 4 oz glass	10 day									X																						

Revised COC ~~COC~~ Original COC NLH 5/25/12 ~~NLH 5/25/12~~

13013 1311345 GGG65297-318

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/23/2012
CarrierName: FedEx
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120523-01
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	5/23/12									
									[signature]	5/24/12	0945

13013 1311345 6665297-318

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/23/2012

CarriesName: FedEx

AirbillNo:

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120523-01

Cooler #:

Lab: Lancaster

Lab Phone: 717-556-7259

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
SL-727-SA5C-SB-0.0-0.5	5/21/12 10:29	SO	None	1 - 4 oz glass	10 day									X																						
SL-727-SA5C-SB-4.0-5.0MS	5/21/12 10:32	SO	None	1 - 4 oz glass	10 day									X																						MS/MSD
SL-734-SA5C-SB-0.0-0.5	5/21/12 09:29	SO	None	1 - 4 oz glass	10 day									X																						
SL-734-SA5C-SB-4.0-5.0	5/21/12 09:33	SO	None	1 - 4 oz glass	10 day									X																						
SL-734-SA5C-SB-9.0-10.0	5/21/12 09:38	SO	None	1 - 4 oz glass	10 day									X																						
SL-1027-SA5C-SB-4.0-5.0	5/21/12 11:00	SO	None	1 - 4 oz glass	10 day									X																						
SL-682-SA5C-SB-0.0-0.5	5/22/12 14:50	SO	None	1 - 4 oz. glass	10 day									X																						
SL-682-SA5C-SB-4.0-5.0	5/22/12 14:54	SO	None	1 - 4 oz. glass	10 day									X																						
SL-682-SA5C-SB-9.0-10.0	5/22/12 14:58	SO	None	1 - 4 oz. glass	10 day									X																						
SL-730-SA5C-SB-0.0-0.5	5/22/12 08:13	SO	None	1 - 4 oz glass	10 day																											X				
SL-730-SA5C-SB-4.0-5.0	5/22/12 08:19	SO	None	1 - 4 oz glass	10 day																											X				
SL-730-SA5C-SB-9.0-10.0	5/22/12 08:23	SO	None	1 - 4 oz glass	10 day																											X				
SL-731-SA5C-SB-0.0-0.5	5/22/12 10:48	SO	None	1 - 4 oz glass	10 day																											X				
SL-731-SA5C-SB-4.0-5.0	5/22/12 10:54	SO	None	1 - 4 oz glass	10 day																											X				
SL-731-SA5C-SB-9.0-10.0	5/22/12 10:57	SO	None	1 - 4 oz glass	10 day																											X				
SL-732-SA5C-SB-5.0-6.0	5/22/12 13:25	SO	None	1 - 4 oz. glass	10 day																											X				
SL-732-SA5C-SB-10.5-11.5	5/22/12 13:30	SO	None	1 - 4 oz. glass	10 day																											X				
SL-733-SA5C-SB-0.0-0.5	5/22/12 09:23	SO	None	1 - 4 oz. glass	10 day									X																						
SL-733-SA5C-SB-4.0-5.0	5/22/12 09:42	SO	None	1 - 4 oz. glass	10 day									X																						
SL-733-SA5C-SB-9.0-10.0	5/22/12 09:58	SO	None	1 - 4 oz. glass	10 day									X																						
SL-727-SA5C-SB-9.0-10.0	5/21/12 10:36	SO	None	1 - 4 oz glass	10 day									X																						
SL-674-SA5C-SB-0.0-0.5	5/23/12 10:59	SO	None	1 - 4 oz glass	10 day									X																						
SL-674-SA5C-SB-2.5-3.5	5/23/12 11:02	SO	None	1 - 4 oz glass	10 day									X																						
SL-675-SA5C-SB-0.0-0.5	5/23/12 10:26	SO	None	1 - 4 oz glass	10 day									X																						
SL-678-SA5C-SB-0.0-0.5	5/23/12 09:42	SO	None	1 - 4 oz glass	10 day									X																						
SL-678-SA5C-SB-2.5-3.5	5/23/12 09:46	SO	None	1 - 4 oz glass	10 day									X																						
SL-681-SA5C-SB-4.0-5.0	5/23/12 07:59	SO	None	1 - 4 oz glass	10 day									X																						
SL-681-SA5C-SB-7.5-8.5	5/23/12 08:05	SO	None	1 - 4 oz glass	10 day									X																						

Revised COC NLM 5/25/12

13013 1311345 6665297-318

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/23/2012
CarrierName: FedEx
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120523-01
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	Organotin	Methyl Mercury 1630	Other Analysis/Notes
																																					Revised COC NLM 5/26/12

Special Instructions:	SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
									Josh Davenport	5/24/12	0945

AHO 5/24/12

SAMPLE DELIVERY GROUP

PH009

eurofins | Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 07, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 05/25/2012
Group Number: 1311544
SDG: PH009
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-671-SA5C-SB-2.0-3.0 Soil	6666937
SL-675-SA5C-SB-0.0-0.5 Soil	6666938
SL-676-SA5C-SB-4.0-5.0 Soil	6666939
SL-976-SA5C-SB-4.0-5.0 Soil	6666940
SL-672-SA5C-SB-0.0-0.5 Soil	6666941
SL-672-SA5C-SB-4.0-5.0 Soil	6666942
SL-694-SA5C-SB-0.0-0.5 Soil	6666943
SL-694-SA5C-SB-4.0-5.0 Soil	6666944
SL-694-SA5C-SB-9.0-10.0 Soil	6666945
SL-704-SA5C-SB-0.0-0.5 Soil	6666946
SL-704-SA5C-SB-4.0-5.0 Soil	6666947
SL-704-SA5C-SB-9.0-10.0 Soil	6666948
EB-052412 Water	6666949
SL-677-SA5C-SB-0.0-0.5 Soil	6666950
SL-677-SA5C-SB-4.0-5.0 Soil	6666951
SL-705-SA5C-SB-0.0-0.5 Soil	6666952
SL-705-SA5C-SB-4.0-5.0 Soil	6666953
SL-705-SA5C-SB-9.0-10.0 Soil	6666954

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC CDM Federal Services Program Attn: Todd Burgesser

13013 1311544
6666937-54

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/24/2012
CarrierName: FedEx
AirbillNo: 7984 3693 6083

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120524-01
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	Terpenols 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-671-SA5C-SB-2.0-3.0	5/23/12 13:38	SO	None	1 - 4 oz glass	10 day									X																						
SL-675-SA5C-SB-0.0-0.5	5/23/12 10:26	SO	None	1 - 8 oz glass	10 day									X																						
SL-676-SA5C-SB-4.0-5.0	5/23/12 14:43	SO	None	1 - 8 oz glass	10 day									X																						
SL-976-SA5C-SB-4.0-5.0	5/23/12 15:11	SO	None	1 - 8 oz glass	10 day									X																						
SL-672-SA5C-SB-0.0-0.5	5/24/12 09:50	SO	None	1 - 4 oz glass	10 day									X																						
SL-672-SA5C-SB-4.0-5.0	5/24/12 09:55	SO	None	1 - 4 oz glass	10 day									X																						
SL-694-SA5C-SB-0.0-0.5	5/24/12 11:03	SO	None	1 - 4 oz glass	10 day									X																						
SL-694-SA5C-SB-4.0-5.0	5/24/12 11:08	SO	None	1 - 4 oz glass	10 day									X																						
SL-694-SA5C-SB-9.0-10.0	5/24/12 11:13	SO	None	1 - 4 oz glass	10 day									X																						
SL-704-SA5C-SB-0.0-0.5	5/24/12 08:46	SO	None	1 - 4 oz glass	10 day									X																						
SL-704-SA5C-SB-4.0-5.0	5/24/12 08:52	SO	None	1 - 4 oz glass	10 day									X																						
SL-704-SA5C-SB-9.0-10.0	5/24/12 08:57	SO	None	1 - 4 oz glass	10 day									X																						
EB-052412	5/24/12 15:00	WQ	None	2 - 1 L Amber	10 day									X																	X					
SL-677-SA5C-SB-0.0-0.5	5/24/12 14:23	SO	None	1 - 4 oz glass	10 day									X																						
SL-677-SA5C-SB-4.0-5.0	5/24/12 14:33	SO	None	1 - 4 oz glass	10 day									X																						
SL-705-SA5C-SB-0.0-0.5	5/24/12 13:40	SO	None	1 - 4 oz glass	10 day									X																						
SL-705-SA5C-SB-4.0-5.0	5/24/12 13:43	SO	None	1 - 4 oz glass	10 day									X																						
SL-705-SA5C-SB-9.0-10.0	5/24/12 13:48	SO	None	1 - 4 oz glass	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		5/24/12									
										5/25/12	0915

Sampler:

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Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 07, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 05/25/2012
Group Number: 1312215
SDG: PH009
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-676-SA5C-SB-4.0-5.0MS Soil	6670471
SL-676-SA5C-SB-4.0-5.0MSD Soil	6670472

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

13013 ~~131544~~ 1312215
~~6666937-54~~
667047-72
20120524-01
(3) DN 5/30/12

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/24/2012
CarrierName: FedEx
AirbillNo: 7984 3693 6083

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No:
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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-DRO 8015	TPH-EPH 8015	Glycols 8015	Alcohols 8015	Cyanide 9012	Ethenetics 8330	Nitrates 300.0/9056	Tetrahemia 8015	Formaldehyde 8315	NDMA 1625	Oxygenin	Methyl Mercury 1630	Other Analysis/Notes
SL-671-SASC-SB-2.0-3.0	5/23/12 13:38	SO	None	1 - 4 oz glass	10 day									X																								
SL-675-SASC-SB-0.0-0.5	5/23/12 10:26	SO	None	1 - 8 oz glass	10 day									X																								
SL-676-SASC-SB-4.0-5.0	5/23/12 14:43	SO	None	1 - 8 oz glass	10 day									X																								
SL-976-SASC-SB-4.0-5.0	5/23/12 15:11	SO	None	1 - 8 oz glass	10 day									X																								
SL-672-SASC-SB-0.0-0.5	5/24/12 09:50	SO	None	1 - 4 oz glass	10 day									X																								
SL-672-SASC-SB-4.0-5.0	5/24/12 09:55	SO	None	1 - 4 oz glass	10 day									X																								
SL-694-SASC-SB-0.0-0.5	5/24/12 11:03	SO	None	1 - 4 oz glass	10 day									X																								
SL-694-SASC-SB-4.0-5.0	5/24/12 11:08	SO	None	1 - 4 oz glass	10 day									X																								
SL-694-SASC-SB-9.0-10.0	5/24/12 11:13	SO	None	1 - 4 oz glass	10 day									X																								
SL-704-SASC-SB-0.0-0.5	5/24/12 08:46	SO	None	1 - 4 oz glass	10 day									X																								
SL-704-SASC-SB-4.0-5.0	5/24/12 08:52	SO	None	1 - 4 oz glass	10 day									X																								
SL-704-SASC-SB-9.0-10.0	5/24/12 08:57	SO	None	1 - 4 oz glass	10 day									X																								
EB-052412	5/24/12 15:00	WQ	None	2 - 1 L Amber	10 day									X																					X			
SL-677-SASC-SB-0.0-0.5	5/24/12 14:23	SO	None	1 - 4 oz glass	10 day									X																								
SL-677-SASC-SB-4.0-5.0	5/24/12 14:33	SO	None	1 - 4 oz glass	10 day									X																								
SL-705-SASC-SB-0.0-0.5	5/24/12 13:40	SO	None	1 - 4 oz glass	10 day									X																								
SL-705-SASC-SB-4.0-5.0	5/24/12 13:43	SO	None	1 - 4 oz glass	10 day									X																								
SL-705-SASC-SB-9.0-10.0	5/24/12 13:48	SO	None	1 - 4 oz glass	10 day									X																								

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		5/24/12									
										5/25/12	0915

Sampler:

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/24/2012
CarrierName: FedEx
AirbillNo: 7984 3693 6083

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120524-01
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	Tarphanyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Chromatin	Methyl Mercury 1630	Other Analysis/Notes
SL-671-SA5C-SB-2.0-3.0	5/23/12 13:38	SO	None	1 - 4 oz glass	10 day									X																						
SL-675-SA5C-SB-0.0-0.5	5/23/12 10:26	SO	None	1 - 8 oz glass	10 day									X																						
SL-676-SA5C-SB-4.0-5.0MS	5/23/12 14:43	SO	None	1 - 8 oz glass	10 day									X																						MS/MSD
SL-976-SA5C-SB-4.0-5.0	5/23/12 15:11	SO	None	1 - 8 oz glass	10 day									X																						
SL-672-SA5C-SB-0.0-0.5	5/24/12 09:50	SO	None	1 - 4 oz glass	10 day									X																						
SL-672-SA5C-SB-4.0-5.0	5/24/12 09:55	SO	None	1 - 4 oz glass	10 day									X																						
SL-694-SA5C-SB-0.0-0.5	5/24/12 11:03	SO	None	1 - 4 oz glass	10 day									X																						
SL-694-SA5C-SB-4.0-5.0	5/24/12 11:08	SO	None	1 - 4 oz glass	10 day									X																						
SL-694-SA5C-SB-9.0-10.0	5/24/12 11:13	SO	None	1 - 4 oz glass	10 day									X																						
SL-704-SA5C-SB-0.0-0.5	5/24/12 08:46	SO	None	1 - 4 oz glass	10 day									X																						
SL-704-SA5C-SB-4.0-5.0	5/24/12 08:52	SO	None	1 - 4 oz glass	10 day									X																						
SL-704-SA5C-SB-9.0-10.0	5/24/12 08:57	SO	None	1 - 4 oz glass	10 day									X																						
EB-052412	5/24/12 15:00	WQ	None	2 - 1 L Amber	10 day									X																			X			
SL-677-SA5C-SB-0.0-0.5	5/24/12 14:23	SO	None	1 - 4 oz glass	10 day									X																						
SL-677-SA5C-SB-4.0-5.0	5/24/12 14:33	SO	None	1 - 4 oz glass	10 day									X																						
SL-705-SA5C-SB-0.0-0.5	5/24/12 13:40	SO	None	1 - 4 oz glass	10 day									X																						
SL-705-SA5C-SB-4.0-5.0	5/24/12 13:43	SO	None	1 - 4 oz glass	10 day									X																						
SL-705-SA5C-SB-9.0-10.0	5/24/12 13:48	SO	None	1 - 4 oz glass	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time

SAMPLE DELIVERY GROUP

PH010

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 14, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 05/31/2012
Group Number: 1312585
SDG: PH010
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-620-SA5C-SB-0.0-0.5 Soil	6672439
SL-723-SA5C-SB-0.0-0.5 Soil	6672440
SL-723-SA5C-SB-4.0-5.0 Soil	6672441
SL-723-SA5C-SB-9.0-10.0 Soil	6672442
SL-724-SA5C-SB-0.0-0.5 Soil	6672443
SL-724-SA5C-SB-4.0-5.0 Soil	6672444
SL-724-SA5C-SB-9.0-10.0 Soil	6672445
SL-750-SA5C-SB-0.0-0.5 Soil	6672446
SL-750-SA5C-SB-5.5-6.5 Soil	6672447
SL-752-SA5C-SB-0.0-0.5 Soil	6672448
EB-053012 Water	6672449

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct# 13013 Ap# 1312585 Sample# 6672439-49

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/30/2012
CarrierName: FedEx
AirbillNo: 798453735989

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120530-02
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	Terphenyls 8015	Alcohols 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-620-SA5C-SB-0.0-0.5	5/29/12 15:10	SO	None	1 - 4 oz. glass	10 day									X																			
SL-723-SA5C-SB-0.0-0.5	5/29/12 10:05	SO	None	1 - 4 oz. glass	10 day									X																			
SL-723-SA5C-SB-4.0-5.0	5/29/12 10:09	SO	None	1 - 4 oz. glass	10 day									X																			
SL-723-SA5C-SB-9.0-10.0	5/29/12 10:13	SO	None	1 - 4 oz. glass	10 day									X																			
SL-724-SA5C-SB-0.0-0.5	5/29/12 08:57	SO	None	1 - 4 oz. glass	10 day									X																			
SL-724-SA5C-SB-4.0-5.0	5/29/12 09:00	SO	None	1 - 4 oz. glass	10 day									X																			
SL-724-SA5C-SB-9.0-10.0	5/29/12 09:04	SO	None	1 - 4 oz. glass	10 day									X																			
SL-750-SA5C-SB-0.0-0.5	5/29/12 11:47	SO	None	1 - 4 oz. glass	10 day									X																			
SL-750-SA5C-SB-5.5-6.5	5/29/12 11:56	SO	None	1 - 4 oz. glass	10 day									X																			
SL-752-SA5C-SB-0.0-0.5	5/30/12 08:28	SO	None	1 - 4 oz. glass	10 day									X																			
EB-053012	5/30/12 15:00	WQ	None	2 - 1 L Amber	10 day									X															X				Formaldehyde was removed per TP. NM 5/31/12

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	05/12/12									
									[signature] 5-31-12 945		

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/30/2012
CarrierName: FedEx
AirbillNo: 798453735989

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120530-02
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	Terpenols 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Chromatin	Methyl Mercury 1630	Other Analysis/Notes
SL-620-SA5C-SB-0.0-0.5	5/29/12 15:10	SO	None	1 - 4 oz. glass	10 day									X																							
SL-723-SA5C-SB-0.0-0.5	5/29/12 10:05	SO	None	1 - 4 oz. glass	10 day									X																							
SL-723-SA5C-SB-4.0-5.0	5/29/12 10:09	SO	None	1 - 4 oz. glass	10 day									X																							
SL-723-SA5C-SB-9.0-10.0	5/29/12 10:13	SO	None	1 - 4 oz. glass	10 day									X																							
SL-724-SA5C-SB-0.0-0.5	5/29/12 08:57	SO	None	1 - 4 oz. glass	10 day									X																							
SL-724-SA5C-SB-4.0-5.0	5/29/12 09:00	SO	None	1 - 4 oz. glass	10 day									X																							
SL-724-SA5C-SB-9.0-10.0	5/29/12 09:04	SO	None	1 - 4 oz. glass	10 day									X																							
SL-750-SA5C-SB-0.0-0.5	5/29/12 11:47	SO	None	1 - 4 oz. glass	10 day									X																							
SL-750-SA5C-SB-5.5-6.5	5/29/12 11:56	SO	None	1 - 4 oz. glass	10 day									X																							
SL-752-SA5C-SB-0.0-0.5	5/30/12 08:28	SO	None	1 - 4 oz. glass	10 day									X																							
EB-053012	5/30/12 15:00	WQ	None	2 - 1 L Amber	10 day									X																							

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 15, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 06/01/2012
Group Number: 1312927
SDG: PH010
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-621-SA5C-SB-0.0-0.5 Soil	6674173
EB-053112 Water	6674174
SL-611-SA5C-SB-0.0-0.5 Soil	6674175
SL-611-SA5C-SB-5.0-6.0 Soil	6674176
SL-613-SA5C-SB-4.0-5.0 Soil	6674177
SL-613-SA5C-SB-7.5-8.5 Soil	6674178
SL-614-SA5C-SB-0.0-0.5 Soil	6674179
SL-614-SA5C-SB-3.0-4.0 Soil	6674180
SL-612-SA5C-SB-4.0-5.0 Soil	6674181
SL-612-SA5C-SB-4.0-5.0 MS Soil	6674182
SL-612-SA5C-SB-4.0-5.0 MSD Soil	6674183
SL-612-SA5C-SB-7.0-8.0 Soil	6674184
SL-912-SA5C-SB-4.0-5.0 Soil	6674185

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct#13013 Cap#1312927 Sample#6674173-85

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 5/31/2012
CarrierName: FedEx
AirbillNo: 793628614605

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120531-02
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	Terpenoids 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oreangotin	Methyl Mercury 1630	Other Analysis/Notes
SL-621-SA5C-SB-0.0-0.5	5/30/12 14:05	SO	None	1 - 4 oz glass	10 day									X																						
EB-053112	5/31/12 15:15	WQ	None	2 - 1 L Amber	10 day									X																						
SL-611-SA5C-SB-0.0-0.5	5/31/12 11:29	SO	None	1 - 4 oz glass	10 day									X																						
SL-611-SA5C-SB-5.0-6.0	5/31/12 11:33	SO	None	1 - 4 oz glass	10 day									X																						
SL-613-SA5C-SB-4.0-5.0	5/31/12 10:15	SO	None	1 - 4 oz glass	10 day									X																						
SL-613-SA5C-SB-7.5-8.5	5/31/12 10:21	SO	None	1 - 4 oz glass	10 day									X																						
SL-614-SA5C-SB-0.0-0.5	5/31/12 08:58	SO	None	1 - SS-Sleeve	10 day									X																						
SL-614-SA5C-SB-3.0-4.0	5/31/12 09:20	SO	None	1 - 4 oz glass	10 day									X																						
SL-612-SA5C-SB-4.0-5.0MS	5/31/12 14:54	SO	None	1 - 8 oz glass	10 day									X																						
SL-612-SA5C-SB-7.0-8.0	5/31/12 15:08	SO	None	1 - 4 oz glass	10 day									X																						
SL-912-SA5C-SB-4.0-5.0	5/31/12 14:58	SO	None	1 - 4 oz glass	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		5/31/12									
									Brandy Burch	6-1-12	925

SAMPLE DELIVERY GROUP

PH011

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 18, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 06/05/2012
Group Number: 1313382
SDG: PH011
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-564-SA5C-SB-0.0-0.5 Soil	6676282
SL-564-SA5C-SB-4.0-5.0 Soil	6676283
SL-564-SA5C-SB-9.0-10.0 Soil	6676284
SL-565-SA5C-SB-0.0-0.5 Soil	6676285
SL-565-SA5C-SB-4.0-5.0 Soil	6676286
SL-565-SA5C-SB-9.0-10.0 Soil	6676287
SL-566-SA5C-SB-4.0-5.0 Soil	6676288
SL-566-SA5C-SB-9.0-10.0 Soil	6676289
SL-569-SA5C-SB-0.0-0.5 Soil	6676290
SL-569-SA5C-SB-4.0-5.0 Soil	6676291

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

13013 1313382 6676282-91

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/4/2012
CarrierName: FedEx
AirbillNo: 7984 7010 1792

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120604-02
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	Terahenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-564-SA5C-SB-0.0-0.5	6/4/12 11:30	SO	None	1 - 4 oz glass	10 day									X																						
SL-564-SA5C-SB-4.0-5.0	6/4/12 11:35	SO	None	1 - 4 oz glass	10 day									X																						
SL-564-SA5C-SB-9.0-10.0	6/4/12 11:37	SO	None	1 - 4 oz glass	10 day									X																						
SL-573-SA5C-SB-0.0-0.5	6/4/12 10:30	SO	None	1 - 4 oz glass	10 day																											X				
SL-573-SA5C-SB-4.0-5.0	6/4/12 10:40	SO	None	1 - 8 oz glass	10 day																											X				
SL-573-SA5C-SB-9.0-10.0	6/4/12 10:45	SO	None	1 - 4 oz glass	10 day																											X				
SL-565-SA5C-SB-0.0-0.5	6/4/12 01:27	SO	None	1 - 4 oz glass	10 day									X																						
SL-565-SA5C-SB-4.0-5.0	6/4/12 01:30	SO	None	1 - 4 oz glass	10 day									X																						
SL-565-SA5C-SB-9.0-10.0	6/4/12 01:35	SO	None	1 - 4 oz glass	10 day									X																						
SL-566-SA5C-SB-4.0-5.0	6/4/12 02:12	SO	None	1 - 4 oz glass	10 day									X																						
SL-566-SA5C-SB-9.0-10.0	6/4/12 02:15	SO	None	1 - 4 oz glass	10 day									X																						
SL-569-SA5C-SB-0.0-0.5	6/4/12 02:50	SO	None	1 - 4 oz glass	10 day									X																						
SL-569-SA5C-SB-4.0-5.0	6/4/12 02:55	SO	None	1 - 4 oz glass	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		6/4/12									
									6-5-12	1000	

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 19, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 06/06/2012
Group Number: 1313747
SDG: PH011
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
FB-060512 Water	6677895
SL-561-SA5C-SB-0.0-0.5 Soil	6677896
SL-561-SA5C-SB-5.5-6.5 Soil	6677897
SL-615-SA5C-SB-4.0-5.0 Soil	6677898
SL-615-SA5C-SB-9.0-10.0 Soil	6677899
SL-539-SA5C-SB-0.0-0.5 Soil	6677900
SL-539-SA5C-SB-6.0-7.0 Soil	6677901

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct#13013 Ap# 1313747 Sample# 6677895-901

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/5/2012
CarrierName: FedEx
AirbillNo: 7984 7533 5592

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120605-03
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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-060512	6/5/12 15:00	WQ	None	3 - 1 L Amber	10 day									X														X								
SL-561-SA5C-SB-0.0-0.5	6/5/12 10:20	SO	None	1 - 4 oz glass	10 day									X																						
SL-561-SA5C-SB-5.5-6.5	6/5/12 10:25	SO	None	1 - 4 oz glass	10 day									X																						
SL-615-SA5C-SB-4.0-5.0	6/5/12 11:50	SO	None	1 - 4 oz glass	10 day									X																						
SL-615-SA5C-SB-9.0-10.0	6/5/12 11:55	SO	None	1 - 4 oz glass	10 day									X																						
SL-539-SA5C-SB-0.0-0.5	6/5/12 01:55	SO	None	1 - 4 oz glass	10 day									X																						
SL-539-SA5C-SB-6.0-7.0	6/5/12 02:05	SO	None	1 - 4 oz glass	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		6/6/12									
										6-6-12	905

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Analysis Report

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ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 19, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 06/07/2012
Group Number: 1314040
SDG: PH011
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-567-SA5C-SB-0.0-0.5 Soil	6679137
SL-567-SA5C-SB-3.0-4.0 Soil	6679138

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct#13013 Cap# 1314040 Sample# 6679137-38

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/6/2012
CarrierName: FedEx
AirbillNo: 7936 4964 3003

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120606-02
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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-DRO 8015	Glycols 8015	Alcohols 8015	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oxamonin	Methyl Mercury 1630	Other Analysis/Notes
SL-567-SA5C-SB-0.0-0.5	6/6/12 08:30	SO	None	1 - 4 oz glass	10 day																															
SL-567-SA5C-SB-3.0-4.0	6/6/12 08:34	SO	None	1 - 4 oz glass	10 day									X																						
SL-568-SA5C-SB-0.0-0.5	6/6/12 10:45	SO	None	1 - 4 oz glass	10 day									X																						
SL-568-SA5C-SB-4.0-5.0	6/6/12 11:00	SO	None	1 - 4 oz glass	10 day																											X				
SL-568-SA5C-SB-9.0-10.0	6/6/12 11:25	SO	None	1 - 4 oz glass	10 day																											X				

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	6/6/12									
									Bunch	6/7/12	910

Bunch

SAMPLE DELIVERY GROUP

PH012

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Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 15, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 06/08/2012
Group Number: 1314433
SDG: PH012
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
EB1-060712 Water	6680718

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct#13013 Op# 1314433 Sample# 6680718

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/7/2012
CarrierName: FedEx
AirbillNo:

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120607-03
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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/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-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
EB1-060712	6/7/12 15:00	WQ	None	1 - 1 L Amber	10 day									X																		X					

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
		6/7/12									
										6/8/12	915

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Analysis Report

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ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 19, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 06/12/2012
Group Number: 1315123
SDG: PH012
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-518-SA5C-SB-4.0-5.0 Soil	6684325
SL-518-SA5C-SB-9.0-10.0 Soil	6684326
SL-509-SA5C-SB-9.0-10.0 Soil	6684327
SL-809-SA5C-SB-4.0-5.0 Soil	6684328
SL-509-SA5C-SB-4.0-5.0 Soil	6684329
SL-509-SA5C-SB-4.0-5.0 MS Soil	6684330
SL-509-SA5C-SB-4.0-5.0 MSD Soil	6684331
SL-574-SA5C-SB-4.0-5.0 Soil	6684332
SL-574-SA5C-SB-9.0-10.0 Soil	6684333
SL-508-SA5C-SB-4.0-5.0 Soil	6684334
SL-508-SA5C-SB-6.5-7.5 Soil	6684335
SL-507-SA5C-SB-2.5-3.5 Soil	6684336
SL-520-SA5C-SB-6.5-7.5 Soil	6684337
SL-521-SA5C-SB-0.0-0.5 Soil	6684338
SL-521-SA5C-SB-4.0-5.0 Soil	6684339
SL-521-SA5C-SB-9.0-10.0 Soil	6684340

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC	CDM Federal Services Program	Attn: Todd Burgesser
COPY TO		
ELECTRONIC	Data Package Group	

acct#13013 Qp#1315123 Sample#6684325-40

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/11/2012
CarrierName: FedEx
AirbillNo: 793667641525

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120611-02
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	Explosives 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-518-SA5C-SB-4.0-5.0	6/11/12 09:24	SO	None	1 - 4 oz glass	10 day									X																						
SL-518-SA5C-SB-9.0-10.0	6/11/12 09:28	SO	None	1 - 4 oz glass	10 day									X																						
SL-509-SA5C-SB-9.0-10.0	6/11/12 08:38	SO	None	1 - 4 oz glass	10 day									X																						
SL-809-SA5C-SB-4.0-5.0	6/11/12 08:30	SO	None	1 - 4 oz glass	10 day									X																						
SL-509-SA5C-SB-4.0-5.0MS	6/11/12 08:48	SO	None	1 - 8 oz glass	10 day									X																						MS/MSD
SL-574-SA5C-SB-4.0-5.0	6/11/12 11:25	SO	None	1 - 4 oz glass	10 day									X																						
SL-574-SA5C-SB-9.0-10.0	6/11/12 11:30	SO	None	1 - 4 oz glass	10 day									X																						
SL-508-SA5C-SB-4.0-5.0	6/11/12 10:50	SO	None	1 - 4 oz glass	10 day									X																						
SL-508-SA5C-SB-6.5-7.5	6/11/12 10:55	SO	None	1 - 4 oz glass	10 day									X																						
SL-507-SA5C-SB-2.5-3.5	6/11/12 13:30	SO	None	1 - 4 oz glass	10 day									X																						
SL-520-SA5C-SB-6.5-7.5	6/11/12 14:50	SO	None	1 - 4 oz glass	10 day									X																						
SL-521-SA5C-SB-0.0-0.5	6/11/12 15:20	SO	None	1 - 4 oz glass	10 day									X																						
SL-521-SA5C-SB-4.0-5.0	6/11/12 15:25	SO	None	1 - 4 oz glass	10 day									X																						
SL-521-SA5C-SB-9.0-10.0	6/11/12 15:30	SO	None	1 - 4 oz glass	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Stan Mupel	06/11/2012									
									6-11-12	925	

SAMPLE DELIVERY GROUP

PH013

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 26, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 06/15/2012
Group Number: 1316111
SDG: PH013
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-687-SA5C-SB-4.0-5.0 Soil	6689368
SL-688-SA5C-SB-4.0-5.0 Soil	6689369
SL-688-SA5C-SB-9.0-10.0 Soil	6689370
SL-689-SA5C-SB-4.0-5.0 Soil	6689371
SL-689-SA5C-SB-7.5-8.5 Soil	6689372
SL-690-SA5C-SB-3.5-4.5 Soil	6689373
SL-692-SA5C-SB-5.0-6.0 Soil	6689374
SL-693-SA5C-SB-4.0-5.0 Soil	6689375
SL-693-SA5C-SB-9.0-10.0 Soil	6689376
SL-683-SA5C-SB-4.0-5.0 Soil	6689377
SL-683-SA5C-SB-7.0-8.0 Soil	6689378
SL-684-SA5C-SB-2.5-3.5 Soil	6689379
SL-685-SA5C-SB-4.0-5.0 Soil	6689380
SL-685-SA5C-SB-7.0-8.0 Soil	6689381
SL-717-SA5C-SB-6.0-7.0 Soil	6689382
SL-718-SA5C-SB-4.0-5.0 Soil	6689383
SL-718-SA5C-SB-8.0-9.0 Soil	6689384
SL-720-SA5C-SB-4.5-5.5 Soil	6689385
SL-722-SA5C-SB-6.0-7.0 Soil	6689386
EB-061412 Water	6689387
SL-716-SA5C-SB-5.5-6.5 Soil	6689388

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

acct#13013 Qp#1316111 Sample#6689368-88

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/14/2012
CarrierName: FedEx
AirbillNo: 793683338891

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120614-01
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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
SL-687-SA5C-SB-4.0-5.0	6/12/12 14:10	SO	None	1 - 4 oz glass	10 day									X																						
SL-688-SA5C-SB-4.0-5.0	6/12/12 14:50	SO	None	1 - 4 oz glass	10 day									X																						
SL-688-SA5C-SB-9.0-10.0	6/12/12 15:00	SO	None	1 - 8 oz glass	10 day									X																						
SL-689-SA5C-SB-4.0-5.0	6/12/12 13:25	SO	None	1 - 4 oz glass	10 day									X																						
SL-689-SA5C-SB-7.5-8.5	6/12/12 13:45	SO	None	1 - 4 oz glass	10 day									X																						
SL-690-SA5C-SB-3.5-4.5	6/12/12 11:25	SO	None	1 - 4 oz glass	10 day									X																						
SL-692-SA5C-SB-5.0-6.0	6/12/12 10:15	SO	None	1 - 4 oz glass	10 day									X																						
SL-693-SA5C-SB-4.0-5.0	6/12/12 09:25	SO	None	1 - 4 oz glass	10 day									X																						
SL-693-SA5C-SB-9.0-10.0	6/12/12 09:35	SO	None	1 - 4 oz glass	10 day									X																						
SL-683-SA5C-SB-4.0-5.0	6/13/12 09:31	SO	None	1 - 8 oz glass	10 day									X																						
SL-683-SA5C-SB-7.0-8.0	6/13/12 09:45	SO	None	1 - 8 oz glass	10 day									X																						
SL-684-SA5C-SB-2.5-3.5	6/13/12 08:18	SO	None	1 - 4 oz glass	10 day									X																						
SL-685-SA5C-SB-4.0-5.0	6/13/12 09:00	SO	None	1 - 4 oz glass	10 day									X																						
SL-685-SA5C-SB-7.0-8.0	6/13/12 08:48	SO	None	1 - 8 oz glass	10 day									X																						
SL-717-SA5C-SB-6.0-7.0	6/13/12 14:45	SO	None	1 - 8 oz glass	10 day									X																						
SL-718-SA5C-SB-4.0-5.0	6/13/12 13:08	SO	None	1 - 8 oz glass	10 day									X																						
SL-718-SA5C-SB-8.0-9.0	6/13/12 13:10	SO	None	1 - 8 oz glass	10 day									X																						
SL-720-SA5C-SB-4.5-5.5	6/13/12 12:37	SO	None	1 - 8 oz glass	10 day									X																						
SL-722-SA5C-SB-6.0-7.0	6/13/12 14:18	SO	None	1 - 8 oz glass	10 day									X																						
EB-061412	6/14/12 14:30	WQ	None	3 - 1 L Amber	10 day									X																						
SL-718-SA5C-SB-5.5-6.5	6/13/12 15:24	SO	None	1 - 8 oz glass	10 day									X																						
SL-715-SA5C-SB-6.0-7.0	6/14/12 11:20	SO	None	1 - 8 oz glass	10 day									X																						
SL-719-SA5C-SB-6.0-7.0	6/14/12 12:00	SO	None	1 - 4 oz glass	10 day									X																		X				
SL-711-SA5C-SB-9.0-10.0	6/14/12 08:46	SO	None	1 - 4 oz glass	10 day									X																						
SL-711-SA5C-SB-4.0-5.0	6/14/12 08:55	SO	None	1 - 4 oz glass	10 day									X																						
SL-712-SA5C-SB-4.0-5.0	6/14/12 09:50	SO	None	1 - 4 oz glass	10 day									X																						
SL-712-SA5C-SB-9.0-10.0	6/14/12 09:44	SO	None	1 - 4 oz glass	10 day									X																						
SL-713-SA5C-SB-6.0-7.0	6/14/12 10:40	SO	None	1 - 4 oz glass	10 day									X																						

KAn 6/15/12 0950

acct# 13013 Cap# 13160111 sample# 6689368-88

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/14/2012
CarrierName: FedEx
AirbillNo: 793683338891

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120614-01
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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-EFH 8015	TPH-GRO 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:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Skyff Mapel	6/14/2012									
										6/15/12	0950

SAMPLE DELIVERY GROUP

PH014

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Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

June 29, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 06/15/2012
Group Number: 1316112
SDG: PH014
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-715-SA5C-SB-6.0-7.0 Soil	6689389
SL-719-SA5C-SB-6.0-7.0 Soil	6689390
SL-711-SA5C-SB-9.0-10.0 Soil	6689391
SL-711-SA5C-SB-4.0-5.0 Soil	6689392
SL-712-SA5C-SB-4.0-5.0 Soil	6689393
SL-712-SA5C-SB-9.0-10.0 Soil	6689394
SL-713-SA5C-SB-6.0-7.0 Soil	6689395

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct# 13013 Qp# 1316112 Sample# 6689389-95

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/14/2012
CarrierName: FedEx
AirbillNo: 793683338891

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120614-01
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	Terphenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Oraanotin	Methyl Mercury 1630	Other Analysis/Notes
SL-687-SA5C-SB-4.0-5.0	6/12/12 14:10	SO	None	1 - 4 oz glass	10 day									X																							
SL-688-SA5C-SB-4.0-5.0	6/12/12 14:50	SO	None	1 - 4 oz glass	10 day									X																							
SL-688-SA5C-SB-9.0-10.0	6/12/12 15:00	SO	None	1 - 8 oz glass	10 day									X																							
SL-689-SA5C-SB-4.0-5.0	6/12/12 13:25	SO	None	1 - 4 oz glass	10 day									X																							
SL-689-SA5C-SB-7.5-8.5	6/12/12 13:45	SO	None	1 - 4 oz glass	10 day									X																							
SL-690-SA5C-SB-3.5-4.5	6/12/12 11:25	SO	None	1 - 4 oz glass	10 day									X																							
SL-692-SA5C-SB-5.0-6.0	6/12/12 10:15	SO	None	1 - 4 oz glass	10 day									X																							
SL-693-SA5C-SB-4.0-5.0	6/12/12 09:25	SO	None	1 - 4 oz glass	10 day									X																							
SL-693-SA5C-SB-9.0-10.0	6/12/12 09:35	SO	None	1 - 4 oz glass	10 day									X																							
SL-683-SA5C-SB-4.0-5.0	6/13/12 09:31	SO	None	1 - 8 oz glass	10 day									X																							
SL-683-SA5C-SB-7.0-8.0	6/13/12 09:45	SO	None	1 - 8 oz glass	10 day									X																							
SL-684-SA5C-SB-2.5-3.5	6/13/12 08:18	SO	None	1 - 4 oz glass	10 day									X																							
SL-685-SA5C-SB-4.0-5.0	6/13/12 09:00	SO	None	1 - 4 oz glass	10 day									X																							
SL-685-SA5C-SB-7.0-8.0	6/13/12 08:48	SO	None	1 - 8 oz glass	10 day									X																							
SL-717-SA5C-SB-6.0-7.0	6/13/12 14:45	SO	None	1 - 8 oz glass	10 day									X																							
SL-718-SA5C-SB-4.0-5.0	6/13/12 13:08	SO	None	1 - 8 oz glass	10 day									X																							
SL-718-SA5C-SB-8.0-9.0	6/13/12 13:10	SO	None	1 - 8 oz glass	10 day									X																							
SL-720-SA5C-SB-4.5-5.5	6/13/12 12:37	SO	None	1 - 8 oz glass	10 day									X																							
SL-722-SA5C-SB-6.0-7.0	6/13/12 14:18	SO	None	1 - 8 oz glass	10 day									X																							
EB-061412	6/14/12 14:30	WQ	None	3 - 1 L Amber	10 day									X																							
SL-716-SA5C-SB-5.5-6.5	6/13/12 15:24	SO	None	1 - 8 oz glass	10 day									X																							
SL-715-SA5C-SB-6.0-7.0	6/14/12 11:20	SO	None	1 - 8 oz glass	10 day									X																			X				
SL-719-SA5C-SB-6.0-7.0	6/14/12 12:00	SO	None	1 - 4 oz glass	10 day									X																							
SL-711-SA5C-SB-9.0-10.0	6/14/12 08:46	SO	None	1 - 4 oz glass	10 day									X																							
SL-711-SA5C-SB-4.0-5.0	6/14/12 08:55	SO	None	1 - 4 oz glass	10 day									X																							
SL-712-SA5C-SB-4.0-5.0	6/14/12 09:50	SO	None	1 - 4 oz glass	10 day									X																							
SL-712-SA5C-SB-9.0-10.0	6/14/12 09:44	SO	None	1 - 4 oz glass	10 day									X																							
SL-713-SA5C-SB-6.0-7.0	6/14/12 10:40	SO	None	1 - 4 oz glass	10 day									X																							

KAr 6/15/12 0950

acct# 13013 Gp# 1316112 sample# 6689389-95

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/14/2012
CarrierName: FedEx
AirbillNo: 793683338891

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120614-01
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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-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

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	6/14/2012									
									[signature]	6/15/12	0950

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

July 03, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 06/21/2012
Group Number: 1317268
SDG: PH014
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-670-SA5C-SB-4.0-5.0 Soil	6695330
SL-670-SA5C-SB-0.0-0.5 Soil	6695331
FB-062012 Water	6695332
SL-587-SA5C-SB-4.0-5.0 Soil	6695333
SL-587-SA5C-SB-4.0-5.0MS Soil	6695334
SL-587-SA5C-SB-4.0-5.0MSD Soil	6695335
SL-887-SA5C-SB-4.0-5.0 Soil	6695336
SL-587-SA5C-SB-8.5-9.5 Soil	6695337
SL-628-SA5C-SB-11.5-12.5 Soil	6695339
SL-630-SA5C-SB-8.0-9.0 Soil	6695340
SL-702-SA5C-SB-4.0-5.0 Soil	6695341
SL-702-SA5C-SB-9.0-10.0 Soil	6695342

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

13013 1317268 6695330-42

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/20/2012

CarrierName: FedEx

AirbillNo: 793704690278

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120620-02

Cooler #:

Lab: Lancaster

Lab Phone: 717-556-7259

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
SL-670-SA5C-SB-4.0-5.0	6/19/12 15:20	SO	None	1 - 4 oz glass	10 day									X																						
SL-670-SA5C-SB-0.0-0.5	6/19/12 15:50	SO	None	1 - 4 oz glass	10 day									X																						
FB-062012	6/20/12 15:00	WQ	None	3 - 1 L Amber	10 day									X															X						
SL-587-SA5C-SB-4.0-5.0MS	6/20/12 14:05	SO	None	1 - 8 oz glass	10 day									X																						
SL-887-SA5C-SB-4.0-5.0	6/20/12 14:15	SO	None	1 - 4 oz glass	10 day									X																						
SL-587-SA5C-SB-8.5-9.5	6/20/12 14:10	SO	None	1 - 4 oz glass	10 day									X																						
SL-604-SA5C-SB-4.0-5.0	6/20/12 15:10	SO	None	1 - 4 oz glass	10 day									X																						
SL-628-SA5C-SB-11.5-12.5	6/20/12 11:00	SO	None	1 - 4 oz glass	10 day									X																						
SL-630-SA5C-SB-8.0-9.0	6/20/12 11:55	SO	None	1 - 4 oz glass	10 day									X																						
SL-702-SA5C-SB-4.0-5.0	6/18/12 09:57	SO	None	1 - 4 oz glass	10 day									X																						
SL-702-SA5C-SB-9.0-10.0	6/18/12 10:00	SO	None	1 - 4 oz glass	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Stephanie	6/20/2012									
										6/21/12	0915

SAMPLE DELIVERY GROUP

PH015

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

July 09, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 06/22/2012
Group Number: 1317752
SDG: PH015
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
EB2-062112 Water	6698357
SL-602-SA5C-SB-4.0-5.0 Soil	6698358
SL-603-SA5C-SB-4.0-5.0 Soil	6698359
SL-599-SA5C-SB-4.0-5.0 Soil	6698360
SL-600-SA5C-SB-4.0-5.0 Soil	6698361
SL-594-SA5C-SB-0.0-0.5 Soil	6698362
SL-594-SA5C-SB-5.0-6.0 Soil	6698363
SL-594-SA5C-SB-9.0-10.0 Soil	6698364

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

SSFL Phase 3 Chain of Custody 13013 1317752 6698357-64

CDM Smith

DateShipped: 6/21/2012
CarrierName:
AirbillNo: 7985 4079 5656

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120621-02
Cooler #:
Lab:
Lab Phone:

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-ETH 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
EB2-062112	6/21/12 15:00	WQ	None	2 - 1 L Amber	10 day																															
SL-602-SA5C-SB-4.0-5.0	6/21/12 11:35	SO	None	1 - 4 oz glass	10 day									X																						
SL-603-SA5C-SB-4.0-5.0	6/21/12 11:05	SO	None	1 - 4 oz glass	10 day									X																						
SL-599-SA5C-SB-4.0-5.0	6/21/12 10:00	SO	None	1 - 4 oz glass	10 day									X																						
SL-600-SA5C-SB-4.0-5.0	6/21/12 09:35	SO	None	1 - 4 oz glass	10 day									X																						
SL-594-SA5C-SB-0.0-0.5	6/21/12 14:05	SO	None	1 - 4 oz glass	10 day									X																						
SL-594-SA5C-SB-5.0-6.0	6/21/12 14:10	SO	None	1 - 4 oz glass	10 day									X																						
SL-594-SA5C-SB-9.0-10.0	6/21/12 14:15	SO	None	1 - 4 oz glass	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	6/21/12									
									[signature]	6/22/12	0935

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

July 10, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 06/27/2012
Group Number: 1318621
SDG: PH015
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-575-SA5C-SB-4.0-5.0 Soil	6703559
SL-515-SA5C-SB-4.0-5.0 Soil	6703560
SL-515-SA5C-SB-9.0-10.0 Soil	6703561
SL-581-SA5C-SB-4.0-5.0 Soil	6703562
SL-581-SA5C-SB-4.0-5.0 MS Soil	6703563
SL-581-SA5C-SB-4.0-5.0 MSD Soil	6703564
SL-881-SA5C-SB-4.0-5.0 Soil	6703565

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct# 13013 Gp# 1318621 sample# 6703559-65

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/26/2012

CarrierName: FedEx

AirbillNo: 793724109481

Contact Name: Pam Hartman

Contact Phone: (818)466-8007

No: 20120626-02

Cooler #:

Lab: Lancaster

Lab Phone: 717-556-7259

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	1,4 Dioxane 8260 SIM	VOCs 8260	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-575-SA5C-SB-4.0-5.0	6/25/12 10:30	SO	None	1 - 55-Sleeve	10 day									X																						
SL-515-SA5C-SB-4.0-5.0	6/25/12 14:45	SO	None	1 - 55-Sleeve	10 day									X																						
SL-515-SA5C-SB-9.0-10.0	6/25/12 15:30	SO	None	1 - 55-Sleeve	10 day									X																						
SL-581-SA5C-SB-4.0-5.0MS	6/26/12 10:31	SO	None	1 - 55-Sleeve	10 day									X																		X				ms/msd
SL-881-SA5C-SB-4.0-5.0	6/26/12 10:33	SO	None	1 - 55-Sleeve	10 day									X																		X				

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Stephen Mypel	6/26/2012									
										6-29-12	925

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

July 16, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 06/29/2012
Group Number: 1319175
SDG: PH015
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
EB-062812 Water	6706209
SL-578-SA5C-SB-4.0-5.0 Soil	6706210
SL-747-SA5C-SB-2.5-3.5 Soil	6706211
SL-501-SA5C-SB-4.0-5.0 Soil	6706212
SL-502-SA5C-SB-4.5-5.5 Soil	6706213

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

13013 1319175 6706209-13

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 6/28/2012
CarrierName: FedEx
AirbillNo: 793733712651

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120628-02
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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 314.0/6331	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	Terpheneols 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
EB-062812	6/28/12 15:15	WQ	None	3 - 1L amber	10 day																															
SL-578-SA5C-SB-4.0-5.0	6/27/12 10:15	SO	None	1 - 55-Sleeve	10 day									X																			X				
SL-747-SA5C-SB-2.5-3.5	6/26/12 14:01	SO	None	1 - 55-Sleeve	10 day									X																							
SL-501-SA5C-SB-4.0-5.0	6/28/12 09:00	SO	None	1 - 55-Sleeve	10 day									X																			X				
SL-502-SA5C-SB-4.5-5.5	6/28/12 10:30	SO	None	1 - 55-Sleeve	10 day									X																							

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	Shelly Mapel	6/28/2012									
									Brady Brady	6-29-12	920

SAMPLE DELIVERY GROUP

PH016

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

July 23, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 07/12/2012
Group Number: 1321538
SDG: PH016
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
FB-071112 Water	6717296
SL-586-SA5C-SB-4.0-5.0 Soil	6717297
SL-586-SA5C-SB-9.0-10.0 Soil	6717298
SL-588-SA5C-SB-4.0-5.0 Soil	6717299
SL-588-SA5C-SB-9.0-10.0 Soil	6717300
SL-589-SA5C-SB-4.0-5.0 Soil	6717301

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CDM Federal Services Program	Attn: Todd Burgesser
ELECTRONIC COPY TO	Data Package Group	

acct# 13013 Gp# 1321538 sample# 6717296-301

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 7/11/2012
CarrierName: FedEx
AirbillNo: 798609438100

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120711-02
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	Terpenols 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
FB-071112	7/11/12 14:00	WQ	None	3 - 1 L Amber	10 day																												X				
SL-586-SA5C-SB-4.0-5.0	7/11/12 08:40	SO	None	1 - 4 oz glass	10 day									X																							
SL-586-SA5C-SB-9.0-10.0	7/11/12 08:45	SO	None	1 - 4 oz glass	10 day									X																							
SL-588-SA5C-SB-4.0-5.0	7/11/12 08:10	SO	None	1 - 4 oz glass	10 day									X																							
SL-588-SA5C-SB-9.0-10.0	7/11/12 08:15	SO	None	1 - 4 oz glass	10 day									X																							
SL-589-SA5C-SB-4.0-5.0	7/11/12 10:10	SO	None	1 - 4 oz glass	10 day									X																							
SL-591-SA5C-SB-4.0-5.0	7/11/12 09:50	SO	None	1 - 4 oz glass	10 day									X																							
SL-592-SA5C-SB-5.0-6.0	7/11/12 07:35	SO	None	1 - 4 oz glass	10 day									X																							
SL-607-SA5C-SB-0.0-0.5	7/11/12 11:00	SO	None	1 - 4 oz glass	10 day									X																							
SL-607-SA5C-SB-4.0-5.0	7/11/12 11:05	SO	None	1 - 4 oz glass	10 day									X																							
SL-607-SA5C-SB-9.0-10.0	7/11/12 11:10	SO	None	1 - 4 oz glass	10 day									X																							

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	07/12 2012									
									[signature]	7/12/12	920

SAMPLE DELIVERY GROUP

PH017

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

July 24, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 07/11/2012
Group Number: 1321233
SDG: PH017
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-530-SA5C-SB-4.0-5.0 Soil	6715886
SL-530-SA5C-SB-9.0-10.0 Soil	6715887
SL-522-SA5C-SB-4.0-5.0 Soil	6715888
SL-522-SA5C-SB-4.0-5.0 MS Soil	6715889
SL-522-SA5C-SB-4.0-5.0 MSD Soil	6715890
SL-522-SA5C-SB-9.0-10.0 Soil	6715891
SL-822-SA5C-SB-4.0-5.0 Soil	6715892
SL-531-SA5C-SB-4.0-5.0 Soil	6715893
SL-531-SA5C-SB-9.0-10.0 Soil	6715894
SL-623-SA5C-SB-4.0-5.0 Soil	6715895
SL-623-SA5C-SB-9.0-10.0 Soil	6715896
SL-523-SA5C-SB-4.0-5.0 Soil	6715897
SL-523-SA5C-SB-9.0-10.0 Soil	6715898
SL-754-SA5C-SB-0.0-0.5 Soil	6715899
SL-754-SA5C-SB-4.0-5.0 Soil	6715900
SL-754-SA5C-SB-6.5-7.5 Soil	6715901
SL-533-SA5C-SB-4.0-5.0 Soil	6715902
SL-533-SA5C-SB-9.0-10.0 Soil	6715903
SL-755-SA5C-SB-0.0-0.5 Soil	6715904
SL-755-SA5C-SB-4.0-5.0 Soil	6715905
SL-755-SA5C-SB-5.5-6.5 Soil	6715906
SL-640-SA5C-SB-5.0-6.0 Soil	6715907

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

acct#13013 Gp# 1321233 sample# 6715886-907

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 7/10/2012
CarrierName: FedEx
AirbillNo: 798604707910

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120710-02
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	Terpheneols 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes
SL-530-SA5C-SB-4.0-5.0	7/9/12 09:05	SO	None	1-4 oz glass	10 day									X																						
SL-530-SA5C-SB-9.0-10.0	7/9/12 09:20	SO	None	1-4 oz glass	10 day									X																						
SL-522-SA5C-SB-4.0-5.0MS	7/9/12 10:05	SO	None	1-8 oz glass	10 day									X																						MS/MSD
SL-522-SA5C-SB-9.0-10.0	7/9/12 10:15	SO	None	1-4 oz glass	10 day									X																						
SL-822-SA5C-SB-4.0-5.0	7/9/12 10:30	SO	None	1-4 oz glass	10 day									X																						
SL-531-SA5C-SB-4.0-5.0	7/9/12 11:30	SO	None	1-4 oz glass	10 day									X																						
SL-531-SA5C-SB-9.0-10.0	7/9/12 11:35	SO	None	1-4 oz glass	10 day									X																						
SL-623-SA5C-SB-4.0-5.0	7/9/12 10:55	SO	None	1-4 oz glass	10 day									X																						
SL-623-SA5C-SB-9.0-10.0	7/9/12 11:00	SO	None	1-4 oz glass	10 day									X																						
SL-523-SA5C-SB-4.0-5.0	7/9/12 13:20	SO	None	1-4 oz glass	10 day									X																						
SL-523-SA5C-SB-9.0-10.0	7/9/12 13:25	SO	None	1-4 oz glass	10 day									X																						
SL-754-SA5C-SB-0.0-0.5	7/9/12 14:40	SO	None	1-4 oz glass	10 day									X																						
SL-754-SA5C-SB-4.0-5.0	7/9/12 14:45	SO	None	1-4 oz glass	10 day									X																						
SL-754-SA5C-SB-6.5-7.5	7/9/12 14:50	SO	None	1-4 oz glass	10 day									X																						
SL-533-SA5C-SB-4.0-5.0	7/9/12 13:55	SO	None	1-4 oz glass	10 day									X																						
SL-533-SA5C-SB-9.0-10.0	7/9/12 14:00	SO	None	1-4 oz glass	10 day									X																						
SL-755-SA5C-SB-0.0-0.5	7/10/12 07:15	SO	None	1-4 oz glass	10 day									X																						
SL-755-SA5C-SB-4.0-5.0	7/10/12 07:20	SO	None	1-4 oz glass	10 day									X																						
SL-755-SA5C-SB-5.5-6.5	7/10/12 07:30	SO	None	1-4 oz glass	10 day									X																						
SL-640-SA5C-SB-5.0-6.0	7/10/12 08:40	SO	None	1-4 oz glass	10 day									X																						
SL-640-SA5C-SB-10.0-11.0	7/10/12 08:45	SO	None	1-4 oz glass	10 day									X																						
SL-640-SA5C-SB-15.0-16.0	7/10/12 08:50	SO	None	1-4 oz glass	10 day									X																						
SL-640-SA5C-SB-19.0-20.0	7/10/12 08:55	SO	None	1-4 oz glass	10 day									X																						
SL-641-SA5C-SB-4.0-5.0	7/10/12 10:10	SO	None	1-4 oz glass	10 day									X																						
SL-641-SA5C-SB-9.0-10.0	7/10/12 10:20	SO	None	1-4 oz glass	10 day									X																						
SL-641-SA5C-SB-14.0-15.0	7/10/12 10:25	SO	None	1-4 oz glass	10 day									X																						
SL-641-SA5C-SB-18.5-19.5	7/10/12 10:30	SO	None	1-4 oz glass	10 day									X																						
SL-642-SA5C-SB-4.0-5.0	7/10/12 12:40	SO	None	1-4 oz glass	10 day									X																						
SL-642-SA5C-SB-9.0-10.0	7/10/12 12:45	SO	None	1-4 oz glass	10 day									X																						
SL-642-SA5C-SB-14.0-15.0	7/10/12 12:50	SO	None	1-4 oz glass	10 day									X																						
SL-642-SA5C-SB-17.5-18.5	7/10/12 12:55	SO	None	1-4 oz glass	10 day									X																						

coc# 13013 Gp# 1321233 Sample# 6715886-907

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 7/10/2012 | Contact Name: Pam Hartman | No: 20120710-02

CarrierName: FedEx | Contact Phone: (818)466-8007 | Cooler #:

AirbillNo: 798604707910 | Lab: Lancaster

Lab Phone: 717-556-7259

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

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[illegible]	7/10/2012									
										7-11-12	921

SAMPLE DELIVERY GROUP

PH018

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

July 24, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 07/11/2012
Group Number: 1321236
SDG: PH018
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-640-SA5C-SB-10.0-11.0 Soil	6715911
SL-640-SA5C-SB-15.0-16.0 Soil	6715912
SL-640-SA5C-SB-19.0-20.0 Soil	6715913
SL-641-SA5C-SB-4.0-5.0 Soil	6715914
SL-641-SA5C-SB-9.0-10.0 Soil	6715915
SL-641-SA5C-SB-14.0-15.0 Soil	6715916
SL-641-SA5C-SB-18.5-19.5 Soil	6715917
SL-642-SA5C-SB-4.0-5.0 Soil	6715918
SL-642-SA5C-SB-9.0-10.0 Soil	6715919
SL-642-SA5C-SB-14.0-15.0 Soil	6715920
SL-642-SA5C-SB-17.5-18.5 Soil	6715921

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

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ELECTRONIC COPY TO	Data Package Group	

acct#13013 Cap#1321236 Sample#6715911-21

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped:	7/10/2012	Contact Name:	Pam Hartman	No:	20120710-02
CarrierName:	FedEx	Contact Phone:	(818)466-8007	Cooler #:	
AirbillNo:	798604707910			Lab:	Lancaster
				Lab Phone:	717-556-7259

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-530-SA5C-SB-4.0-5.0	7/9/12 09:05	SO	None	1 - 4 oz glass	10 day									X																							
SL-530-SA5C-SB-9.0-10.0	7/9/12 09:20	SO	None	1 - 4 oz glass	10 day									X																							
SL-522-SA5C-SB-4.0-5.0MS	7/9/12 10:05	SO	None	1 - 8 oz glass	10 day									X																							MS/MSD
SL-522-SA5C-SB-9.0-10.0	7/9/12 10:15	SO	None	1 - 4 oz glass	10 day									X																							
SL-822-SA5C-SB-4.0-5.0	7/9/12 10:30	SO	None	1 - 4 oz glass	10 day									X																							
SL-531-SA5C-SB-4.0-5.0	7/9/12 11:30	SO	None	1 - 4 oz glass	10 day									X																							
SL-531-SA5C-SB-9.0-10.0	7/9/12 11:35	SO	None	1 - 4 oz glass	10 day									X																							
SL-623-SA5C-SB-4.0-5.0	7/9/12 10:55	SO	None	1 - 4 oz glass	10 day									X																							
SL-623-SA5C-SB-9.0-10.0	7/9/12 11:00	SO	None	1 - 4 oz glass	10 day									X																							
SL-523-SA5C-SB-4.0-5.0	7/9/12 13:20	SO	None	1 - 4 oz glass	10 day									X																							
SL-523-SA5C-SB-9.0-10.0	7/9/12 13:25	SO	None	1 - 4 oz glass	10 day									X																							
SL-754-SA5C-SB-0.0-0.5	7/9/12 14:40	SO	None	1 - 4 oz glass	10 day									X																							
SL-754-SA5C-SB-4.0-5.0	7/9/12 14:45	SO	None	1 - 4 oz glass	10 day									X																							
SL-754-SA5C-SB-6.5-7.5	7/9/12 14:50	SO	None	1 - 4 oz glass	10 day									X																							
SL-533-SA5C-SB-4.0-5.0	7/9/12 13:55	SO	None	1 - 4 oz glass	10 day									X																							
SL-533-SA5C-SB-9.0-10.0	7/9/12 14:00	SO	None	1 - 4 oz glass	10 day									X																							
SL-755-SA5C-SB-0.0-0.5	7/10/12 07:15	SO	None	1 - 4 oz glass	10 day									X																							
SL-755-SA5C-SB-4.0-5.0	7/10/12 07:20	SO	None	1 - 4 oz glass	10 day									X																							
SL-755-SA5C-SB-5.5-6.5	7/10/12 07:30	SO	None	1 - 4 oz glass	10 day									X																							
SL-640-SA5C-SB-5.0-6.0	7/10/12 08:40	SO	None	1 - 4 oz glass	10 day									X																							
SL-640-SA5C-SB-10.0-11.0	7/10/12 08:45	SO	None	1 - 4 oz glass	10 day									X																							
SL-640-SA5C-SB-15.0-16.0	7/10/12 08:50	SO	None	1 - 4 oz glass	10 day									X																							
SL-640-SA5C-SB-19.0-20.0	7/10/12 08:55	SO	None	1 - 4 oz glass	10 day									X																							
SL-641-SA5C-SB-4.0-5.0	7/10/12 10:10	SO	None	1 - 4 oz glass	10 day									X																							
SL-641-SA5C-SB-9.0-10.0	7/10/12 10:20	SO	None	1 - 4 oz glass	10 day									X																							
SL-641-SA5C-SB-14.0-15.0	7/10/12 10:25	SO	None	1 - 4 oz glass	10 day									X																							
SL-641-SA5C-SB-18.5-19.5	7/10/12 10:30	SO	None	1 - 4 oz glass	10 day									X																							
SL-642-SA5C-SB-4.0-5.0	7/10/12 12:40	SO	None	1 - 4 oz glass	10 day									X																							
SL-642-SA5C-SB-9.0-10.0	7/10/12 12:45	SO	None	1 - 4 oz glass	10 day									X																							
SL-642-SA5C-SB-14.0-15.0	7/10/12 12:50	SO	None	1 - 4 oz glass	10 day									X																							
SL-642-SA5C-SB-17.5-18.5	7/10/12 12:55	SO	None	1 - 4 oz glass	10 day									X																							

acct# 13013 Cp# 1321236 Sample# 6715911-21

SSFL Phase 3 Chain of Custody

CDM Smith

DateShipped: 7/10/2012
CarrierName: FedEx
AirbillNo: 798604707910

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120710-02
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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	Terpenyls 8015	Nitrates 300.0/9056	Energetics 8330	Cyanide 9012	Formaldehyde 8315	NDMA 1625	Organotin	Methyl Mercury 1630	Other Analysis/Notes

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[illegible]	7/10/2012									
									[illegible]	7-11-12	921

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
Suite 400
Fairfax VA 22030

July 24, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 07/12/2012
Group Number: 1321539
SDG: PH018
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-591-SA5C-SB-4.0-5.0 Soil	6717302
SL-592-SA5C-SB-5.0-6.0 Soil	6717303
SL-607-SA5C-SB-0.0-0.5 Soil	6717304
SL-607-SA5C-SB-4.0-4.5 Soil	6717305
SL-607-SA5C-SB-9.0-10.0 Soil	6717306

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

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ELECTRONIC COPY TO	Data Package Group	

acct# 13013 Gp# 1321539 Sample# 6717302-06

SSFL Phase 3 Chain of Custody

CDM Smith
DateShipped: 7/11/2012
CarrierName: FedEx
AirbillNo: 798609438100

Contact Name: Pam Hartman
Contact Phone: (818)466-8007

No: 20120711-02
Cooler #:
Lab: Lancaster
Lab Phone: 717-556-7259

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
FB-071112	7/11/12 14:00	WQ	None	3 - 1 L Amber	10 day									X																		X				
SL-586-SA5C-SB-4.0-5.0	7/11/12 08:40	SO	None	1 - 4 oz glass	10 day									X																						
SL-586-SA5C-SB-9.0-10.0	7/11/12 08:45	SO	None	1 - 4 oz glass	10 day									X																						
SL-588-SA5C-SB-4.0-5.0	7/11/12 08:10	SO	None	1 - 4 oz glass	10 day									X																						
SL-588-SA5C-SB-9.0-10.0	7/11/12 08:15	SO	None	1 - 4 oz glass	10 day									X																						
SL-589-SA5C-SB-4.0-5.0	7/11/12 10:10	SO	None	1 - 4 oz glass	10 day									X																						
SL-591-SA5C-SB-4.0-5.0	7/11/12 09:50	SO	None	1 - 4 oz glass	10 day									X																						
SL-592-SA5C-SB-5.0-6.0	7/11/12 07:35	SO	None	1 - 4 oz glass	10 day									X																						
SL-607-SA5C-SB-0.0-0.5	7/11/12 11:00	SO	None	1 - 4 oz glass	10 day									X																						
SL-607-SA5C-SB-4.0-5.0	7/11/12 11:05	SO	None	1 - 4 oz glass	10 day									X																						
SL-607-SA5C-SB-9.0-10.0	7/11/12 11:10	SO	None	1 - 4 oz glass	10 day									X																						

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
	[signature]	07/12/2012									
									[signature]	7/12/12	920

SAMPLE DELIVERY GROUP

PH025

eurofins | Lancaster Laboratories

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
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Prepared for:

CDM Federal Programs Corp.
3201 Jermantown Road
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August 01, 2012

Project: SSFL Phase 3 Sampling

Submittal Date: 07/25/2012
Group Number: 1324387
SDG: PH025
PO Number: 1203-004-009-AL
Release Number: TRACKING #12571
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
SL-583-SA5C-SB-0.0-0.5 Soil	6732515
SL-583-SA5C-SB-4.0-5.0 Soil	6732516
SL-741-SA5C-SB-0.0-0.5 Soil	6732517
SL-741-SA5C-SB-4.0-5.0 Soil	6732518
SL-741-SA5C-SB-9.0-10.0 Soil	6732519
SL-742-SA5C-SB-0.0-0.5 Soil	6732520

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