COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.

820 Megan Avenue, Unit B
Rifle, Colorado 81650
T 970.285.9985 / F 970.285.2567

April 17, 2017

Scott Ghan
Senior EH&S Specialist
Vanguard Operating, LLC
112 Red Feather Trail
Silt, CO 81652

RE: Scott Water Transfer Station Release (Spill/Release Point ID – 449635)
Scott 41D-36-692 Transfer Station (Facility ID – 159159)
Vanguard Operating, LLC
NENE Sec. 36 T6S R92W
Garfield County, Colorado

Dear Mr. Ghan:

LT Environmental, Inc. (LTE) was contracted by Vanguard Operating, LLC (Vanguard) to conduct soil sampling activities associated with a produced water release inside a lined secondary containment at the Scott 41D-36-692 Transfer Station located in Garfield County, Colorado. The following is being submitted as supplemental information to the Form 19. For additional details, reference Initial Form 19 (document #401230823) and Supplemental Form 19 (document #401232888).

On-Site Activities

On March 13, 2017, LTE personnel conducted soil sampling activities associated with the release of an unknown volume of produced water at the Scott 41D-36-692 Transfer Station. Vanguard Operating personnel had previously identified a produced water release at a weld, near a loadout valve, on a produced water tank located inside a lined secondary containment and stormwater was present both inside and outside the lined secondary containment at the time of the release. Based on field observations by Vanguard personnel, the produced water release appeared to be short in duration and at a minimal flowrate. With the presence of stormwater both inside and outside the lined containment at the time of the release and to verify the integrity of the secondary containment synthetic liner, soil samples were collected from the stormwater flow path both on and along the perimeter of the location.

Soil sample SS01 was collected downgradient of the terminus of the stormwater flow path and beyond the visibly saturated soil. Soil samples SS02 through SS05 were collected from within the visible stormwater flow path. All samples were submitted to SGS Accutest of Wheat Ridge, Colorado, and were analyzed for constituents identified in Colorado Oil & Gas Conservation Commission (COGCC) Table 910-1. The release point and soil sample locations are depicted on the attached Figure 1 Site Map.

Analytical Results

Laboratory analytical results of soil confirmation samples indicated concentrations of analytes that are either within COGCC Table 910-1 allowable concentrations or are within 1.25 x background concentrations observed in the area, with the exception of SAR exceedances in soil samples SS02 through SS05. Soil laboratory analytical results are summarized in Table 1 and the laboratory analytical report is included as an attachment.

Summary and Conclusions

On March 13, 2017, LTE conducted soil sampling activities associated with release of an unknown volume of produced water at the Scott 41D-36-692 Transfer Station (Spill/Release Point ID-449635) from a weld, near a loadout valve, on a produced water tank located inside a lined secondary containment located in Garfield County, Colorado. Four soil samples were collected from the stormwater flow path (SS02 through SS-05) and one soil sample downgradient of the terminus of the stormwater flow path and beyond the visibly saturated soils (SS01). All soil samples were submitted for laboratory analysis of constituents identified in COGCC Table 910-1.

Laboratory analytical results of soil confirmation samples indicate concentrations of analytes that either with COGCC Table 910-1 allowable concentrations levels or are within 1.25 x background concentrations observed in the area, with the exception of SAR exceedances. All observed SAR exceedances are on the working surface of the pad. General COGCC housekeeping Rule 603.f. requires production companies to keep well and surface production facilities weed free via weed spraying and a weed management program. Therefore, Vanguard is inhibiting any vegetation growth on the production location and the SAR values are not threatening vegetative growth. All SAR exceedances will be addressed during the final reclamation processes of the production location.

During response activities, a low flow leak was observed from a weld on a produced water tank within the lined secondary containment. Additionally, small punctures were noted in the liner near the above-mentioned tank. A records search indicates no documented releases have ever occurred within this tank battery. Although the liner was found to be compromised, the containment has only held stormwater occasionally, on a seasonal basis, and for short periods of time. The liner will either be replaced or all punctures will be repaired. It should also be noted that the above-mentioned tank is used to store produced water prior to injection and prior to storage, the water inside the tank is treated via the gun barrel system which separates any residual condensate.

Please call us at (970) 285-9985 if you have any questions regarding this report or require additional information.

Sincerely,

LT ENVIRONMENTAL, INC.

Dustin Held
Staff Geologist

Chris Mckisson
Western Slope Office Manager

Attachments:

Figure 1 – Site Map
Table 1 – Soil Analytical Results
Attachment – Laboratory Analytical Reports

FIGURES

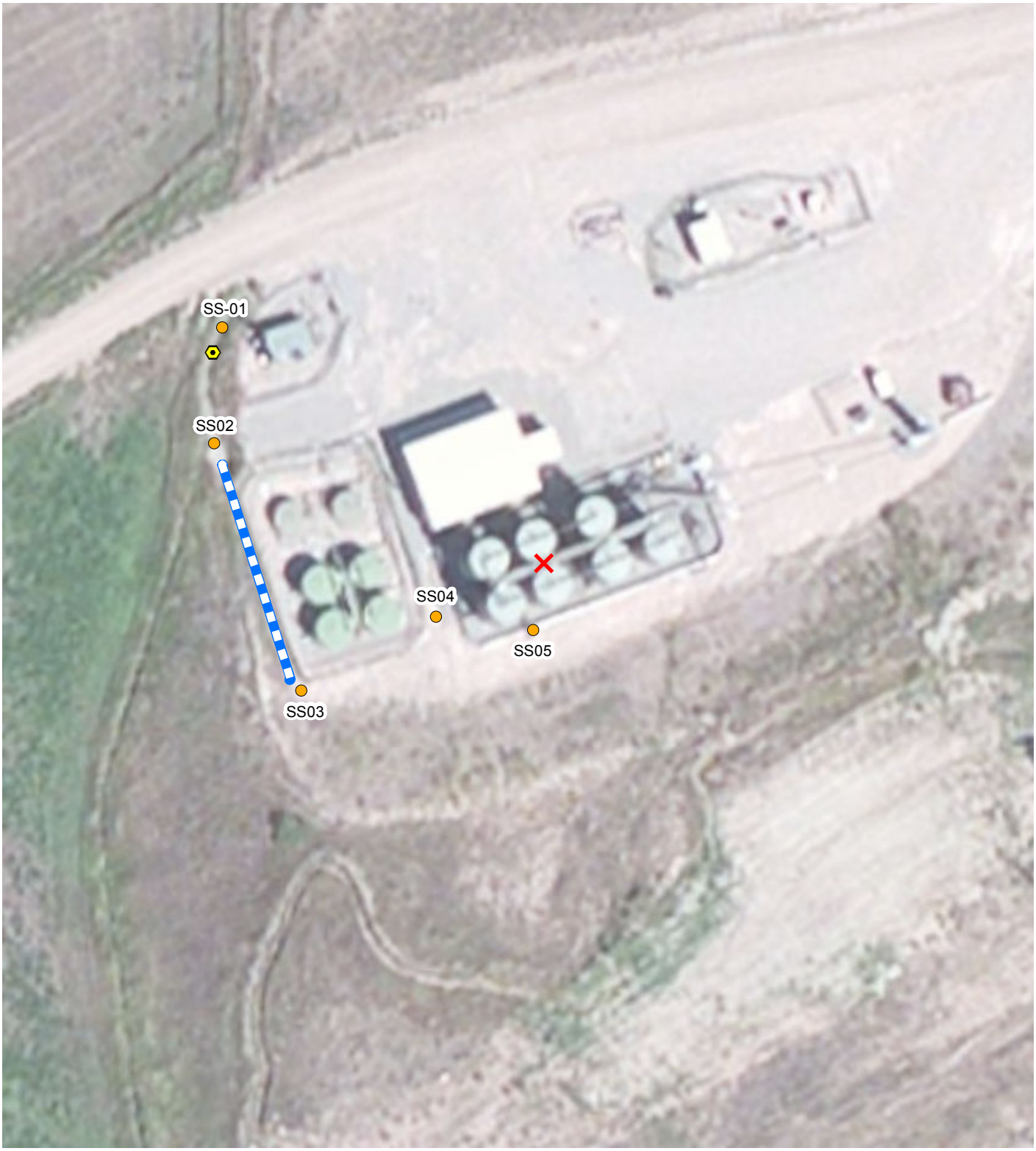

IMAGE COURTESY OF ESRI

LEGEND

- RELEASE LOCATION
- SOIL SAMPLE
- STORMWATER TERMINUS
- CULVERT

0 50 100

Feet

N

FIGURE 1
SITE MAP
SCOTT 41D-36-692 TRANSFER STATION
NENE SEC 36 T6S R92W
GARFIELD COUNTY, COLORADO
VANGUARD OPERATING, LLC

P:\Vanguard Operating LLC\GIS_SCOTT 41D-36-692 SWD\MXD\FIG_01_SCOTT_ARC10.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS
SCOTT 41D-36-692 TRANSFER STATION
GARFIELD COUNTY, COLORADO
VANGUARD OPERATING LLC

PARAMETER	COGCC CONCENTRATION LEVELS	UNITS	SS-01	SS-02	SS-03	SS-04	SS-05
Sample Date			3/13/2017	3/13/2017	3/13/2017	3/13/2017	3/13/2017
Sample Type			Confirmation	Confirmation	Confirmation	Confirmation	Confirmation
Arsenic	0.39	mg/kg	**4.3**	**4.9**	**5.3**	**5.0**	**5.3**
Barium	15,000	mg/kg	190	213	817	413	416
Cadmium	70	mg/kg	<4.9	<5.2	<5.5	<5.7	<4.4
Chromium (III)	120,000	mg/kg	9.8	15.0	14.5	14.4	15.3
Chromium (VI)	23	mg/kg	0.50	<0.45	<0.48	0.67	<0.48
Copper	3,100	mg/kg	8.8	17.7	12.8	13.9	14.3
Lead	400	mg/kg	<24	<26	<28	<28	<22
Mercury	23	mg/kg	<0.087	<0.079	<0.084	<0.092	<0.090
Nickel	1,600	mg/kg	<15	19.5	<17	<17	17.4
Selenium	390	mg/kg	<24	<26	<28	<28	<22
Silver	390	mg/kg	<15	<16	<17	<17	<13
Zinc	23,000	mg/kg	53.5	83.3	66.0	69.5	70.9
EC	4.0	mmhos/cm	0.243	1.76	1.39	1.6	2.47
pH	6 - 9	SU	7.89	8.95	8.39	8.65	8.84
SAR	12	unitless	1.18	**29.2**	**18.7**	**18.4**	**30.2**
TPH-GRO		mg/kg	<13	<13	<14	<15	<14
TPH-DRO		mg/kg	76.3	10.7	<12	50.3	<12
TPH	500	mg/kg	76.3	10.7	<14	50.3	<14
Benzene	0.17	mg/kg	<0.0012	<0.0011	<0.0012	0.0065	0.0369
Toluene	85	mg/kg	<0.0023	<0.0022	<0.0024	0.022	0.0692
Ethylbenzene	100	mg/kg	<0.0023	<0.0022	<0.0024	0.0018 J	0.0017 J
Total Xylenes	175	mg/kg	<0.0025	<0.0025	<0.0026	0.0666	0.0294
Acenaphthene	1000	mg/kg	<0.0051	<0.0049	<0.0052	<0.0054	<0.0051
Anthracene	1000	mg/kg	<0.0051	<0.0049	<0.0052	<0.0054	<0.0051
Benzo(A)anthracene	0.22	mg/kg	<0.0051	<0.0049	<0.0052	<0.0054	<0.0051
Benzo(B)fluoranthene	0.22	mg/kg	<0.0051	<0.0049	<0.0052	<0.0054	<0.0051
Benzo(K)fluoranthene	2.2	mg/kg	<0.0051	<0.0049	<0.0052	<0.0054	<0.0051
Benzo(A)pyrene	0.022	mg/kg	<0.0051	<0.0049	<0.0052	<0.0054	<0.0051
Chrysene	22	mg/kg	<0.0051	0.0025 J	<0.0052	<0.0054	<0.0051
Dibenzo(A,H)anthracene	0.022	mg/kg	<0.0051	<0.0049	<0.0052	<0.0054	<0.0051
Fluoranthene	1000	mg/kg	<0.0051	0.0038 J	<0.0052	0.0186	<0.0051
Fluorene	1000	mg/kg	<0.0051	<0.0049	<0.0052	<0.0054	<0.0051
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg	<0.0051	<0.0049	<0.0052	<0.0054	0.0198
Naphthalene	23	mg/kg	<0.0051	0.0035 J	0.0117	0.0054	<0.0051
Pyrene	1000	mg/kg	<0.0051	0.0038 J	<0.0052	<0.0054	<0.0051

NOTES:
< - less than the stated reporting limit
BOLD indicates result exceeds theCOGCC concentration level
COGCC - Colorado Oil and Gas Conservation Commission
EC- electrical conductivity
mg/kg - milligrams per kilogram
mmhos/cm - millimhos per centimeter
NA - not analyzed
SU - standard unit
TPH-GRO - total petroleum hydrocarbons-gasoline range organics
TPH-DRO - total petroleum hydrocarbons-diesel range organics
TPH - combination of TPH-GRO and TPH-DRO
J - indicates and estimated value

ATTACHMENT

LABORATORY ANALYTICAL RESULTS

e-Hardcopy 2.0
Automated Report

Technical Report for

LT Environmental

Scott 41D-36-692 SWD

SGS Accutest Job Number: D92017

Sampling Date: 03/13/17

Report to:

LT Environmental
820 Megan Avenue Unit B
Rifle, CO 81650
cmckisson@ltenv.com; sivigliano@ltenv.com;
bcocina@ltenv.com
ATTN: Chris McKisson

Total number of pages in report: **110**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Scott Heideman
Laboratory Director

Client Service contact: Jen Jorschumb 303-425-6021

Certifications: CO (CO00049), ID (CO00049), NE (NE-OS-06-04), ND (R-027), NJ (CO007), OK (D9942) UT (NELAP CO00049), LA (LA150028), TX (T104704511), WY (8TMS-L)

Table of Contents

Sections: 1 2 3 4 5 6 7 8 9 10 11 12

Sections:

Table of Contents

Sample Summary

LT Environmental

Job No: D92017

Scott 41D-36-692 SWD

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D92017-1	03/13/17	00:00	SS	03/14/17	SO	Soil	SS-01
D92017-1A	03/13/17	00:00	SS	03/14/17	SO	Soil	SS-01
D92017-2	03/13/17	00:00	SS	03/14/17	SO	Soil	SS-02
D92017-2A	03/13/17	00:00	SS	03/14/17	SO	Soil	SS-02
D92017-3	03/13/17	00:00	SS	03/14/17	SO	Soil	SS-03
D92017-3A	03/13/17	00:00	SS	03/14/17	SO	Soil	SS-03
D92017-4	03/13/17	00:00	SS	03/14/17	SO	Soil	SS-04
D92017-4A	03/13/17	00:00	SS	03/14/17	SO	Soil	SS-04
D92017-5	03/13/17	00:00	SS	03/14/17	SO	Soil	SS-05
D92017-5A	03/13/17	00:00	SS	03/14/17	SO	Soil	SS-05

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: D92017
Account: LT Environmental
Project: Scott 41D-36-692 SWD
Collected: 03/13/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D92017-1	**SS-01**					
TPH-DRO (C10-C28)		76.3	12	10	mg/kg	SW846-8015B
Arsenic		4.3	0.11		mg/kg	SW846 6020A
Barium		190	4.9		mg/kg	SW846 6010C
Chromium		10.3	4.9		mg/kg	SW846 6010C
Copper		8.8	4.9		mg/kg	SW846 6010C
Zinc		53.5	15		mg/kg	SW846 6010C
Specific Conductivity		243	1.0		umhos/cm	SM 2510B-2011 MOD
Chromium, Hexavalent [a]		0.50	0.47		mg/kg	SW846 3060A/7196A
Chromium, Trivalent [b]		9.8	5.4		mg/kg	SW846 3060A/7196A M
Redox Potential Vs H2 [a]		250			mv	ASTM D1498-76M
pH [a]		7.89			su	SW846 9045D
D92017-1A	**SS-01**					
Calcium		25.3	2.0		mg/l	SW846 6010C
Magnesium		3.96	1.0		mg/l	SW846 6010C
Sodium		24.2	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio [c]		1.18			ratio	USDA HANDBOOK 60
D92017-2	**SS-02**					
Chrysene		2.5 J	4.9	2.4	ug/kg	SW846 8270C BY SIM
Fluoranthene		3.8 J	4.9	2.8	ug/kg	SW846 8270C BY SIM
Naphthalene		3.5 J	4.9	2.4	ug/kg	SW846 8270C BY SIM
Pyrene		3.8 J	4.9	3.2	ug/kg	SW846 8270C BY SIM
TPH-DRO (C10-C28)		10.7 J	11	10	mg/kg	SW846-8015B
Arsenic		4.9	0.094		mg/kg	SW846 6020A
Barium		213	5.2		mg/kg	SW846 6010C
Chromium		15.0	5.2		mg/kg	SW846 6010C
Copper		17.7	5.2		mg/kg	SW846 6010C
Nickel		19.5	16		mg/kg	SW846 6010C
Zinc		83.3	16		mg/kg	SW846 6010C
Specific Conductivity		1760	1.0		umhos/cm	SM 2510B-2011 MOD
Chromium, Trivalent [b]		15.0	5.7		mg/kg	SW846 3060A/7196A M
Redox Potential Vs H2 [a]		165			mv	ASTM D1498-76M
pH [a]		8.95			su	SW846 9045D
D92017-2A	**SS-02**					
Calcium		7.20	2.0		mg/l	SW846 6010C
Magnesium		2.31	1.0		mg/l	SW846 6010C
Sodium		352	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio [c]		29.2			ratio	USDA HANDBOOK 60

Summary of Hits

Job Number: D92017
Account: LT Environmental
Project: Scott 41D-36-692 SWD
Collected: 03/13/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D92017-3	**SS-03**					
Naphthalene		11.7	5.2	2.5	ug/kg	SW846 8270C BY SIM
Arsenic		5.3	0.12		mg/kg	SW846 6020A
Barium		817	5.5		mg/kg	SW846 6010C
Chromium		14.5	5.5		mg/kg	SW846 6010C
Copper		12.8	5.5		mg/kg	SW846 6010C
Zinc		66.0	17		mg/kg	SW846 6010C
Specific Conductivity		1390	1.0		umhos/cm	SM 2510B-2011 MOD
Chromium, Trivalent [b]		14.5	6.0		mg/kg	SW846 3060A/7196A M
Redox Potential Vs H2 [a]		179			mv	ASTM D1498-76M
pH [a]		8.39			su	SW846 9045D
D92017-3A	**SS-03**					
Calcium		9.71	2.0		mg/l	SW846 6010C
Magnesium		4.38	1.0		mg/l	SW846 6010C
Sodium		280	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio [c]		18.7			ratio	USDA HANDBOOK 60
D92017-4	**SS-04**					
Benzene		6.5	1.2	0.61	ug/kg	SW846 8260B
Toluene		22.0	2.4	1.2	ug/kg	SW846 8260B
Ethylbenzene		1.8 J	2.4	0.61	ug/kg	SW846 8260B
Xylene (total)		66.6	2.7	1.2	ug/kg	SW846 8260B
Fluoranthene		18.6	5.4	3.1	ug/kg	SW846 8270C BY SIM
Naphthalene		5.4	5.4	2.6	ug/kg	SW846 8270C BY SIM
TPH-DRO (C10-C28)		50.3	12	11	mg/kg	SW846-8015B
Arsenic		5.0	0.11		mg/kg	SW846 6020A
Barium		413	5.7		mg/kg	SW846 6010C
Chromium		15.1	5.7		mg/kg	SW846 6010C
Copper		13.9	5.7		mg/kg	SW846 6010C
Zinc		69.5	17		mg/kg	SW846 6010C
Specific Conductivity		1600	1.0		umhos/cm	SM 2510B-2011 MOD
Chromium, Hexavalent [a]		0.67	0.50		mg/kg	SW846 3060A/7196A
Chromium, Trivalent [b]		14.4	6.2		mg/kg	SW846 3060A/7196A M
pH [a]		8.65			su	SW846 9045D
D92017-4A	**SS-04**					
Calcium		11.3	2.0		mg/l	SW846 6010C
Magnesium		6.30	1.0		mg/l	SW846 6010C
Sodium		312	2.0		mg/l	SW846 6010C

Summary of Hits

Job Number: D92017
Account: LT Environmental
Project: Scott 41D-36-692 SWD
Collected: 03/13/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Sodium Adsorption Ratio [c]		18.4			ratio	USDA HANDBOOK 60
D92017-5	**SS-05**					
Benzene		36.9	1.2	0.59	ug/kg	SW846 8260B
Toluene		69.2	2.3	1.2	ug/kg	SW846 8260B
Ethylbenzene		1.7 J	2.3	0.59	ug/kg	SW846 8260B
Xylene (total)		29.4	2.6	1.2	ug/kg	SW846 8260B
Naphthalene		19.8	5.1	2.5	ug/kg	SW846 8270C BY SIM
Arsenic		5.3	0.13		mg/kg	SW846 6020A
Barium		416	4.4		mg/kg	SW846 6010C
Chromium		15.3	4.4		mg/kg	SW846 6010C
Copper		14.3	4.4		mg/kg	SW846 6010C
Nickel		17.4	13		mg/kg	SW846 6010C
Zinc		70.9	13		mg/kg	SW846 6010C
Specific Conductivity		2470	1.0		umhos/cm	SM 2510B-2011 MOD
Chromium, Trivalent [b]		15.3	4.9		mg/kg	SW846 3060A/7196A M
Redox Potential Vs H2 [a]		172			mv	ASTM D1498-76M
pH [a]		8.84			su	SW846 9045D
D92017-5A	**SS-05**					
Calcium		11.2	2.0		mg/l	SW846 6010C
Magnesium		7.66	1.0		mg/l	SW846 6010C
Sodium		536	2.0		mg/l	SW846 6010C
Sodium Adsorption Ratio [c]		30.2			ratio	USDA HANDBOOK 60

(a) Analysis performed at SGS Accutest, Dayton, NJ.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)
(c) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SS-01		
Lab Sample ID:	D92017-1	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8260B	**Percent Solids:**	85.3
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V41070.D	1	03/15/17	MB	n/a	n/a	V5V2312
Run #2							

	Initial Weight	Final Volume
Run #1	5.08 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.2	0.58	ug/kg	
108-88-3	Toluene	ND	2.3	1.2	ug/kg	
100-41-4	Ethylbenzene	ND	2.3	0.58	ug/kg	
1330-20-7	Xylene (total)	ND	2.5	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	102%		65-142%
17060-07-0	1,2-Dichloroethane-D4	105%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-01		
Lab Sample ID:	D92017-1	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8270C BY SIM SW846 3546	**Percent Solids:**	85.3
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G132908.D	1	03/16/17	DC	03/15/17	OP14745	E1G1989
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

COGCC Table 910-1 PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.1	2.6	ug/kg	
120-12-7	Anthracene	ND	5.1	2.5	ug/kg	
56-55-3	Benzo(a)anthracene	ND	5.1	2.5	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	5.1	2.5	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	5.1	2.5	ug/kg	
50-32-8	Benzo(a)pyrene	ND	5.1	2.5	ug/kg	
218-01-9	Chrysene	ND	5.1	2.5	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	5.1	2.5	ug/kg	
206-44-0	Fluoranthene	ND	5.1	2.9	ug/kg	
86-73-7	Fluorene	ND	5.1	2.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	2.5	ug/kg	
91-20-3	Naphthalene	ND	5.1	2.5	ug/kg	
129-00-0	Pyrene	ND	5.1	3.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	38%		11-164%
321-60-8	2-Fluorobiphenyl	39%		14-138%
1718-51-0	Terphenyl-d14	44%		35-139%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-01		
Lab Sample ID:	D92017-1	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8015B	**Percent Solids:**	85.3
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA37241.D	1	03/15/17	MR	n/a	n/a	GGA1829
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	98%		60-140%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-01		
Lab Sample ID:	D92017-1	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846-8015B SW846 3546	**Percent Solids:**	85.3
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI51968.D	1	03/16/17	CH	03/15/17	OP14746	GFI2184
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	76.3	12	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	88%		41-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-01		
Lab Sample ID:	D92017-1	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	85.3
Project:	Scott 41D-36-692 SWD		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	4.3	0.11	mg/kg	5	03/16/17	03/21/17	JM	SW846 6020A [2]	SW846 3050B [6]
Barium	190	4.9	mg/kg	5	03/16/17	03/18/17	SB	SW846 6010C [1]	SW846 3050B [5]
Cadmium	< 4.9	4.9	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [4]	SW846 3050B [5]
Chromium	10.3	4.9	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [4]	SW846 3050B [5]
Copper	8.8	4.9	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [4]	SW846 3050B [5]
Lead	< 24	24	mg/kg	5	03/16/17	03/18/17	SB	SW846 6010C [1]	SW846 3050B [5]
Mercury	< 0.087	0.087	mg/kg	1	03/21/17	03/22/17	SB	SW846 7471B [3]	SW846 7471B [7]
Nickel	< 15	15	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [4]	SW846 3050B [5]
Selenium	< 24	24	mg/kg	5	03/16/17	03/18/17	SB	SW846 6010C [1]	SW846 3050B [5]
Silver	< 15	15	mg/kg	5	03/16/17	03/18/17	SB	SW846 6010C [1]	SW846 3050B [5]
Zinc	53.5	15	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [4]	SW846 3050B [5]

(1) Instrument QC Batch: MA8296
(2) Instrument QC Batch: MA8303
(3) Instrument QC Batch: MA8306
(4) Instrument QC Batch: MA8330
(5) Prep QC Batch: MP21074
(6) Prep QC Batch: MP21079
(7) Prep QC Batch: MP21142

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-01		
Lab Sample ID:	D92017-1	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	85.3
Project:	Scott 41D-36-692 SWD		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	85.3		%	1	03/15/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	243	1.0	umhos/cm	1	03/16/17	JD	SM 2510B-2011 MOD
Chromium, Hexavalent [a]	0.50	0.47	mg/kg	1	03/18/17 14:41	ANJ	SW846 3060A/7196A
Chromium, Trivalent [b]	9.8	5.4	mg/kg	1	03/28/17 12:43	BH	SW846 3060A/7196A M
Redox Potential Vs H2 [a]	250		mv	1	03/19/17 17:00	ANJ	ASTM D1498-76M
pH [a]	7.89		su	1	03/19/17 18:34	ANJ	SW846 9045D

(a) Analysis performed at SGS Accutest, Dayton, NJ.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-01		
Lab Sample ID:	D92017-1A	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	85.3
Project:	Scott 41D-36-692 SWD		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	25.3	2.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]
Magnesium	3.96	1.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]
Sodium	24.2	2.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]

(1) Instrument QC Batch: MA8307
(2) Prep QC Batch: MP21085

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-01		
Lab Sample ID:	D92017-1A	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	85.3
Project:	Scott 41D-36-692 SWD		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	1.18		ratio	1	03/22/17 13:03	JM	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-02		
Lab Sample ID:	D92017-2	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8260B	**Percent Solids:**	88.3
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V41073.D	1	03/15/17	MB	n/a	n/a	V5V2312
Run #2							

	Initial Weight	Final Volume
Run #1	5.04 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.1	0.56	ug/kg	
108-88-3	Toluene	ND	2.2	1.1	ug/kg	
100-41-4	Ethylbenzene	ND	2.2	0.56	ug/kg	
1330-20-7	Xylene (total)	ND	2.5	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	102%		65-142%
17060-07-0	1,2-Dichloroethane-D4	106%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-02		
Lab Sample ID:	D92017-2	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8270C BY SIM SW846 3546	**Percent Solids:**	88.3
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G132900.D	1	03/16/17	DC	03/15/17	OP14745	E1G1989
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

COGCC Table 910-1 PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.9	2.5	ug/kg	
120-12-7	Anthracene	ND	4.9	2.4	ug/kg	
56-55-3	Benzo(a)anthracene	ND	4.9	2.4	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	4.9	2.4	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	4.9	2.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	4.9	2.4	ug/kg	
218-01-9	Chrysene	2.5	4.9	2.4	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	4.9	2.4	ug/kg	
206-44-0	Fluoranthene	3.8	4.9	2.8	ug/kg	J
86-73-7	Fluorene	ND	4.9	2.6	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.9	2.4	ug/kg	
91-20-3	Naphthalene	3.5	4.9	2.4	ug/kg	J
129-00-0	Pyrene	3.8	4.9	3.2	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		11-164%
321-60-8	2-Fluorobiphenyl	61%		14-138%
1718-51-0	Terphenyl-d14	68%		35-139%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-02		
Lab Sample ID:	D92017-2	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8015B	**Percent Solids:**	88.3
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA37244.D	1	03/15/17	MR	n/a	n/a	GGA1829
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	6.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	97%		60-140%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-02		
Lab Sample ID:	D92017-2	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846-8015B SW846 3546	**Percent Solids:**	88.3
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI52075.D	1	03/18/17	CH	03/15/17	OP14746	GFI2187
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	10.7	11	10	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	91%		41-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-02		
Lab Sample ID:	D92017-2	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	88.3
Project:	Scott 41D-36-692 SWD		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	4.9	0.094	mg/kg	5	03/16/17	03/21/17	JM	SW846 6020A [2]	SW846 3050B [6]
Barium	213	5.2	mg/kg	5	03/16/17	03/18/17	SB	SW846 6010C [1]	SW846 3050B [5]
Cadmium	< 5.2	5.2	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [4]	SW846 3050B [5]
Chromium	15.0	5.2	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [4]	SW846 3050B [5]
Copper	17.7	5.2	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [4]	SW846 3050B [5]
Lead	< 26	26	mg/kg	5	03/16/17	03/18/17	SB	SW846 6010C [1]	SW846 3050B [5]
Mercury	< 0.079	0.079	mg/kg	1	03/21/17	03/22/17	SB	SW846 7471B [3]	SW846 7471B [7]
Nickel	19.5	16	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [4]	SW846 3050B [5]
Selenium	< 26	26	mg/kg	5	03/16/17	03/18/17	SB	SW846 6010C [1]	SW846 3050B [5]
Silver	< 16	16	mg/kg	5	03/16/17	03/18/17	SB	SW846 6010C [1]	SW846 3050B [5]
Zinc	83.3	16	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [4]	SW846 3050B [5]

(1) Instrument QC Batch: MA8296
(2) Instrument QC Batch: MA8303
(3) Instrument QC Batch: MA8306
(4) Instrument QC Batch: MA8330
(5) Prep QC Batch: MP21074
(6) Prep QC Batch: MP21079
(7) Prep QC Batch: MP21142

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-02		
Lab Sample ID:	D92017-2	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	88.3
Project:	Scott 41D-36-692 SWD		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	88.3		%	1	03/15/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	1760	1.0	umhos/cm	1	03/16/17	JD	SM 2510B-2011 MOD
Chromium, Hexavalent [a]	< 0.45	0.45	mg/kg	1	03/18/17 14:47	ANJ	SW846 3060A/7196A
Chromium, Trivalent [b]	15.0	5.7	mg/kg	1	03/28/17 13:10	BH	SW846 3060A/7196A M
Redox Potential Vs H2 [a]	165		mv	1	03/19/17 17:00	ANJ	ASTM D1498-76M
pH [a]	8.95		su	1	03/19/17 18:34	ANJ	SW846 9045D

(a) Analysis performed at SGS Accutest, Dayton, NJ.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-02		
Lab Sample ID:	D92017-2A	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	88.3
Project:	Scott 41D-36-692 SWD		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	7.20	2.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]
Magnesium	2.31	1.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]
Sodium	352	2.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]

(1) Instrument QC Batch: MA8307
(2) Prep QC Batch: MP21085

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-02		
Lab Sample ID:	D92017-2A	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	88.3
Project:	Scott 41D-36-692 SWD		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	29.2		ratio	1	03/22/17 13:26	JM	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-03		
Lab Sample ID:	D92017-3	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8260B	**Percent Solids:**	83.5
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V41074.D	1	03/15/17	MB	n/a	n/a	V5V2312
Run #2							

	Initial Weight	Final Volume
Run #1	5.09 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.2	0.59	ug/kg	
108-88-3	Toluene	ND	2.4	1.2	ug/kg	
100-41-4	Ethylbenzene	ND	2.4	0.59	ug/kg	
1330-20-7	Xylene (total)	ND	2.6	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	102%		65-142%
17060-07-0	1,2-Dichloroethane-D4	103%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-03		
Lab Sample ID:	D92017-3	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8270C BY SIM SW846 3546	**Percent Solids:**	83.5
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G132983.D	1	03/21/17	TR	03/18/17	OP14758	E1G1993
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

COGCC Table 910-1 PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.2	2.6	ug/kg	
120-12-7	Anthracene	ND	5.2	2.5	ug/kg	
56-55-3	Benzo(a)anthracene	ND	5.2	2.5	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	5.2	2.5	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	5.2	2.5	ug/kg	
50-32-8	Benzo(a)pyrene	ND	5.2	2.5	ug/kg	
218-01-9	Chrysene	ND	5.2	2.5	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	5.2	2.5	ug/kg	
206-44-0	Fluoranthene	ND	5.2	2.9	ug/kg	
86-73-7	Fluorene	ND	5.2	2.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.2	2.5	ug/kg	
91-20-3	Naphthalene	11.7	5.2	2.5	ug/kg	
129-00-0	Pyrene	ND	5.2	3.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		11-164%
321-60-8	2-Fluorobiphenyl	50%		14-138%
1718-51-0	Terphenyl-d14	57%		35-139%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-03		
Lab Sample ID:	D92017-3	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8015B	**Percent Solids:**	83.5
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA37245.D	1	03/15/17	MR	n/a	n/a	GGA1829
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	14	7.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	97%		60-140%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-03		
Lab Sample ID:	D92017-3	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846-8015B SW846 3546	**Percent Solids:**	83.5
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI52071.D	1	03/18/17	CH	03/15/17	OP14746	GFI2187
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	12	11	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	106%		41-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-03		
Lab Sample ID:	D92017-3	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	83.5
Project:	Scott 41D-36-692 SWD		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	5.3	0.12	mg/kg	5	03/16/17	03/21/17	JM	SW846 6020A [1]	SW846 3050B [5]
Barium	817	5.5	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 5.5	5.5	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Chromium	14.5	5.5	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Copper	12.8	5.5	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Lead	< 28	28	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Mercury	< 0.084	0.084	mg/kg	1	03/21/17	03/22/17	SB	SW846 7471B [2]	SW846 7471B [6]
Nickel	< 17	17	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Selenium	< 28	28	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Silver	< 17	17	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Zinc	66.0	17	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]

(1) Instrument QC Batch: MA8303
(2) Instrument QC Batch: MA8306
(3) Instrument QC Batch: MA8330
(4) Prep QC Batch: MP21074
(5) Prep QC Batch: MP21079
(6) Prep QC Batch: MP21142

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-03		
Lab Sample ID:	D92017-3	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	83.5
Project:	Scott 41D-36-692 SWD		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	83.5		%	1	03/15/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	1390	1.0	umhos/cm	1	03/16/17	JD	SM 2510B-2011 MOD
Chromium, Hexavalent [a]	< 0.48	0.48	mg/kg	1	03/18/17 14:47	ANJ	SW846 3060A/7196A
Chromium, Trivalent [b]	14.5	6.0	mg/kg	1	03/28/17 13:16	BH	SW846 3060A/7196A M
Redox Potential Vs H2 [a]	179		mv	1	03/19/17 17:00	ANJ	ASTM D1498-76M
pH [a]	8.39		su	1	03/19/17 18:34	ANJ	SW846 9045D

(a) Analysis performed at SGS Accutest, Dayton, NJ.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-03		
Lab Sample ID:	D92017-3A	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	83.5
Project:	Scott 41D-36-692 SWD		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	9.71	2.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]
Magnesium	4.38	1.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]
Sodium	280	2.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]

(1) Instrument QC Batch: MA8307
(2) Prep QC Batch: MP21085

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-03		
Lab Sample ID:	D92017-3A	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	83.5
Project:	Scott 41D-36-692 SWD		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	18.7		ratio	1	03/22/17 13:31	JM	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-04		
Lab Sample ID:	D92017-4	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8260B	**Percent Solids:**	80.2
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V41075.D	1	03/15/17	MB	n/a	n/a	V5V2312
Run #2							

	Initial Weight	Final Volume
Run #1	5.11 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	6.5	1.2	0.61	ug/kg	
108-88-3	Toluene	22.0	2.4	1.2	ug/kg	
100-41-4	Ethylbenzene	1.8	2.4	0.61	ug/kg	J
1330-20-7	Xylene (total)	66.6	2.7	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	103%		65-142%
17060-07-0	1,2-Dichloroethane-D4	102%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-04		
Lab Sample ID:	D92017-4	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8270C BY SIM SW846 3546	**Percent Solids:**	80.2
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G132984.D	1	03/21/17	TR	03/18/17	OP14758	E1G1993
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

COGCC Table 910-1 PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.4	2.7	ug/kg	
120-12-7	Anthracene	ND	5.4	2.6	ug/kg	
56-55-3	Benzo(a)anthracene	ND	5.4	2.6	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	5.4	2.6	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	5.4	2.6	ug/kg	
50-32-8	Benzo(a)pyrene	ND	5.4	2.6	ug/kg	
218-01-9	Chrysene	ND	5.4	2.6	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	5.4	2.6	ug/kg	
206-44-0	Fluoranthene	18.6	5.4	3.1	ug/kg	
86-73-7	Fluorene	ND	5.4	2.9	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.4	2.6	ug/kg	
91-20-3	Naphthalene	5.4	5.4	2.6	ug/kg	
129-00-0	Pyrene	ND	5.4	3.5	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	72%		11-164%
321-60-8	2-Fluorobiphenyl	70%		14-138%
1718-51-0	Terphenyl-d14	80%		35-139%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-04		
Lab Sample ID:	D92017-4	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8015B	**Percent Solids:**	80.2
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA37246.D	1	03/15/17	MR	n/a	n/a	GGA1829
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	15	7.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	98%		60-140%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-04		
Lab Sample ID:	D92017-4	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846-8015B SW846 3546	**Percent Solids:**	80.2
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI52067.D	1	03/18/17	CH	03/15/17	OP14746	GFI2187
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	50.3	12	11	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	98%		41-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-04		
Lab Sample ID:	D92017-4	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	80.2
Project:	Scott 41D-36-692 SWD		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	5.0	0.11	mg/kg	5	03/16/17	03/21/17	JM	SW846 6020A [1]	SW846 3050B [5]
Barium	413	5.7	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 5.7	5.7	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Chromium	15.1	5.7	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Copper	13.9	5.7	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Lead	< 28	28	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Mercury	< 0.092	0.092	mg/kg	1	03/21/17	03/22/17	SB	SW846 7471B [2]	SW846 7471B [6]
Nickel	< 17	17	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Selenium	< 28	28	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Silver	< 17	17	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Zinc	69.5	17	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]

(1) Instrument QC Batch: MA8303
(2) Instrument QC Batch: MA8306
(3) Instrument QC Batch: MA8330
(4) Prep QC Batch: MP21074
(5) Prep QC Batch: MP21079
(6) Prep QC Batch: MP21142

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-04		
Lab Sample ID:	D92017-4	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	80.2
Project:	Scott 41D-36-692 SWD		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	80.2		%	1	03/15/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	1600	1.0	umhos/cm	1	03/16/17	JD	SM 2510B-2011 MOD
Chromium, Hexavalent [a]	0.67	0.50	mg/kg	1	03/18/17 14:47	ANJ	SW846 3060A/7196A
Chromium, Trivalent [b]	14.4	6.2	mg/kg	1	03/28/17 13:23	BH	SW846 3060A/7196A M
Redox Potential Vs H2 [a]	-13.1		mv	1	03/19/17 17:00	ANJ	ASTM D1498-76M
pH [a]	8.65		su	1	03/19/17 18:34	ANJ	SW846 9045D

(a) Analysis performed at SGS Accutest, Dayton, NJ.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-04		
Lab Sample ID:	D92017-4A	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	80.2
Project:	Scott 41D-36-692 SWD		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	11.3	2.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]
Magnesium	6.30	1.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]
Sodium	312	2.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]

(1) Instrument QC Batch: MA8307
(2) Prep QC Batch: MP21085

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-04		
Lab Sample ID:	D92017-4A	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	80.2
Project:	Scott 41D-36-692 SWD		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	18.4		ratio	1	03/22/17 13:37	JM	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-05		
Lab Sample ID:	D92017-5	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8260B	**Percent Solids:**	84.1
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V41076.D	1	03/15/17	MB	n/a	n/a	V5V2312
Run #2							

	Initial Weight	Final Volume
Run #1	5.08 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	36.9	1.2	0.59	ug/kg	
108-88-3	Toluene	69.2	2.3	1.2	ug/kg	
100-41-4	Ethylbenzene	1.7	2.3	0.59	ug/kg	J
1330-20-7	Xylene (total)	29.4	2.6	1.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	103%		65-142%
17060-07-0	1,2-Dichloroethane-D4	106%		70-130%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-05		
Lab Sample ID:	D92017-5	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8270C BY SIM SW846 3546	**Percent Solids:**	84.1
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G132985.D	1	03/21/17	TR	03/18/17	OP14758	E1G1993
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

COGCC Table 910-1 PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.1	2.6	ug/kg	
120-12-7	Anthracene	ND	5.1	2.5	ug/kg	
56-55-3	Benzo(a)anthracene	ND	5.1	2.5	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	5.1	2.5	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	5.1	2.5	ug/kg	
50-32-8	Benzo(a)pyrene	ND	5.1	2.5	ug/kg	
218-01-9	Chrysene	ND	5.1	2.5	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	5.1	2.5	ug/kg	
206-44-0	Fluoranthene	ND	5.1	2.9	ug/kg	
86-73-7	Fluorene	ND	5.1	2.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	2.5	ug/kg	
91-20-3	Naphthalene	19.8	5.1	2.5	ug/kg	
129-00-0	Pyrene	ND	5.1	3.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		11-164%
321-60-8	2-Fluorobiphenyl	66%		14-138%
1718-51-0	Terphenyl-d14	73%		35-139%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-05		
Lab Sample ID:	D92017-5	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846 8015B	**Percent Solids:**	84.1
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA37247.D	1	03/15/17	MR	n/a	n/a	GGA1829
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	14	6.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	97%		60-140%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-05		
Lab Sample ID:	D92017-5	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
Method:	SW846-8015B SW846 3546	**Percent Solids:**	84.1
Project:	Scott 41D-36-692 SWD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI52061.D	1	03/18/17	CH	03/15/17	OP14746	GFI2187
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	12	11	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	83%		41-134%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS-05		
Lab Sample ID:	D92017-5	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	84.1
Project:	Scott 41D-36-692 SWD		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	5.3	0.13	mg/kg	5	03/16/17	03/21/17	JM	SW846 6020A [1]	SW846 3050B [5]
Barium	416	4.4	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Cadmium	< 4.4	4.4	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Chromium	15.3	4.4	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Copper	14.3	4.4	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Lead	< 22	22	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Mercury	< 0.090	0.090	mg/kg	1	03/21/17	03/22/17	SB	SW846 7471B [2]	SW846 7471B [6]
Nickel	17.4	13	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Selenium	< 22	22	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Silver	< 13	13	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]
Zinc	70.9	13	mg/kg	5	03/16/17	03/28/17	BH	SW846 6010C [3]	SW846 3050B [4]

(1) Instrument QC Batch: MA8303
(2) Instrument QC Batch: MA8306
(3) Instrument QC Batch: MA8330
(4) Prep QC Batch: MP21074
(5) Prep QC Batch: MP21079
(6) Prep QC Batch: MP21142

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-05		
Lab Sample ID:	D92017-5	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	84.1
Project:	Scott 41D-36-692 SWD		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	84.1		%	1	03/15/17	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	2470	1.0	umhos/cm	1	03/16/17	JD	SM 2510B-2011 MOD
Chromium, Hexavalent [a]	< 0.48	0.48	mg/kg	1	03/18/17 14:47	ANJ	SW846 3060A/7196A
Chromium, Trivalent [b]	15.3	4.9	mg/kg	1	03/28/17 13:29	BH	SW846 3060A/7196A M
Redox Potential Vs H2 [a]	172		mv	1	03/19/17 17:00	ANJ	ASTM D1498-76M
pH [a]	8.84		su	1	03/19/17 18:34	ANJ	SW846 9045D

(a) Analysis performed at SGS Accutest, Dayton, NJ.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-05		
Lab Sample ID:	D92017-5A	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	84.1
Project:	Scott 41D-36-692 SWD		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	11.2	2.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]
Magnesium	7.66	1.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]
Sodium	536	2.0	mg/l	1	03/17/17	03/22/17	JM	SW846 6010C [1]	SW846 3010A/M [2]

(1) Instrument QC Batch: MA8307
(2) Prep QC Batch: MP21085

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-05		
Lab Sample ID:	D92017-5A	**Date Sampled:**	03/13/17
Matrix:	SO - Soil	**Date Received:**	03/14/17
		Percent Solids:	84.1
Project:	Scott 41D-36-692 SWD		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	30.2		ratio	1	03/22/17 14:02	JM	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

PAGE 1 OF 1

ACCUTEST LABORATORIES

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL. 303-425-6021 FAX: 303-425-6854
www.accutest.com

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: D92017

Client / Reporting Information

Company Name: LT Environmental, Inc
Street Address: 820 Megan Ave. Unit B
City: Rifle, CO
Project Contact: Chris McKisson
Phone #: 970-285-9985
Sampler(s) Name(s): Steve Sivigliano

Project Information

Project Name: Scott 41D-36-692 SWD
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager: Chris McKisson

Billing Information (If different from Report to)
Company Name:
Street Address:
City:
Attention:

Requested Analysis (see TEST CODE sheet)

Full COGCC Table 910-1

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	other	Full COGCC Table 910-1	LAB USE ONLY
	SS-01		3/13/17		SS	SO	4					X					X	01
	SS-02		3/13/17		SS	SO	4					X					X	02
	SS-03		3/13/17		SS	SO	4					X					X	03
	SS-04		3/13/17		SS	SO	4					X					X	04
	SS-05		3/13/17		SS	SO	4					X					X	05
																		MS

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [ ] Std. 15 Business Days
- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day Emergency
- [ ] 2 Day Emergency
- [ ] 1 Day Emergency
- [X] 5 Day Standard Turn

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [X] Commercial "B" (Level 2)
- [ ] COMMBN
- [ ] COMMBN+
- [ ] State Forms Required
- [ ] Send Forms to State
- [ ] Report by Fax
- [ ] Report by PDF
- [ ] EDD Format

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial BN = Results/QC/Narrative (+ = chromatograms)

Comments / Special Instructions

invoice and report to: cmckisson@ltenv.com
copy report to: ssivigliano@ltenv.com, bcocina@ltenv.com

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Steve Sivi.	3/13/17-14:30	1 Rifle Service Center	2		2 3-14-17 MO
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice
5		5				T080 5.5

D92017: Chain of Custody
Page 1 of 2

SGS Accutest Sample Receipt Summary

Job Number: D92017 **Client:** LT **Project:** SCOTT

Date / Time Received: 3/14/2017 2:00:00 PM **Delivery Method:** **Airbill #'s:** co

Cooler Temps (Initial/Adjusted): #1: (5.5/5.5);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Comments

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

D92017: Chain of Custody
Page 2 of 2

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2312-MB	5V41069.D	1	03/15/17	MB	n/a	n/a	V5V2312

The QC reported here applies to the following samples: **Method:** SW846 8260B

D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/kg	
108-88-3	Toluene	ND	2.0	1.0	ug/kg	
1330-20-7	Xylene (total)	ND	2.2	1.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	106%	70-130%
2037-26-5	Toluene-D8	98%	70-130%
460-00-4	4-Bromofluorobenzene	102%	65-142%
17060-07-0	1,2-Dichloroethane-D4	106%	70-130%

Blank Spike Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2312-BS	5V41067.D	1	03/15/17	MB	n/a	n/a	V5V2312

The QC reported here applies to the following samples: **Method:** SW846 8260B

D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	40.3	81	70-130
100-41-4	Ethylbenzene	50	42.5	85	70-130
108-88-3	Toluene	50	43.3	87	70-130
1330-20-7	Xylene (total)	150	126	84	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	70-130%
2037-26-5	Toluene-D8	98%	70-130%
460-00-4	4-Bromofluorobenzene	102%	65-142%
17060-07-0	1,2-Dichloroethane-D4	105%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D92017-1MS	5V41071.D	1	03/15/17	MB	n/a	n/a	V5V2312
D92017-1MSD	5V41072.D	1	03/15/17	MB	n/a	n/a	V5V2312
D92017-1	5V41070.D	1	03/15/17	MB	n/a	n/a	V5V2312

The QC reported here applies to the following samples: **Method:** SW846 8260B

D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

CAS No.	Compound	D92017-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		58.4	41.0	70	57.5	45.6	79	11	43-135/30
100-41-4	Ethylbenzene	ND		58.4	40.4	69	57.5	45.9	80	13	30-144/30
108-88-3	Toluene	ND		58.4	41.6	71	57.5	46.5	81	11	27-144/30
1330-20-7	Xylene (total)	ND		175	119	68	172	134	78	12	13-154/30

CAS No.	Surrogate Recoveries	MS	MSD	D92017-1	Limits
1868-53-7	Dibromofluoromethane	107%	108%	104%	70-130%
2037-26-5	Toluene-D8	97%	98%	97%	70-130%
460-00-4	4-Bromofluorobenzene	103%	101%	102%	65-142%
17060-07-0	1,2-Dichloroethane-D4	106%	105%	105%	70-130%

* = Outside of Control Limits.

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14745-MB	1G132898.D	1	03/16/17	DC	03/15/17	OP14745	E1G1989

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D92017-1, D92017-2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	2.2	ug/kg	
120-12-7	Anthracene	ND	4.3	2.1	ug/kg	
56-55-3	Benzo(a)anthracene	ND	4.3	2.1	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	4.3	2.1	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	4.3	2.1	ug/kg	
50-32-8	Benzo(a)pyrene	ND	4.3	2.1	ug/kg	
218-01-9	Chrysene	ND	4.3	2.1	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	4.3	2.1	ug/kg	
206-44-0	Fluoranthene	ND	4.3	2.5	ug/kg	
86-73-7	Fluorene	ND	4.3	2.3	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.3	2.1	ug/kg	
91-20-3	Naphthalene	ND	4.3	2.1	ug/kg	
129-00-0	Pyrene	ND	4.3	2.8	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	83%	11-164%
321-60-8	2-Fluorobiphenyl	74%	14-138%
1718-51-0	Terphenyl-d14	97%	35-139%

Method Blank Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14758-MB	1G132980.D	1	03/21/17	TR	03/18/17	OP14758	E1G1993

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D92017-3, D92017-4, D92017-5

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.3	2.2	ug/kg	
120-12-7	Anthracene	ND	4.3	2.1	ug/kg	
56-55-3	Benzo(a)anthracene	ND	4.3	2.1	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	4.3	2.1	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	4.3	2.1	ug/kg	
50-32-8	Benzo(a)pyrene	ND	4.3	2.1	ug/kg	
218-01-9	Chrysene	ND	4.3	2.1	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	4.3	2.1	ug/kg	
206-44-0	Fluoranthene	ND	4.3	2.5	ug/kg	
86-73-7	Fluorene	ND	4.3	2.3	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.3	2.1	ug/kg	
91-20-3	Naphthalene	ND	4.3	2.1	ug/kg	
129-00-0	Pyrene	ND	4.3	2.8	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	83%	11-164%
321-60-8	2-Fluorobiphenyl	77%	14-138%
1718-51-0	Terphenyl-d14	92%	35-139%

Method Blank Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14758-MB	1G132981.D	1	03/21/17	TR	03/18/17	OP14758	E1G1993

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D92017-3, D92017-4, D92017-5

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	26	13	ug/kg	
120-12-7	Anthracene	ND	26	13	ug/kg	
56-55-3	Benzo(a)anthracene	ND	26	13	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	26	13	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	26	13	ug/kg	
50-32-8	Benzo(a)pyrene	ND	26	13	ug/kg	
218-01-9	Chrysene	ND	26	13	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	26	13	ug/kg	
206-44-0	Fluoranthene	ND	26	15	ug/kg	
86-73-7	Fluorene	ND	26	14	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	26	13	ug/kg	
91-20-3	Naphthalene	ND	26	13	ug/kg	
129-00-0	Pyrene	ND	26	17	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	85%	11-164%
321-60-8	2-Fluorobiphenyl	78%	14-138%
1718-51-0	Terphenyl-d14	93%	35-139%

Blank Spike Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14745-BS	1G132899.D	1	03/16/17	DC	03/15/17	OP14745	E1G1989

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D92017-1, D92017-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	83.3	71.4	86	42-130
120-12-7	Anthracene	83.3	80.0	96	45-130
56-55-3	Benzo(a)anthracene	83.3	72.9	87	49-137
205-99-2	Benzo(b)fluoranthene	83.3	76.8	92	43-146
207-08-9	Benzo(k)fluoranthene	83.3	76.9	92	27-146
50-32-8	Benzo(a)pyrene	83.3	80.9	97	53-130
218-01-9	Chrysene	83.3	72.6	87	61-130
53-70-3	Dibenzo(a,h)anthracene	83.3	66.6	80	59-130
206-44-0	Fluoranthene	83.3	78.8	95	48-130
86-73-7	Fluorene	83.3	76.3	92	44-130
193-39-5	Indeno(1,2,3-cd)pyrene	83.3	74.7	90	58-130
91-20-3	Naphthalene	83.3	72.5	87	56-130
129-00-0	Pyrene	83.3	79.9	96	53-130

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	85%	11-164%
321-60-8	2-Fluorobiphenyl	78%	14-138%
1718-51-0	Terphenyl-d14	93%	35-139%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14758-BS	1G132982.D	1	03/21/17	TR	03/18/17	OP14758	E1G1993

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D92017-3, D92017-4, D92017-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
83-32-9	Acenaphthene	83.3	58.6	70	42-130
120-12-7	Anthracene	83.3	67.3	81	45-130
56-55-3	Benzo(a)anthracene	83.3	62.8	75	49-137
205-99-2	Benzo(b)fluoranthene	83.3	65.2	78	43-146
207-08-9	Benzo(k)fluoranthene	83.3	62.1	75	27-146
50-32-8	Benzo(a)pyrene	83.3	70.5	85	53-130
218-01-9	Chrysene	83.3	59.5	71	61-130
53-70-3	Dibenzo(a,h)anthracene	83.3	60.6	73	59-130
206-44-0	Fluoranthene	83.3	66.4	80	48-130
86-73-7	Fluorene	83.3	63.2	76	44-130
193-39-5	Indeno(1,2,3-cd)pyrene	83.3	70.6	85	58-130
91-20-3	Naphthalene	83.3	60.7	73	56-130
129-00-0	Pyrene	83.3	60.0	72	53-130

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	75%	11-164%
321-60-8	2-Fluorobiphenyl	70%	14-138%
1718-51-0	Terphenyl-d14	81%	35-139%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14745-MS	1G132901.D	1	03/16/17	DC	03/15/17	OP14745	E1G1989
OP14745-MSD	1G132902.D	1	03/16/17	DC	03/15/17	OP14745	E1G1989
D92017-2	1G132900.D	1	03/16/17	DC	03/15/17	OP14745	E1G1989

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D92017-1, D92017-2

CAS No.	Compound	D92017-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		94.4	69.6	74	94.1	71.0	75	2	10-167/30
120-12-7	Anthracene	ND		94.4	78.5	83	94.1	82.0	87	4	10-200/30
56-55-3	Benzo(a)anthracene	ND		94.4	75.9	80	94.1	74.0	79	3	10-161/30
205-99-2	Benzo(b)fluoranthene	ND		94.4	79.3	84	94.1	76.1	81	4	10-166/30
207-08-9	Benzo(k)fluoranthene	ND		94.4	73.2	78	94.1	69.8	74	5	10-152/30
50-32-8	Benzo(a)pyrene	ND		94.4	82.0	87	94.1	79.1	84	4	10-149/30
218-01-9	Chrysene	2.5	J	94.4	74.1	76	94.1	69.1	71	7	10-156/30
53-70-3	Dibenzo(a,h)anthracene	ND		94.4	65.9	70	94.1	64.2	68	3	11-149/30
206-44-0	Fluoranthene	3.8	J	94.4	83.3	84	94.1	81.0	82	3	10-175/30
86-73-7	Fluorene	ND		94.4	107	113	94.1	77.7	83	32* [a]	10-280/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		94.4	81.2	86	94.1	76.7	82	6	10-151/30
91-20-3	Naphthalene	3.5	J	94.4	118	121	94.1	71.4	72	49* [a]	10-230/30
129-00-0	Pyrene	3.8	J	94.4	81.9	83	94.1	76.3	77	7	10-160/30

CAS No.	Surrogate Recoveries	MS	MSD	D92017-2	Limits
4165-60-0	Nitrobenzene-d5	76%	75%	63%	11-164%
321-60-8	2-Fluorobiphenyl	72%	74%	61%	14-138%
1718-51-0	Terphenyl-d14	91%	83%	68%	35-139%

(a) Variability of recovery may be due to sample matrix/nonhomogeneity.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14758-MS	1G132986.D	10	03/21/17	TR	03/18/17	OP14758	E1G1993
OP14758-MSD	1G132987.D	10	03/21/17	TR	03/18/17	OP14758	E1G1993
D92159-1	1G132988.D	10	03/21/17	TR	03/18/17	OP14758	E1G1993

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

D92017-3, D92017-4, D92017-5

CAS No.	Compound	D92159-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		87.7	ND	0*	87.7	ND	0*	nc	10-167/30
120-12-7	Anthracene	105		87.7	79.2	-29*	87.7	68.9	-41*	14	10-200/30
56-55-3	Benzo(a)anthracene	518		87.7	271	-282* [a]	87.7	271	-282* [a]	0	10-161/30
205-99-2	Benzo(b)fluoranthene	1320		87.7	730	-673* [a]	87.7	719	-685* [a]	2	10-166/30
207-08-9	Benzo(k)fluoranthene	ND		87.7	96.0	109	87.7	83.5	95	14	10-152/30
50-32-8	Benzo(a)pyrene	1300		87.7	800	-570* [a]	87.7	714	-668* [a]	11	10-149/30
218-01-9	Chrysene	695		87.7	360	-382* [a]	87.7	376	-364* [a]	4	10-156/30
53-70-3	Dibenzo(a,h)anthracene	603		87.7	532	-81* [a]	87.7	456	-168* [a]	15	11-149/30
206-44-0	Fluoranthene	59.5		87.7	45.8	-16*	87.7	42.4	-19*	8	10-175/30
86-73-7	Fluorene	ND		87.7	ND	0*	87.7	ND	0*	nc	10-280/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		87.7	113	129	87.7	286	326*	87*	10-151/30
91-20-3	Naphthalene	426		87.7	255	-195* [a]	87.7	236	-217* [a]	8	10-230/30
129-00-0	Pyrene	623		87.7	343	-319* [a]	87.7	329	-335* [a]	4	10-160/30

CAS No.	Surrogate Recoveries	MS	MSD	D92159-1	Limits
4165-60-0	Nitrobenzene-d5	24%	12%	33%	11-164%
321-60-8	2-Fluorobiphenyl	28%	14%	38%	14-138%
1718-51-0	Terphenyl-d14	28%* [b]	14%* [b]	38%	35-139%

(a) Outside control limits due to high level in sample relative to spike amount.
(b) Outside control limits due to dilution.

* = Outside of Control Limits.

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA1829-MB	GA37238.D	1	03/15/17	MR	n/a	n/a	GGA1829

The QC reported here applies to the following samples: **Method:** SW846 8015B

D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	96%	60-140%

Blank Spike Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA1829-BS	GA37239.D	1	03/15/17	MR	n/a	n/a	GGA1829

The QC reported here applies to the following samples: **Method:** SW846 8015B

D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	107	97	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	100%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D92017-1MS	GA37242.D	1	03/15/17	MR	n/a	n/a	GGA1829
D92017-1MSD	GA37243.D	1	03/15/17	MR	n/a	n/a	GGA1829
D92017-1	GA37241.D	1	03/15/17	MR	n/a	n/a	GGA1829

The QC reported here applies to the following samples: **Method:** SW846 8015B

D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

CAS No.	Compound	D92017-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		147	130	89	147	128	87	2	70-131/30

CAS No.	Surrogate Recoveries	MS	MSD	D92017-1	Limits
120-82-1	1,2,4-Trichlorobenzene	100%	107%	98%	60-140%

* = Outside of Control Limits.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14746-MB	FI51960.D	1	03/16/17	CH	03/15/17	OP14746	GFI2184

The QC reported here applies to the following samples: **Method:** SW846-8015B

D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	9.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	107%	41-134%

Blank Spike Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14746-BS	FI51962.D	1	03/16/17	CH	03/15/17	OP14746	GFI2184

The QC reported here applies to the following samples: **Method:** SW846-8015B

D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	250	188	75	35-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	115%	41-134%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D92017
Account: LTENVCOR LT Environmental
Project: Scott 41D-36-692 SWD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14746-MS	FI51964.D	1	03/16/17	CH	03/15/17	OP14746	GFI2184
OP14746-MSD	FI51966.D	1	03/16/17	CH	03/15/17	OP14746	GFI2184
D92017-1	FI51968.D	1	03/16/17	CH	03/15/17	OP14746	GFI2184

The QC reported here applies to the following samples: **Method:** SW846-8015B

D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

CAS No.	Compound	D92017-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	76.3		293	198	42	292	200	42	1	10-171/30

CAS No.	Surrogate Recoveries	MS	MSD	D92017-1	Limits
84-15-1	o-Terphenyl	95%	102%	88%	41-134%

* = Outside of Control Limits.

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21074
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/16/17

Metal	RL	IDL	MDL	MB raw	final
Aluminum	8.7	.96	1.5		
Antimony	2.6	.18	.71		
Arsenic	2.2	1.9	1.8		
Barium	0.87	.017	.026	0.070	<0.87
Beryllium	0.87	.078	.14		
Boron	4.3	.07	.25		
Cadmium	0.87	.17	.087	0.035	<0.87
Calcium	35	.21	8.3		
Chromium	0.87	.096	.061	0.078	<0.87
Cobalt	0.43	.043	.1		
Copper	0.87	.4	.42	0.070	<0.87
Iron	6.1	.13	.6		
Lead	4.3	.18	.52	-0.078	<4.3
Lithium	0.43	.035	.061		
Magnesium	17	.59	3.4		
Manganese	0.43	.043	.061		
Molybdenum	0.87	.035	.31		
Nickel	2.6	.54	.21	-0.078	<2.6
Phosphorus	8.7	1.3	3.7		
Potassium	170	7.3	5.2		
Selenium	4.3	.62	.87	0.41	<4.3
Silicon	4.3	.41	.79		
Silver	2.6	.026	.043	0.026	<2.6
Sodium	35	.63	1.3		
Strontium	4.3	.00087	.026		
Thallium	0.87	.16	.75		
Tin	4.3	1	1		
Titanium	0.87	.0087	.23		
Uranium	4.3	.25	.38		
Vanadium	0.87	.035	.061		
Zinc	2.6	.78	.3	0.45	<2.6

Associated samples MP21074: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21074 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/16/17

Metal	RL	IDL	MDL	MB raw	final

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21074
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/16/17

Metal	D92017-1 Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	196	423	242	96.4	75-125
Beryllium					
Boron					
Cadmium	0.0	51.8	60.4	85.7	75-125
Calcium					
Chromium	10.3	64.8	60.4	90.2	75-125
Cobalt					
Copper	8.8	67.6	60.4	97.3	75-125
Iron					
Lead	0.0	109	121	84.1	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	10.7	65.1	60.4	90.0	75-125
Phosphorus					
Potassium					
Selenium	0.0	110	121	91.0	75-125
Silicon					
Silver	0.0	17.3	24.2	71.6N(a)	75-125
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc	53.5	102	60.4	80.3	75-125

Associated samples MP21074: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21074
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/16/17

Metal	D92017-1 Original MS	Spikelot ICPALL2	% Rec	QC Limits

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21074
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/16/17

Metal	D92017-1 Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium	196	440	239	104.5	3.9	20
Beryllium						
Boron						
Cadmium	0.0	52.0	59.8	86.9	0.4	20
Calcium						
Chromium	10.3	65.4	59.8	92.1	0.9	20
Cobalt						
Copper	8.8	66.8	59.8	97.0	1.2	20
Iron						
Lead	0.0	108	120	84.2	0.9	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	10.7	64.2	59.8	89.4	1.4	20
Phosphorus						
Potassium						
Selenium	0.0	111	120	92.8	0.9	20
Silicon						
Silver	0.0	17.4	23.9	72.7N(a)	0.6	20
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	53.5	107	59.8	89.4	4.8	20

Associated samples MP21074: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21074 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/16/17

	D92017-1	Spikelot		MSD	QC
Metal	Original MSD	ICPALL2	% Rec	RPD	Limit

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21074
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/16/17

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	190	189	100.7	80-120
Beryllium				
Boron				
Cadmium	41.3	47.2	87.6	80-120
Calcium				
Chromium	44.1	47.2	93.5	80-120
Cobalt				
Copper	48.2	47.2	102.2	80-120
Iron				
Lead	78.9	94.3	83.6	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	42.7	47.2	90.5	80-120
Phosphorus				
Potassium				
Selenium	87.0	94.3	92.2	80-120
Silicon				
Silver	17.0	18.9	90.1	80-120
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	40.4	47.2	85.6	80-120

Associated samples MP21074: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21074
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/16/17

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21074 Methods: SW846 6010C
Matrix Type: SOLID Units: ug/l

Prep Date: 03/16/17

Metal	D92017-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	2040	1850	4.6	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	91.5	100	5.2	0-10
Cobalt				
Copper	123	0.00	100.0(a)	0-10
Iron				
Lead	74.5	77.5	4.0	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	134	0.00	100.0(a)	0-10
Phosphorus				
Potassium				
Selenium	52.5	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	323	585	6.8	0-10

Associated samples MP21074: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21074 Methods: SW846 6010C
Matrix Type: SOLID Units: ug/l

Prep Date: 03/16/17

	D92017-1	QC
Metal	Original SDL 5:25 %DIF	Limits

(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21079 Methods: SW846 6020A
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/16/17

Metal	RL	IDL	MDL	MB raw	final
Arsenic	0.096	.0082	.023	0.031	<0.096

Associated samples MP21079: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21079
Matrix Type: SOLID

Methods: SW846 6020A
Units: mg/kg

Prep Date: 03/16/17

Metal	D92017-1 Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Arsenic	4.3	101	106	91.6	75-125

Associated samples MP21079: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21079 Methods: SW846 6020A
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/16/17

Metal	D92017-1 Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Arsenic	4.3	111	117	91.0	9.4	20

Associated samples MP21079: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21079 Methods: SW846 6020A
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/16/17

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Arsenic	85.7	90.9	94.3	80-120

Associated samples MP21079: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21079
Matrix Type: SOLID

Methods: SW846 6020A
Units: ug/l

Prep Date: 03/16/17

Metal	D92017-1 Original	SDL 5:25	%DIF	QC Limits
Arsenic	38.6	40.0	3.6	0-10

Associated samples MP21079: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/17/17

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	55	65		
Antimony	150	11	44		
Arsenic	130	19	60		
Barium	50	1	2		
Beryllium	50	4.5	8		
Boron	250	4	18		
Cadmium	50	1	4		
Calcium	2000	12	50	-40	<2000
Chromium	50	1.5	3.5		
Cobalt	25	2.5	6		
Copper	50	4	19		
Iron	350	7.5	35		
Lead	250	11	25		
Lithium	25	2	3.5		
Magnesium	1000	34	200	33.5	<1000
Manganese	25	2.5	4.5		
Molybdenum	50	2	18		
Nickel	150	2.5	14		
Phosphorus	500	75	170		
Potassium	5000	500	360		
Selenium	250	36	50		
Silicon	250	24	42		
Silver	150	1.5	3		
Sodium	2000	37	70	-380	<2000
Strontium	25	.05	1.5		
Thallium	50	9	40		
Tin	250	60	60		
Titanium	50	.5	14		
Uranium	250	15	22		
Vanadium	50	2	3		
Zinc	150	2	18		

Associated samples MP21085: D92017-1A, D92017-2A, D92017-3A, D92017-4A, D92017-5A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/17/17

Metal	RL	IDL	MDL	MB raw	final

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/17/17

Metal	D92017-1A Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	25300	164000	125000	111.0	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	3960	154000	125000	120.0	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	24200	156000	125000	105.4	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP21085: D92017-1A, D92017-2A, D92017-3A, D92017-4A, D92017-5A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/17/17

Metal	D92017-1A Original MS	Spikelot ICPALL2	% Rec	QC Limits

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/17/17

Metal	D92017-1A Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	25300	158000	125000	106.2	3.7	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	3960	149000	125000	116.0	3.3	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	24200	152000	125000	102.2	2.6	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP21085: D92017-1A, D92017-2A, D92017-3A, D92017-4A, D92017-5A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/17/17

Metal	D92017-1A Original MSD	Spikelot ICPALL2 % Rec	MSD RPD	QC Limit

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/17/17

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	134000	125000	107.2	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	146000	125000	116.8	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	129000	125000	103.2	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP21085: D92017-1A, D92017-2A, D92017-3A, D92017-4A, D92017-5A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/17/17

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/17/17

Metal	D92017-1A Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	3940	5080	0.4	0-10
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	792	753	4.9	0-10
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	4830	4670	3.4	0-10
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP21085: D92017-1A, D92017-2A, D92017-3A, D92017-4A, D92017-5A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21085
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 03/17/17

	D92017-1A		QC
Metal	Original SDL 1:5	%DIF	Limits

(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21142 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/21/17

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.083	.00088	.0067	0.0014	<0.083

Associated samples MP21142: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21142 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/21/17

Metal	D92017-1 Original	MS	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.012	0.44	0.345	124.1	75-125

Associated samples MP21142: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21142 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/21/17

Metal	D92017-1 Original	MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.012	0.45	0.361	121.4	2.2	20

Associated samples MP21142: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

QC Batch ID: MP21142
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 03/21/17

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.34	0.333	102.0	80-120

Associated samples MP21142: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D92017
Account: LTENVCOR - LT Environmental
Project: Scott 41D-36-692 SWD

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP19923/GN38055			umhos/cm	9977	10300	103.3	90-110%

Associated Samples:
Batch GP19923: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5
(*) Outside of QC limits

Misc. Forms

Custody Documents and Other Forms

(SGS Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody

SGS ACCUTEST

CHAIN OF CUSTODY

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL. 303-425-6021 FAX: 303-425-6854
www.accutest.com

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FED-EX Tracking #: 6643 5641 9729
Bottle Order Control #:
SGS Accutest Quote #:
Accutest Job #: D92017

Client / Reporting Information

Company Name: SGS Accutest Laboratories
Street Address: 4036 Youngfield Street
City: Wheat Ridge, State: CO, Zip: 8003:
Project Contact: E-mail:
Phone #: 303-425-6021 Fax #:
Sampler(s) Name(s): SS Phone:

Project Information

Project Name: Scott 41D-36-692 SWD
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet): XCRA, EH, PH

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	XCRA, EH, PH	LAB USE ONLY
1	SS-01		3/13/17	12:00:00 AM	SS	SO	/									X	
2	SS-02		3/13/17	12:00:00 AM	SS	SO	/									X	D36
3	SS-03		3/13/17	12:00:00 AM	SS	SO	/									X	
4	SS-04		3/13/17	12:00:00 AM	SS	SO	/									X	
5	SS-05		3/13/17	12:00:00 AM	SS	SO	/									X	

Matrix Codes
DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)
- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [x] other Due 3/21/2017

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [x] Other COMMB

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions
INITIAL ASESSMENT 2M/CW
LABEL VERIFICATION [illegible]

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
Relinquished by Sampler: 1	3/14/17	Received By: 1 FedEx	Relinquished By: 2 FedEx	3/16/17 1110	Received By: 2 DH
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # client	☑ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☑ Cooler Temp. 3.0 °C IR1

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D92017: Chain of Custody
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SGS Accutest New Jersey

SGS Accutest Sample Receipt Summary

Job Number: D92017 **Client:** _____ **Project:** _____

Date / Time Received: 3/16/2017 11:10:00 AM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0);

Cooler Temps (Corrected) °C: Cooler 1: (4.4);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

SM089-02
Rev. Date 12/1/16

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D92017: Chain of Custody
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General Chemistry

QC Data Summaries

(SGS Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D92017
Account: ALMS - SGS Accutest Mountain States
Project: LTENVCOR: Scott 41D-36-692 SWD

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP3940/GN60967	0.40	0.0	mg/kg	907.426	957	105.5	80-120%
Chromium, Hexavalent	GP3940/GN60967			mg/kg	40.00	35.0	87.5	80-120%

Associated Samples:
Batch GP3940: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D92017
Account: ALMS - SGS Accutest Mountain States
Project: LTENVCOR: Scott 41D-36-692 SWD

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP3940/GN60967	D92017-1	mg/kg	0.50	0.0	200.0*(a)	0-20%
Redox Potential Vs H2	GN60997	JC38475-1	mv	255	243	4.8	0-18%
pH	GN60996	JC38475-1	su	8.20	8.25	0.6	0-5%

Associated Samples:
Batch GP3940: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5
Batch GN60996: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5
Batch GN60997: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D92017
Account: ALMS - SGS Accutest Mountain States
Project: LTENVCOR: Scott 41D-36-692 SWD

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP3940/GN60967	D92017-1	mg/kg	0.50	1210	1360	112.5(a)	75-125%
Chromium, Hexavalent	GP3940/GN60967	D92017-1	mg/kg	0.50	47.5	31.1	64.5N(b)	75-125%

Associated Samples:
Batch GP3940: D92017-1, D92017-2, D92017-3, D92017-4, D92017-5
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Good recovery on insoluble XCR matrix spike. See additional comments on soluble matrix spike recovery.
(b) Soluble XCR matrix spike recovery indicates possible matrix interference. Low post spike recovery (75.5%) on this sample.