

U.S. Army

Final Preliminary Assessment and Site Investigation Report for Heating Oil Spill Site Investigation at Building 419 Fort Stewart, Georgia



IMA

August 2012

Submitted to: Directorate of Public Works Environmental Division Fort Stewart, Georgia 31314-4927



Submitted by: U.S. Army Corps of Engineers Savannah District 100 West Oglethorpe Avenue Savannah, Georgia 31401-3604



Prepared by: SpecPro Environmental Services LLC 1006 Floyd Culler Court Oak Ridge, Tennessee 37830-8022 under Delivery Order No. W912HN-10-D-0001 Delivery Order No. 0007



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Acronyms and Abbreviations

AMSL	above mean sea level
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, xylenes
DPT	direct push technology
equiv.	equivalent
EFR	enhanced fluid recovery
EPA	Environmental Protection Agency
ft	foot/feet
GA USTMP	Georgia Underground Storage Tank Management Program
gal	gallon(s)
hr	Hour
mg/kg	milligrams per kilogram
NA	not available
NP	not present
NRC	no regulatory criteria
PAH	petroleum aromatic hydrocarbons
PID	photoionization detector
SES	SpecPro Environmental Services LLC
TOC	top of casing
UST	underground storage tank

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EXECUTIVE SUMMARY

SpecPro Environmental Services LLC (SES) under contract with the U.S. Army Corps of Engineers, Savannah District, has completed free product investigation and removal actions at Building 419 at Fort Stewart, Georgia. Under this scope of work, SES installed 21 soil borings and six groundwater monitor wells to delineate free product at the site and then performed enhanced fluid recovery (EFR) to remove as much free product as possible during a monthly eight-hour event for three consecutive months.

Fort Stewart Building 419 site is near the intersection of Hero Road and Steele Avenue in the PX complex. The site is mostly covered with asphalt and has a small grassy area on the western side where the heating oil tank used to be. According to information obtained from the fuel delivery inventory, 4,500 gallons of heating oil were released into the ground behind Building 419 and Steele Avenue on the west side of the loading dock.

According to Fort Stewart personnel, once the release was discovered, an emergency spill response effort was conducted to remove the underground storage tank (UST) and potentially contaminated soil. Documents were not provided about the discovery or the recovery efforts at this site.

In March 2011, twenty soil borings were installed using a direct push technology drilling rig at the site. One soil boring was installed in the vicinity of suspected release source area with other borings installed outwardly from that point. The soil borings were installed upgradient and downgradient of the suspected release area. The soil borings were sampled continuously, described and classified by a geologist, and field screened using a photoionization detector. Six of the soil boring locations were selected to be groundwater monitor well locations. These locations were selected based upon the contaminant source area to delineate the extent of possible groundwater contamination from the source area. The new groundwater monitor wells were allowed to equilibrate with the localized groundwater conditions. Free product was measured and recorded to estimate the extent and mass of the free product in the subsurface on June 12, July 17, and August 6, 2011.

Three eight-hour EFR events took place between June 2011 and August 2011. Ninety equivalent gallons of free product and 7,667 gallons of contaminated groundwater were removed from the site during the three separate events. At the end of each EFR event, the extracted groundwater and free product was transported off site for treatment and disposal.

ES-1

SES recommends completing a Corrective Action Plan-Part A for the UST release with installation of three to five soil boring locations and groundwater monitor wells for contamination and free product delineation. After the free phase product is delineated, a pilot study consisting of surfactant injection and multiphase extraction is recommended to address the free phase product on the site.

1. INTRODUCTION

SpecPro Environmental Services LLC (SES), under contract with the U.S. Army Corps of Engineers, Savannah District, has completed free product delineation and removal actions at Building 419 at Fort Stewart, Georgia. This work was accomplished in accordance with *Final Work Plan for Heating Oil Site Investigation at Building 419, Fort Stewart, Georgia* (SES, March 2011).

Fort Stewart Building 419 is near the intersection of Hero Road and Steele Avenue in the PX complex. The site is mostly covered with asphalt and has a small grassy area on the western side where the heating oil tank used to be. According to information obtained from the fuel delivery inventory, approximately 4,500 gallons of heating oil were released into the ground behind Building 419 and Steele Avenue on the west side of the loading dock. See Figure 1 for the site location.

The objective of this scope of work was to perform free product investigations and removal actions at the Building 419 site at Fort Stewart, Georgia. Specific tasks performed under the scope included

- Installing 20 soil borings using direct push technology (DPT) with field screening using a photoionization detector (PID);
- Installing groundwater monitor wells at the six locations with the highest PID readings from intervals just above the groundwater table;
- Performing an eight-hour enhanced fluid recovery (EFR) event monthly for three months; and
- Profiling, manifesting, and disposing of all recovered liquids at an off-site facility upon extraction.

2. FIELD ACTIVITIES

Field activities conducted during this project consisted of providing technical support during installation of soil borings and groundwater monitor wells and supervising three monthly EFR events.

2.1 INSTALLATION OF SOIL BORINGS

On March 29, 2011, fieldwork began to install the 20 soil borings. The boring locations were selected based on the location of Building 419, the removed underground storage tank (UST), utilities throughout the project site, and the assumption that the groundwater flow would move to the northeast under Steele Avenue to the box culvert and open ditch. A DPT rig was used to install 20 soil borings to 15 feet below

ground surface (bgs). One additional boring was installed but not sampled because of refusal of the drill rig during installation of the groundwater well.

The soil was collected continuously throughout the borings, described and classified by a geologist, and field screened using a PID to detect the presence of petroleum hydrocarbons. Soil boring logs and locations are in Appendix A and Figure 2. All soil cuttings were placed in 55-gallon drums for off-site disposal. Nonhazardous waste manifests for nonregulated, nonhazardous soil containing petroleum hydrocarbons can be found in Appendix B.

2.2 SOIL BORING SAMPLE RESULTS

Soil sampling was performed in the area of the heating oil tank removal to investigate the extent of the heating oil release. Twenty soil borings were pushed to a depth of 15 feet with a Geoprobe using DPT. Samples were collected from a new 4-foot cellulite acetate butyrate liner using decontaminated stainless steel spoons at each sample location [Environmental Protection Agency (EPA), November 2007]. Each 4-foot liner was then screened with a PID. Two soil samples were collected from each boring with the highest readings. In conditions where readings were not detected, a soil sample was collected from 0 to 3 feet and one at the soil/ groundwater interface. The soils collected for analysis were placed into prelabeled, laboratory-supplied containers. Each sample container was placed into a prechilled cooler and filled with ice. All sample designations were recorded onto a chain-of-custody form and shipped overnight in the coolers to Empirical Laboratories of Nashville, Tennessee, a Georgia-approved laboratory. Each sample was analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX); petroleum aromatic hydrocarbons (PAHs); and total petroleum hydrocarbons. Procedures for collecting samples followed EPA protocols. DataChek of Caswell Beach, North Carolina, validated the analytical data. All down-hole drilling equipment was decontaminated with a steam cleaner before drilling, between borings, and after drilling. The soil borings that were not used for groundwater wells were abandoned using bentonite pellets after the sampling was completed. The soil boring results can be found in Tables 1 through 3 and Figures 3 through 6.

The BTEX and PAH concentrations in soil borings SB-10, SB-11, SB-13, SB-14, SB-15, SB-16, SB-17 and SB-18 exceeded Georgia Underground Storage Tank Management Program (GA USTMP) Table A, Soil Threshold Levels.

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2.3 INSTALLATION OF GROUNDWATER MONITOR WELLS

On April 6 and 7, 2011, groundwater monitor wells were installed and developed in accordance with EPA Region 4 guidance using hollow stem augers and a peristaltic pump. Six groundwater monitor wells were installed at six previous boring locations based on soil screenings with a PID and known free product in the recovery wells. These soil borings were SB-03, SB-06, SB-10, SB-15, SB-19, and SB-21. The wells were installed to a depth of 15 feet bgs, and they have a screened interval from 5 feet to 15 feet bgs. The screen and sand filter pack of each monitor well brackets the water table to accommodate fluctuations in the aquifer and enable detection of free product if it is present. A bentonite seal was installed above the filter pack, and the remainder of the annular space was filled with cement grout. The monitor wells were completed at the surface with flush mounted surface protection. Figure 7 shows the locations of the groundwater monitor wells. Groundwater monitor well construction data can be found in Table 4, and monitor well logs can be found in Appendix C.

Monitor well development took place 24 hours after the cement grout was placed in the annular space. Monitor well development was performed using a combination of surging and pumping. During development, the development water was monitored for temperature, pH, conductivity, and turbidity. Development of the monitor wells continued until these parameters stabilized and the water was visibly free of sediment. All development water was containerized and sampled.

The monitor wells were allowed to equilibrate to the localized groundwater conditions during a two-week period. Free product levels were measured and recorded to estimate the extent and mass of free product in the subsurface on April 27, 2011. Figure 8 shows the potentiometric surface map, and Table 5 lists the groundwater elevations.

2.4 GROUNDWATER SAMPLING RESULTS

Groundwater sampling was performed on April12, 2011, in accordance with EPA Region 4 Procedure, Groundwater Sampling, SESDPROC-301 R1 using a peristaltic pump with disposable Teflon tubing. Groundwater samples analyzed for organic compounds were obtained using the peristaltic pump and vacuum jug method. Groundwater was purged from each well until the well parameters (temperature, conductivity, pH, oxidation reduction potential, dissolved oxygen, and turbidity) stabilized. Groundwater parameters were measured with a YSI 6820 Multi-Parameter Sonde Groundwater Monitor. All sample designations were recorded onto a chain-of-custody form and shipped overnight in coolers to Empirical Laboratories of Nashville, Tennessee, a Georgia-approved laboratory. Each sample was analyzed for BTEX and PAHs. Procedures for collecting samples followed EPA protocols. DataChek of Caswell Beach, North Carolina, validated the analytical data. The results can be found in Tables 5 and 6 and Figure 9.

All results from groundwater sampling were below Georgia In-Stream Water Quality Standards. Ethylbenzene and xylenes (total) groundwater sample results from monitor well MW-04 exceeded minimum quantitation and reporting levels.

2.5 SOIL ENHANCED FLUID RECOVERY AND REMOVAL OF FREE PRODUCT

Three monthly enhanced fluid recovery (EFR) events were performed at the site between June 2011 and August 2011.

EcoVac Services provided a multiphase extraction system capable of providing up to 20 inches Hg vacuum and up to 20 gallons per minute influent flow rate. Basic operation of the extraction system consisted of lowering the tubing (stinger) inside the groundwater monitor well(s) at the site. The top of the monitor well casing was sealed, and a vacuum was applied to the well. To control mounding the groundwater, auxiliary air was introduced inside the well casing via an air valve. This auxiliary air traveled down the inside of the well casing and outside the stinger then lifted the liquids inside the well casing up the inside of the stinger piping. The process, which works much like an air lift pump, removed the liquids from the well, prevented a mounding effect, and created a depression of the groundwater surface promoting the flow of subsurface liquids toward the well. The evacuated liquids and air were transferred to an air/liquid separator. The air exhaust was directed into a vapor phase carbon treatment canister before being discharged into the atmosphere. The liquids were transferred to the truck's onboard storage tank.

SES and EcoVac mobilized to the site on June 12, 2011, for the first EFR event. Groundwater and free product levels were measured and recorded prior to system startup, and one groundwater monitor well and four recovery wells contained free product. Groundwater monitor well MW-04 contained 0.42 feet of free product. Recovery wells RW-01, RW-04, RW-05, and RW-06 contained 0.25, 4.50, 3.79, and 1.02 feet of free product respectively. The event was performed during a seven-hour period at five extraction points. The initial 4.25 hours were at RW-01, RW-04, RW-5, and RW-06, and MW-04 was added to the extraction array for the final 2.75 hours of the event. A calculated total of 96 pounds of petroleum

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hydrocarbons and 2,573 gallons of total liquids were removed during this event. Following the extraction, all monitor and recovery wells were measured for free product, and no measurable amounts were observed.

Groundwater and free product levels were measured and recorded on July 15, 2011, with MW-04, RW-01, RW-04, RW-05, and RW-06 containing 0.50, sheen, 2.25, 2.6, and 0.48 feet of free product respectively.

The second monthly EFR event took place on July 17, 2011. Groundwater and free product levels were measured and recorded prior to system startup, and one groundwater monitor well and four recovery wells contained free product. Groundwater monitor well MW-04 contained 0.46 feet of free product. Recovery wells RW-01, RW-04, RW-05, and RW-06 contained 0.05, 2.26, 2.59, and 0.47 feet of free product respectively. The event was performed during a seven-hour period at five extraction points. The initial three hours were at RW-01, RW-04, RW-5, and RW-06, and MW-04 was added to the extraction array for the final four hours of the event. A calculated total of 199 pounds of petroleum hydrocarbons and 2,600 gallons of total liquids were removed during this event. Following the extraction, all monitor and recovery wells were measured for free product, and no measurable amounts were observed.

SES and EcoVac mobilized to the site on August 6, 2011, for the third and final monthly EFR event. Groundwater and free product levels were measured and recorded prior to system startup, and one groundwater monitor well and three recovery wells contained free product. MW-04 contained 0.35 feet of free product. RW-04, RW-05, and RW-06 contained 1.40, 1.05, and 0.47 feet of free product respectively. The event was performed during eight hours at four extraction points: MW-04, RW-04, RW-05, and RW-06. A calculated total of 316 pounds of petroleum hydrocarbons and 2,494 total gallons of liquid were removed during this event. Following the extraction, all monitor and recovery wells were measured for free product, and no measurable amounts were observed.

The groundwater elevations of each EFR event can be found in Table 7 and Figures 10 through 15.

The monthly reports generated by EcoVac for each EFR event can be found in Appendix D. EFR free product removal results can be found in Table 7.

All recovered liquid was transported to the EQ Augusta's treatment facility in Augusta, Georgia, for disposal. Nonhazardous waste manifests from each event can be found in Appendix D.

3. CONCLUSIONS AND RECOMMENDATIONS

The EFR system removed a total of 611 pounds of petroleum hydrocarbons vapor. Total liquid removed was 7,667 gallons with 90 gallons of total product removed during 22 hours of operation.

SES recommends completing a Corrective Action Plan-Part A for the UST release with installation of three to five soil boring locations and groundwater monitor wells for contamination and free product delineation. After the free phase product is delineated, a pilot study consisting of surfactant injection and multiphase extraction is recommended to address the free phase product on the site.

4. **REFERENCES**

Environmental Protection Agency Region 4, February 2008. Field Branches Quality System and Technical Procedures.

SpecPro Environmental Services LLC, March 2011. Final Work Plan for Heating Oil Site Investigation at Building 419 Fort Stewart, Georgia.

Figures



F-1



F-2









E0209.0007

SB-13-02 1-Methylnaphthalene 2-Methylnaphthalene 2-Methylnaphthalene 1.64 J Pyrene 0.838 J Hegend: 0 0 30'		SpecPro Environmental Services LLC 1006 Floyd Culler Court Oak Ridge, Tennessee 37830
1-Methylnaphthalene 5.46 J 2-Methylnaphthalene 8.40 J Naphthalene 1.64 J Pyrene 0.838 J If the second of the seco		Job Title: Heating Oil Spill Sile Investigation at Building 419 Fort Stewart, Georgia
	1-Methylnaphthalene 5.46 J 2-Methylnaphthalene 8.40 J Naphthalene 2.69 J Phenanthrene 1.64 J Pyrene 0.838 J	Figure 6 Deep Soil Boring Sample Results - PAH March 2011







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R:\E209\E209.0007\graphics\Fig 2-13 2011 Post-EFR 7-17-2011 Bldg 419 FTS.dwg(09/02/11)





Tables

	Table 1 Soil Sampling Results for BTEX Analytical Method: 8260B 8260B 8260B 8260B											
				Analytica	d Method:	8260B	8260B	8260B	8200B			
				Contaminant (mg/kg):			zene		otal)			
Boring ID	Sample ID	Sample Type	Date Collected	Sample Depth (ft/bgs)	PID Reading	Benzene	Ethylbenzene	Toluene	Xylene (total)			
SB-01	SB-01-01	REG	3/29/11	1'-3'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-01	SB-01-02	REG	3/29/11	8'-9'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-02	SB-02-01	REG	3/29/11	1'-3'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-02	SB-02-02	REG	3/29/11	8'-9'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-03	SB-03-01	REG	3/29/11	1'-3'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-03	SB-03-019	DUP	3/29/11	1'-3'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-03	SB-03-02	REG	3/29/11	6'-7'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-04	SB-04-01	REG	3/29/11	1'-3'	0	0.001 UJ	0.001 UJ	0.001 UJ	0.001 UJ			
SB-04	SB-04-02	REG	3/29/11	6'-7'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-05	SB-05-01	REG	3/29/11	1'-3'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-05	SB-05-02	REG	3/29/11	6'-6.5'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-06	SB-06-01	REG	3/29/11	1'-3'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-06	SB-06-02	REG	3/29/11	7'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-00 SB-07	SB-00-02 SB-07-01	REG	3/29/11	1'-3'	0	0.001 UJ	0.001 UJ	0.001 UJ	0.001 UJ			
SB-07	SB-07-01 SB-07-02	REG	3/29/11	7'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-07	SB-07-02 SB-08-01	REG	3/29/11	1'-3'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-08	SB-08-02	REG	3/29/11	7'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-08 SB-09	SB-08-02 SB-09-01	REG	3/29/11	6'-7'	0	0.001 U	0.001 U	0.001 U	0.001 U			
	SB-09-01 SB-09-02	REG	3/29/11	10'-11'	0	0.001 U	0.001 U	0.005 J	0.001 U			
SB-09				6'-7'	5.7	0.001 U 0.504 J	3.780	0.624 U	23.4			
SB-10	SB-10-01	REG	3/29/11	8'-9'	0	0.001 U	0.001 U	0.024 U 0.001 U	0.001 U			
SB-10	SB-10-02	REG	3/29/11	5'			0.001 U 0.147 J	0.001 U 0.040 U	0.001 0			
SB-11	SB-11-01	REG	3/29/11		10.5	0.022 U	A REAL PROPERTY OF A READ REAL PROPERTY OF A REAL P	0.040 U 0.001 U	0.017			
SB-11	SB-11-02	REG	3/29/11	9.5'	0	0.007	0.003 J	0.001 U 0.001 U	0.001 V			
SB-12	SB-12-01	REG	3/29/11	5'	10.5	0.001 U	0.001 U	0.001 U	0.001 U			
SB-12	SB-12-02	REG	3/29/11	8'	0	0.001 U	0.001 U					
SB-13	SB-13-01	REG	3/30/11	1'-3'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-13	SB-13-02	REG	3/30/11	8.5'	0	0.183 J	2.190	0.048 U	10.5			
SB-14	SB-14-01	REG	3/30/11	3'	0	0.001 U	0.001 J	0.001 U	0.001 U			
SB-14	SB-14-02	REG	3/30/11	7'	0	0.001 U	0.003 UJ	0.003 UJ	0.002 UJ			
SB-15	SB-15-01	REG	3/30/11	3'-4'	0	0.024 U	0.001 U	0.044 U	0.036 U			
SB-15	SB-15-02	REG	3/30/11	7'	0	0.001 U	0.001 U	0.001 U	0.001 U			
SB-16	SB-16-01	REG	3/30/11	7'-7.5	30	0.143 J	2.290	0.010 J	4.7			
SB-16	SB-16-02	REG	3/30/11	8'-8.5'	0	0.059 J	0.385 J	0.087 U	0.071			
SB-17	SB-17-01	REG	3/30/11	8'	0	0.002 J	0.029 J	0.001 UJ	0.094 J			
SB-17	SB-17-02	REG	3/30/11	10'	15.5	0.100 U	0.160 U	0.183 U	0.149 J			
SB-18	SB-18-01	REG	3/30/11	6'-7'	40	0.084 J	0.133 U	0.152 U	0.563 J			
SB-18	SB-18-02	REG	3/30/11	10'	27	0.173 J	0.276 J	0.125 U	2.59			
SB-19	SB-19-01	REG	3/30/11	4'	40	0.001 U	0.001 U	0.001 U	0.001 U			
SB-19	SB-19-02	REG	3/30/11	8'	45	0.001 UJ	0.001 UJ	0.001 UJ	0.001 UJ			
SB-20	SB-20-01	REG	3/30/11	4'	45	0.001 U	0.001 U	0.001 U	0.001 U			
SB-20	SB-20-019		3/30/11	4'	40	0.001 UJ	0.001 UJ	0.001 UJ	0.001 UJ			
SB-20	SB-20-02	REG	3/30/11	8.5'	60	0.001 U	0.001 UJ	0.001 UJ	0.001 U			
GA USTN				DLD LEVELS (n	0.005	0.4	0.37	20				
	Minimu	ım Quanti	tation & Rej	porting Limit (mg	0.005	0.005	0.005	0.005				

Table 1 Soil Sampling Results for BTEX

Bold = The value is above the minimum quantitation limit.

U = The compound was not detected at the method detection limit reported. Bold = J = The value for the compound is an estimated value. bgs = below ground surface BTEX = benzene, toluene, ethylbenzene, and xylene (total) GA USTMP = Georgia Underground Storage Tank Management Program

PID = photoionization detector

ft = feetmg/kg = milligrams per kilogram

Table 2 Soil Sampling Results for Diesel Range Organics

ID SB-01 S SB-01 S SB-02 S SB-03 S SB-03 S SB-03 S SB-03 S SB-04 S SB-04 S SB-05 S	Sample 1D SB-01-01 SB-01-02 SB-02-01 SB-02-02 SB-03-019 SB-03-019 SB-03-019 SB-03-019 SB-03-019	Sample Type REG REG REG REG REG	Date Collected 3/29/11 3/29/11	Sample Depth (ft/bgs)	nant (mg/kg): PID Reading	Diesel Range Organics (C10-C28)
SB-01 S SB-02 S SB-02 S SB-03 S SB-03 S SB-03 S SB-04 S SB-04 S SB-04 S SB-05 S	ID SB-01-01 SB-01-02 SB-02-01 SB-02-02 SB-03-01 SB-03-019 SB-03-02	Type REG REG REG REG	Collected 3/29/11 3/29/11	Depth (ft/bgs)	PID Reading	Diesel Ran C10-C28)
SB-01 S SB-02 S SB-02 S SB-03 S SB-03 S SB-03 S SB-04 S SB-04 S SB-04 S SB-05 S	SB-01-01 SB-01-02 SB-02-01 SB-02-02 SB-03-01 SB-03-019 SB-03-02	REG REG REG REG	3/29/11 3/29/11			
SB-01 S SB-02 S SB-03 S SB-03 S SB-03 S SB-03 S SB-04 S SB-04 S SB-05 S	SB-01-02 SB-02-01 SB-02-02 SB-03-01 SB-03-019 SB-03-02	REG REG REG	3/29/11	1'-3'	0	7.28U
SB-02 S SB-02 S SB-03 S SB-03 S SB-03 S SB-04 S SB-04 S SB-05 S	SB-02-02 SB-03-01 SB-03-019 SB-03-02	REG REG REG		8'-9'	0	7.68U
SB-03 S SB-03 S SB-03 S SB-04 S SB-04 S SB-05 S	SB-03-01 SB-03-019 SB-03-02	REG REG	3/29/11	1'-3'	0	19.3
SB-03 S SB-03 S SB-04 S SB-04 S SB-05 S	SB-03-019 SB-03-02		3/29/11	8'-9'	0	8.91U
SB-03 S SB-04 S SB-04 S SB-04 S SB-05 S	SB-03-02		3/29/11	1'-3'	0	7.47U
SB-04 SB-04 SB-04 SB-05 SB-05 <th< td=""><td></td><td>DUP</td><td>3/29/11</td><td>1'-3'</td><td>0</td><td>7.68U</td></th<>		DUP	3/29/11	1'-3'	0	7.68U
SB-04 SB-05 SB-05	SB-04-01	REG	3/29/11	6'-7'	0	7.67U
SB-05 \$		REG	3/29/11	1'-3'	0	39.5
	SB-04-02	REG	3/29/11	6'-7'	0	7.61U
	SB-05-01	REG	3/29/11	1'-3'	0	7.31U
	SB-05-02	REG	3/29/11	6'-6.5'	0	9.33
	SB-06-01	REG	3/29/11	1'-3'	0	7.22U
	SB-06-02	REG	3/29/11	7'	0	7.84
	SB-07-01	REG	3/29/11	1'-3' 7'	0	<u>11.2</u> 7.79U
	SB-07-02 SB-08-01	REG REG	3/29/11 3/29/11	1'-3'	0	7.79U 7.59U
	SB-08-01 SB-08-02	REG	3/29/11	7'	0	7.62U
	SB-08-02 SB-09-01	REG	3/29/11	6'-7'	0	10.3
	SB-09-01	REG	3/29/11	10'-11'	0	8.14U
	SB-10-01	REG	3/29/11	6'-7'	5.7	22100
	SB-10-01	REG	3/29/11	8'-9'	0	16.2
	SB-11-01	REG	3/29/11	5'	10.5	918J
	SB-11-02	REG	3/29/11	9.5'	0	7.75U
	SB-12-01	REG	3/29/11	5'	10.5	29.3
SB-12 S	SB-12-02	REG	3/29/11	8'	0	39.6
SB-13 S	SB-13-01	REG	3/30/11	1'-3'	0	53
SB-13 S	SB-13-02	REG	3/30/11	8.5'	0	13900
	SB-14-01	REG	3/30/11	3'	0	39
	SB-14-02	REG	3/30/11	- 7'	0	47.9
	SB-15-01	REG	3/30/11	3'-4'	0	13.7
	SB-15-02	REG	3/30/11	7'	0	13.5
and the second se	SB-16-01	REG	3/30/11	7'-7.5	30	8070
Contractor in the subscription in the local	SB-16-02	REG	3/30/11	8'-8.5'	0	8310
	SB-17-01	REG	3/30/11	8'	0	3590
	SB-17-02 SB-18-01	REG REG	3/30/11 3/30/11	<u>10'</u> 6'-7'	40	<u>163</u> 3890
	SB-18-01 SB-18-02	REG	3/30/11	10'	27	296
	SB-18-02 SB-19-01	REG	3/30/11	4'	40	7.16U
	SB-19-01	REG	3/30/11		40	20.2
	SB-20-01	REG	3/30/11	4'	45	16.6
	SB-20-019	DUP	3/30/11	4'	40	17.3
	SB-20-02	REG	3/30/11	8.5'	60	8.43

U Indicates the compound was not detected at the method detection limit reported.

J Indicates the value for the compound is an estimated value.

Bold indicates the value for the compound is an estimated value Bold indicates the value was above the reporting limit.

bgs = below ground surface

mg/kg = milligrams per kilogram

PID = photoionization detector

ft = feet

Line Line <thlin< th=""> Line Line L</thlin<>			A	1 7 /1 1	0350.0	03500	02500	1			Petroleum A	-		03500	02500	02700	93700	9370.0	03700	02700	92700	92700
North Stands Desc			Analytica	al Method:	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C
North North Desk <																						
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Image Image <th< td=""><td></td><td></td><td>Contamina</td><td>ant (mg/kg):</td><td></td><td></td><td></td><td></td><td>and the second</td><td>0</td><td></td><td>e</td><td></td><td>9</td><td>and the second</td><td></td><td>ne</td><td>64</td><td></td><td></td><td></td><td>ALC: NOTE: N</td></th<>			Contamina	ant (mg/kg):					and the second	0		e		9	and the second		ne	64				ALC: NOTE: N
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Image State State <th< td=""><td></td><td></td><td></td><td></td><td>ene</td><td>lene</td><td>63</td><td>th</td><td>ren</td><td>Iori</td><td>)be</td><td>IOL</td><td></td><td>)an</td><td>ne</td><td></td><td>3-6</td><td>aph</td><td>aph</td><td>ene</td><td>ene</td><td></td></th<>					ene	lene	63	th	ren	Iori)be	IOL)an	ne		3-6	aph	aph	ene	ene	
Db Supple D Type Calcular div J J J J L L L L L L L L L Div Div <thdiv< th=""> Div Div <thdiv<< td=""><td></td><td></td><td></td><td></td><td>hth</td><td>thy</td><td>cen</td><td>l)an</td><td>(d()</td><td>)II(</td><td>i,h,i</td><td>)UI(</td><td>e</td><td>a,h</td><td>ithe</td><td>٩</td><td>1,2</td><td>ylna</td><td>ylns</td><td>anl</td><td>thr</td><td></td></thdiv<<></thdiv<>					hth	thy	cen	l)an	(d())II(i,h,i)UI(e	a,h	ithe	٩	1,2	ylna	ylns	anl	thr	
B Supple D Type Cancel (bogs) PID backing J <thj< th=""> <thj< th=""> J <!--</td--><td>Powing Samuela</td><td>Dete</td><td>Samala Danth</td><td>and the second second</td><td>lap</td><td>lap</td><td>Ira</td><td>50(2</td><td>3)02</td><td>1)02</td><td>3)02</td><td>1)02</td><td>ysei</td><td>)zu:</td><td>rar</td><td>ren</td><td>)ou</td><td>eth</td><td>eth</td><td>hth</td><td>nan</td><td>ene</td></thj<></thj<>	Powing Samuela	Dete	Samala Danth	and the second second	lap	lap	Ira	50(2	3)02	1)02	3)02	1)02	ysei)zu:	rar	ren)ou	eth	eth	hth	nan	ene
Spole Boole Boole <th< td=""><td></td><td></td><td></td><td>PID Pooding</td><td>VCEI</td><td>Cel</td><td>ut</td><td>Beni</td><td>Sent</td><td>Beni</td><td>Sen</td><td>Benz</td><td>, rd</td><td>Dibe</td><td>luo</td><td>onl</td><td>nde</td><td>N-</td><td>W</td><td>Vap</td><td>hei</td><td>jyr.</td></th<>				PID Pooding	VCEI	Cel	ut	Beni	Sent	Beni	Sen	Benz	, rd	Dibe	luo	onl	nde	N-	W	Vap	hei	jyr.
Sheed: 2. BEG: 2. BEG: 2. BEG: 3. Sheed: 3. Shee				0	0.029.11	0.022.11	0.030 U	0.040 U	0.025 U	0.035 U	0.077.11	0.043 U	0.034 U	0.066.11	0.059.11	0.029.11	0.050 U	0.109.11	0.03811	0.035 U	0.025 U	0.044 UJ
SBA2.41 Biol. 2001. CPU OUPUL				ÿ																		0.046 UJ
Shore 20 Biolog Biolo																						0.042 J
Sep:0 Big:0:0 DUC Sep:0:1 First 6.0311 0.0311 <td>SB-02 SB-02-02 REG</td> <td>3/29/11</td> <td>8'-9'</td> <td>0</td> <td></td> <td></td> <td>0.036 U</td> <td>0.048 U</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.072 U</td> <td></td> <td>0.062 U</td> <td>0.134 U</td> <td>0.047 U</td> <td>0.043</td> <td>0.031 U</td> <td>0.054 UJ</td>	SB-02 SB-02-02 REG	3/29/11	8'-9'	0			0.036 U	0.048 U							0.072 U		0.062 U	0.134 U	0.047 U	0.043	0.031 U	0.054 UJ
Sb0.0 Biol.0 Pictor 0 0.001U 0.002U		3/29/11		0	0.030 U	0.023 U	0.031 U	0.042 U	0.027 U	0.037 U	0.081 U	0.045 U	0.036 U	0.069 U	0.062 U	0.030 U	0.053 U	0.115 U	0.040 U			0.046 UJ
Sheed Beed Beed <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.046 UJ</td></t<>																						0.046 UJ
SBA-02 REG System 0 0.032 U 0.032 U 0.042 U 0.041 U 0.030 U 0.002 U 0.002 U SB40 SB45.0 REG S2011 0.664 U 0.061 U 0.063 U 0.061 U 0																						0.046 UJ
SBN6.0 BB66 299/1 1/2 0 0.022/L 0.029/L 0.029/L 0.054/L 0.054/L 0.056/L 0.025/L																						0.045 UJ
Sheed Sheed <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.047 UJ 0.096 UJ</td></th<>																						0.047 UJ 0.096 UJ
Shee6 Shee7 Shee7 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.090 UJ 0.046 U</td></th<>																						0.090 UJ 0.046 U
SB-06 SB-06-02 REG SB-07 BO-71 CORTU CORTU <t< td=""><td></td><td></td><td></td><td>÷</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.040 U</td></t<>				÷																		0.040 U
SBAF01 Ref J2211 I/3" 0 0.022U 0.032U 0.032U 0.042U																						0.048 UJ
SH-08 SH-06 REG 329/11 1'3' 0 0.031U 0.031U 0.037U 0.037U 0.038U 0.036U 0.035U 0.035U 0.035U 0.035U 0.037U 0.031U 0.037U 0.031U 0.045U 0.035U	SB-07 SB-07-01 REG		1'-3'	0														1	0.043 U	0.04	0.028 U	0.050 UJ
SB-86 SB-96 SB-97 F 0 0.030 U 0.032 U 0.037 U 0.037 U 0.047 U 0.037 U 0.031 U 0.032 U	SB-07 SB-07-02 REG	3/29/11	7'	0	0.030 U	0.023 U	0.031 U	0.041 U	0.026 U	0.036 U	0.079 U	0.044 U	0.035 U	0.068 U	0.061 U	0.029 U	0.052 U	0.113 U	0.040 U	0.036 U	0.026 U	0.045 U
Sh0-90 REG 32911 6''.7 0 0.021U 0.021U 0.007U 0.0701 0.0711 0.0711 0.0711 0.0711 0.0711 0.0711 0.0711 0.0711 0.0711 0.0711 0.0711 0.0711 0.0711 0.0711 0.0711 0.0711 0.0711 <				0		0.023 U	0.031 U	0.041 U		0.037 U	0.080 U	0.045 U	0.035 U	0.068 U	0.062 U	0.030 U	0.053 U	0.114 U				0.046 UJ
Sb0 Sb0-02 ReG 320'11 6''' 5'' Sb10 Sb11 Sb11 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.046 UJ</td></t<>																						0.046 UJ
Sh-104 Be-1041 BerG 32911 6-7 5.7 2500 2001 35010 3191 6991 38910 3991 5991 5991 4591 Berl																						0.297 J
She 100 She 1002 REG 32911 S*9" 0 0.032 U																						0.047 UJ 39.9 U
SB-11 SB-1102 REG 32911 S* 10.5 0.028 U 0.028 U 0.049 U 0.212 U 0.027 U 0.038 U 0.038 U 0.046 U 0.019 U 0.028 U 0.049 U 0.210 U 0.032 U 0.0024 U 0.032 U 0.004 U 0.031 U 0.025 U 0.031 U 0.035 U 0.038 U 0.038 U 0.036 U 0.037 U 0.032 U 0.035 U 0.032 U 0.036 U 0.032 U 0.035 U 0.032 U 0.032 U 0.032 U 0.032 U 0.038 U 0.032 U 0.031 U 0.031 U 0.023 U 0.032 U 0.032 U 0.032 U 0.032 U 0.032 U 0.031 U																						0.049 U
Sh-11 Sh-102 REG 329/11 9.5 0 0.031U 0.021U 0.0381U 0.0381U 0.0381U 0.0381U 0.0381U 0.0381U 0.031U																						0.314 J
SB-12 SH-1201 REG 329/11 S* 10.5 0.033 U 0.013 U 0.013 U 0.013 U 0.021 U 0.021 U 0.023 U 0.043 U 0.003 U 0.043 U 0.023 U 0.023 U 0.032 U 0.043 U 0.043 U 0.023 U 0.023 U 0.043 U 0.043 U 0.023 U 0.023 U 0.041 U 0.023 U 0.032 U 0.043 U 0.043 U 0.023 U 0.041 U 0.043 U																						0.048 U
SB-13 SB-13-01 REG 330/11 1-37 0 0.027U 0.2101 0.0371 0.918 1.01 1.590_J 0.490 0.567 1.02 0.127J 0.918 0.027U 0.359 0.105U 0.0491 0.0491 0.1231 SB-13 SB-13-01 REG 330/11 3'' 0 0.027U 0.213U 0.134U 0.231U 0.154U 0.235U 0.356U 0.154U 0.272U 5.46J 8.40J 2.69J 1.62J 1.64J 2.88 0.495 1.59U 0.154U 0.154U 0.149J 0.128J 1.64J 2.88 0.495 1.50 N.4 0.13J 1.44J 1.64J 2.88 0.495 1.59U 0.161U 0.062U 0.062U 0.062U 0.061U 0.062U 0.061U 0.062U 0.061U 0.062U 0.062U 0.061U 0.031U 0.041U 0.022U 0.037U 0.030U 0.031U 0.042U 0.028U 0.031U 0.031U 0.042U 0.029U 0.031U	SB-12 SB-12-01 REG	3/29/11	5'	10.5	0.032 U	0.064 J					0.086 U		0.245 J		0.207 J	0.032 U	0.057 U	0.123 U	0.431 U	0.039 U	0.078 J	0.51
SB-13 SB-13-02 REG 330/11 8.5' 0 0.154 U 0.161 U 0.160 U 0.213 U 0.184 U 0.231 U 0.183 U 0.319 U 0.154 U 0.272 U 5.46 J 8.40 J 2.69 J 1.64 J SB-14 SB-1402 REG 330/11 7 0 0.050 U 0.050 U 0.093 U 0.060 U 0.083 U 0.060 U 0.083 U 0.060 U 0.060 U 0.060 U 0.060 U 0.060 U 0.083 U 0.060 U 0.030 U 0.060 U 0.030 U 0.047 U 0.030 U 0.037 U 0.030 U 0.050 U 0.060 U 0.030 U 0.030 U 0.050 U 0.030 U 0.030 U 0.050 U 0.030 U 0.031 U 0.061 U 0.020 U	SB-12 SB-12-02 REG	3/29/11	8'	0	0.028 U	0.067 J	0.029 U	0.208 J	0.027 J	0.427	0.161 J	0.120 J	0.289 J	0.065 U	0.180 J	0.028 U	0.122 J	0.108 U	0.050 J	0.036 J	0.062 J	0.517
SB-14 SB-15 SB-16 SB-16 <th< td=""><td></td><td></td><td></td><td>0</td><td>0.027 U</td><td>0.210 J</td><td>0.057 J</td><td>0.918</td><td>1.01</td><td>1.590 J</td><td>0.490</td><td>0.567</td><td>1.02</td><td>0.127 J</td><td>0.981</td><td>0.027 U</td><td>0.359</td><td>0.105 U</td><td></td><td></td><td></td><td>2.69</td></th<>				0	0.027 U	0.210 J	0.057 J	0.918	1.01	1.590 J	0.490	0.567	1.02	0.127 J	0.981	0.027 U	0.359	0.105 U				2.69
SB-14 SB-14/20 REG 330/11 7 0 0.067 U 0.092 U 0.090 U 0.083 U 0.181 U 0.101 U 0.080 U 0.55 U 0.140 U 0.067 U 0.191 U 0.083 U 0.080 U SB-15 SB-1502 REG 3/30/11 3'4' 0 0.030 U 0.047 U 0.030 U 0.031 U 0.041 U 0.020 U 0.035 U 0.030 U 0.035 U 0.031 U 0.040 U 0.030 U 0.035 U 0.012 U 0.030 U 0.031 U 0.041 U 0.020 U 0.237 U 0.031 U 0.041 U 0.020 U 0.031 U 0.047 U 0.030 U 0.031 U 0.045 U 0.030 U 0.031 U 0.040 U 0.030 U 0.031 U 0.043 U 0.031 U 0.031 U 0.030 U 0.031 U																						0.838 J
SB-15 SB-15-01 REG 3/30/11 3'-4' 0 0.033 U 0.031 U 0.041 U 0.026 U 0.037 U 0.038 U 0.035 U 0.037 U 0.038 U 0.035 U 0.037 U 0.030 U 0.037 U 0.031 U 0.047 U 0.033 U 0.031 U 0.047 U 0.033 U 0.033 U 0.031 U 0.047 U 0.031 U 0.042 U 0.031 U 0.047 U 0.031 U 0.042 U 0.031 U 0.047 U 0.031 U 0.042 U 0.031 U 0.047 U 0.132 U 0.184 U 0.042 U 0.024 U 0.031 U 0.047 U 0.031 U 0.042 U 0.031 U 0.031 U <td></td> <td></td> <td>-</td> <td>* *</td> <td></td> <td>5.85</td>			-	* *																		5.85
SB-15 SB-15-02 REG 3/3/11 7' 0 0.031 U 0.047 J 0.033 U 0.332 J 0.233 J 0.118 J 0.143 J 0.336 J 0.072 U 0.337 J 0.031 U 0.055 U 0.120 U 0.042 U 0.039 U 0.139 J SB-16 SB-16-01 REG 3/30/11 7''.5 30 0.179 U 0.115 U 0.232 U 0.132 U 0.184 U 0.402 U 0.224 U J 0.178 U 0.310 U 1.620 J 0.264 U 9.88 J 15.5 J 4.16 J 4.18 J SB-16 SB-1602 REG 3/30/11 8''-S' 0 0.160 U 0.123 U 0.14 U 0.928 U 0.233 U 0.231 U 0.310 U 0.351 U 1.620 J 0.264 U 9.88 J 1.63 J 0.292 U 2.16 J 3.38 J SB-17 SB-1701 REG 3/30/11 10' 1.55 0.048 U 0.031 U 0.050 U 0.047 U 0.050 U 0.072 U 0.057 U 0.111 U 0.100 U 0.37 U 0.28 U 0.38			· · ·																			0.197 J 0.046 U
SB-16 SB-16-01 REG 3/30/11 7'-7.5 30 0.179 U 0.115 U 0.270 U 0.132 UI 0.184 UI 0.424 UI 0.178 U 0.310 U 1.620 J 0.264 UI 9.88 J 15.5 J 4.91 J 4.12 J SB-16 SB-16-02 REG 3/30/11 8* 8.5' 0 0.160 U 0.173 U 0.234 U 0.149 U 0.208 U 0.253 U 0.201 U 0.331 U 0.56 J 0.298 U 2.43 J 4.6 J 3.6 J 3.8 J SB-170 REG 3/30/11 10' 15.5 0.048 U 0.057 U 0.044 U 0.059 U 0.223 U 0.010 U 0.331 U 0.759 0.288 U 1.630 J 0.298 U 1.430 J 2.420 J 1.030 J 0.231 U 0.238 U 0.057 U 0.011 U 0.010 U 0.031 U 0.010 U 0.031 U 0.028 U 0.023 U 0.021 U 0.021 U 0.023 U 0.067 U 0.044 U 0.050 U 0.051 U 0.017 U 0.031 U 0.031 U 0.028 U 0.025 U 0.0																						0.640
SB-16 SB-16-02 REG 3/30/11 8-8.5' 0 0.169 U 0.130 U 0.175 U 0.234 U 0.149 U 0.208 U 0.253 U 0.201 U 0.330 U 0.351 U 1.650 J 0.299 U 9.24 J 14.6 J 3.88 J SB-17 SB-17-01 REG 3/30/11 8' 0 0.160 U 0.123 U 0.160 U 0.211 U 0.141 UJ 0.196 UJ 0.430 UJ 0.239 UJ 0.190 U 0.351 U 0.759 J 0.282 UJ 2.130 3.03 0.928 J 0.876 J SB-17 SB-17-02 REG 3/30/11 10' 15.5 0.048 U 0.037 U 0.050 U 0.044 U 0.020 U 0.155 U 0.255 U 0.110 U 0.101 U 0.037 U 0.032 U 0.278 U 0.055 U 0.110 U 0.010 U 0.037 U 0.081 U 0.028 U 0.057 U 0.011 U 0.100 U 0.017 U 0.037 U 0.023 U 0.028 U 0.029 U 0.039 U 0.028 U 0.039 U 0.038 U 0.038 U 0.074 U 0.																						1.02 J
SB-170 REG 3/30/1 8' 0 0.160 U 0.123 U 0.166 U 0.221 U 0.141 U 0.190 U 0.239 U 0.331 U 0.759 J 0.282 UJ 2.130 3.03 0.928 J 0.876 J SB-17 SB-170 Z REG 3/30/1 10' 15.5 0.048 U 0.037 U 0.057 U 0.044 U 0.057 U 0.057 U 0.111 U 0.100 U 0.017 J 0.085 U 1.430 2.420 1.030 0.231 J SB-18 SB-18 SB-18.01 REG 3/30/11 6'-7 40 0.210 U 0.161 U 0.28 U 0.250 U 0.35 U 0.31 U 0.45 U 0.48 U 0.43 U 0.45 U 0.43 U																						0.877 J
SB-18 SB-18-01 REG 3/30/11 6'-7 40 0.210 U 0.161 U 0.218 U 0.290 U 0.185 U 0.258 U 0.315 U 0.250 U 0.484 U 0.435 U 0.210 U 0.371 U 2.680 3.970 2.11 J 0.738 J SB-18 SB-18-02 REG 3/30/11 10' 27 0.032 U 0.025 U 0.039 U 0.055 U 0.031 U 0.048 U 0.039 U 0.066 U 0.080 J 0.056 U 0.406 0.655 0.254 J 0.155 J SB-19 SB-19-01 REG 3/30/11 4' 40 0.022 U 0.021 U 0.021 U 0.031 U 0.042 U 0.032 U 0.042 U 0.032 U 0.056 U 0.032 U 0.031 U 0.025 U 0.031 U 0.042 U 0.032 U 0.056 U 0.032 U 0.031 U 0.025 U 0.031 U 0.042 U 0.032 U 0.052 U 0.031 U 0.042 U 0.032 U 0.052 U 0.032 U 0.042 U 0.032 U 0.052 U 0.031 U 0.040 U 0.026 U <td></td> <td></td> <td></td> <td>0</td> <td></td> <td>3.03</td> <td>0.928 J</td> <td>0.876 J</td> <td>0.874 J</td>				0															3.03	0.928 J	0.876 J	0.874 J
SB-18 SB-18-02 REG 3/30/1 10' 27 0.032 U 0.032 U 0.044 U 0.038 U 0.048 U 0.074 U 0.066 U 0.080 J 0.056 U 0.056 U 0.056 U 0.057 U 0.037 U 0.057 U 0.057 U 0.056 U 0.056 U 0.056 U 0.057 U 0.037 U 0.057 U 0.037 U 0.057 U 0.037 U 0.056 U 0.057 U 0.057 U 0.057 U 0.056 U 0.056 U 0.056 U 0.057 U 0.037 U 0.040 U 0.037 U 0.040 U 0.037 U 0.057 U 0.037 U 0.056 U 0.037 U 0.058 U 0.037 U 0.058 U 0.037 U	SB-17 SB-17-02 REG		10'	15.5	0.048 U	0.037 U	0.050 U	0.067 U	0.044 U	0.059 U	0.129 U	0.072 U	0.057 U	0.111 U	0.100 U	0.017 J	0.085 U	1.430	2.420	1.030		0.074 U
SB-19 REG 3/30/1 4' 40 0.028 U 0.028 U 0.029 U 0.039 U 0.025 U 0.034 U 0.037 U 0.037 U 0.037 U 0.037 U 0.037 U 0.037 U 0.025 U 0.031 U 0.025 U 0.031 U 0.021 U 0.031 U 0.041 U 0.021 U 0.031 U<									and the second se													0.484 J
SB-19 SB-19-02 REG 3/30/11 8' 45 0.030 U 0.023 U 0.041 U 0.026 U 0.037 U 0.036 U 0.036 U 0.062 U 0.030 U 0.053 U 0.115 U 0.040 U 0.037 U 0.026 U SB-20 REG 3/30/11 4' 45 0.033 U 0.025 U 0.040 U 0.026 U 0.040 U 0.036 U 0.045 U 0.036 U 0.062 U 0.030 U 0.053 U 0.115 U 0.040 U 0.026 U 0.029 U SB-20 REG 3/30/11 4' 40 0.036 U 0.027 U 0.049 U 0.032 U 0.042 U 0.042 U 0.068 U 0.032 U 0.048 U 0.029 U 0.047 U 0.026 U 0.033 U 0.058 U 0.031 U 0.040 U 0.029 U 0.040 U 0.039 U 0.042 U 0.068 U 0.032 U 0.048 U 0.015 U 0.042 U 0.068 U 0.031 U 0.041 U 0.029 U 0.042 U 0.042 U 0.068 U 0.031 U 0.041 U 0.029 U 0.045 U 0.042 U		and the second se	the state of the s																			0.049 U
SB-20 REG 3/30/1 4' 45 0.033 U 0.025 U 0.034 U 0.046 U 0.029 U 0.049 U 0.039 U 0.076 U 0.038 U 0.058 U 0.126 U 0.044 U 0.040 U 0.029 U SB-20 SB-20-19 DUP 3/30/1 4' 40 0.036 U 0.027 U 0.037 U 0.049 U 0.032 U 0.042 U 0.032 U 0.042 U 0.036 U 0.063 U 0.013 U 0.048 U 0.014 U 0.005 U 0.014 U 0.040 U 0.029 U SB-20 SB-20-01 SB-20-01 REG 3/30/1 4' 40 0.032 U 0.027 U 0.032 U 0.049 U 0.032 U 0.042 U 0																						0.043 U
SB-20 SB-20-019 DUP 3/30/11 4' 40 0.036 U 0.027 U 0.037 U 0.049 U 0.032 U 0.044 U 0.096 U 0.053 U 0.042 U 0.082 U 0.074 U 0.036 U 0.137 U 0.048 U 0.115 J 0.075 J SB-20 REG 3/30/11 8.5' 60 0.032 U 0.042 U 0.042 U 0.042 U 0.032 U 0.067 U 0.042 U 0.067 U 0.032 U 0.044 U 0.075 J SB-20 REG 3/30/11 8.5' 60 0.032 U 0.042 U 0.042 U 0.042 U 0.067 U 0.032 U 0.044 U 0.040 U 0.029 U L Image: Control of the stand of th		and the second se																				0.053 J 0.051 U
SB-20 REG 3/30/1 8.5' 60 0.032 U 0.025 U 0.04 U 0.029 U 0.040 U 0.087 U 0.037 U 0.067 U 0.032 U 0.057 U 0.124 U 0.040 U 0.029 U Image: SB-20-02 REG 3/30/1 8.5' 60 0.032 U 0.040 U 0.040 U 0.029 U 0.040 U 0.029 U 0.040 U 0.040 U 0.029 U 0.040 U																						0.051 U 0.055 U
GA USTMP TABLE A SOIL THRESHOLD LEVELS (mg/kg) NA NA NA 0.66 0.82 NA 1.600 0.66 1.500 NA NA NA NA																						0.055 U
					0.002.0				0.029 0									1	1	1		
															and the second se							NA
Minimum Quantitation & Reporting Limit (mg/kg) 0.660 0.66					0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660

Table 3 Soil Sampling Results for Petroleum Aromatic Hydrocarbons

U Indicates the compound was not detected at the method detection limit reported. bgs = below ground surface $\mathbf{ft} = \mathbf{feet}$

mg/kg = milligrams per kilogram

J Indicates the value for the compound is an estimated value. NA = not available PID = photoionization detector

E0209.0007

Bold indicates the value is above the minimum quantitation limit.

Monitor Well Number	Date Installed	Total Depth of Well (ft-bgs)	Top of Screen (ft-bgs)
MW-01	04/06/2011	14	4
MW-02	04/06/2011	14	4
MW-03	04/06/2011	13.9	3.9
MW-04	04/06/2011	13.7	3.7
MW-05	04/07/2011	13.8	3.8
MW-06	04/07/2011	13.8	3.8

Table 4 Monitor Well Construction Data April 2011

bgs = below ground surface

ft = feet

Well Number	Date Measured	Top of Casing (ft AMSL)	Depth to Free Product (ft TOC)	Water Depth (ft TOC)	Product Thickness (ft)	Corrected Groundwater Elev. (ft)						
April 27, 2011												
MW-01	04/27/2011	76.29	NP	6.81		69.48						
MW-02	04/27/2011	79.38	NP	7.28		72.10						
MW-03	04/27/2011	79.94	NP	6.65		73.29						
MW-04	04/27/2011	76.78	NP	3.95		72.83						
MW-05	04/27/2011	78.92	NP	7.74		71.18						
MW-06	04/27/2011	78.92	NP	8.11		70.81						
RW-01	04/27/2011	79.25	7.95	7.96	0.01	71.30*						
RW-02	04/27/2011	79.22	NP	8.25	50° 800 901	70.97						
RW-04	04/27/2011	78.98	7.24	11.18	3.94	71.03*						
RW-05	04/27/2011	79.19	7.41	11.06	3.65	71.12*						
RW-06	04/27/2011	77.59	5.24	6.13	0.89	72.19*						

Table 5 Groundwater Elevations April 2011

NOTE:

 NOTE:

 Corrected Groundwater Elevation = Top of casing elevation - Depth to water + (Specific gravity x Product Thickness)

 Fuel oil's specific gravity of 0.82 was used.

 *Corrected groundwater elevation because of free product

 AMSL Above Mean Sea Level

 ft - feet
 TOC
 top of casing

		Analytic	al Method:	8260B	8260B	8260B	8260B
		С	ontaminant (mg/kg):	в	Ethylbenzene	ne	e (total)
		Sample	Date	Benzene	llýr	Foluene	Xylene
Well ID	Sample ID	Туре	Collected	Bei	Etl	To	Xy
MW-01	MW-01-01	REG	4/12/11	0.140U	0.150U	0.190U	0.220U
MW-02	MW-02-02	REG	4/12/11	0.140U	0.150U	0.190U	0.220U
MW-03	MW-03-03	REG	4/12/11	0.140U	0.150U	0.190U	0.220U
MW-04	MW-04-04	REG	4/12/11	3.67	19.8	0.839J	112
MW-05	MW-05-05	REG	4/12/11	0.140U	0.150U	0.190U	0.220U
MW-05	MW-05-059	DUP	4/12/11	0.140U	0.150U	0.190U	0.220U
MW-06	MW-06	REG	4/12/11	0.140	0.150U	0.190U	0.220U
	nstream Wate			71.28	28,718	200,000	NRC
Minimu	m Quantitatic	on & Repo	orting Limit	5	5	5	5

Table 6 Groundwater Sampling Results for BTEX

U Indicates the compound was not detected at the method detection limit

J Indicates the value for the compound is an estimated value.

BTEX= benzene, toluene, ethylbenzene, and xylene (total)

mg/kg = milligrams per kilogram

NRC - No Regulatory Criteria
	Analytical Method:	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C		8270C	8270C	8270C	8270C
	Contaminant (mg/kg)	aphthene	apthylene	racene	o(a)anthracene	o(a)pyrene	o(b)fluoranthene	o(g,h,i)perylene	o(k)fluoranthene	sene	nz(a,h)anthracene	ranthene	rene	no(1,2,3-cd)pyrene	cthylnaphthalene	ethylnaphthalene	hthanlene	anthrene	ne
	Sample Type Date Collecte	Acen	Acen	Anth	Benz	Benz	Benz	Benz	Benz	Chry	Dibe	Fluo	Fluo	Inde	1-Mc	2-M(Napl	Pher	Pyre
	REG 4/12/11	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U
	REG 4/12/11	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ
MW-03 MW-03-03	REG 4/12/11	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ	0.046 UJ
MW-04 MW-04-04	REG 4/12/11	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.139 J
MW-05 MW-05-05	REG 4/12/11	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U	0.046 U
MW-05 MW-05-059	DUP 4/12/11	0.046 U	0.047 U	0.046 U	0.046 U	0.046 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
MW-06 MW-06	REG 4/12/11	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
																		NDC	11.000
Georgia Instream Wat		NRC	NRC	110,000	NRC	NRC	NRC	NRC	NRC	NRC	NRC	370	14,000	NRC	NRC	NRC	NRC	NRC	11,000
Minimum Quantitation	& Reporting Limit (mg	(L) 10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Table 7 Groundwater Sampling Results for Petroleum Aromatic Hydrocarbons

U Indicates the compound was not detected at the method detection limit reported.

J Indicates the value for the compound is an estimated value.

mg/kg = milligrams per kilogram NRC - No Regulatory Criteria

Well Number	Date Measured	Top of Casing (ft AMSL)	Depth to Free Product (ft TOC)	Water Depth (ft TOC)	Product Thickness (ft)	Corrected Groundwater Elev. (ft)
		Event 1 -	- June 12, 2011 –	Pre-EFR		
MW-01	06/12/2011	76.29	NP	7.64		68.65
MW-02	06/12/2011	79.38	NP	8.01		71.37
MW-03	06/12/2011	79.94	NP	7.66		72.28
MW-04	06/12/2011	76.78	4.51	4.93	0.42	72.19*
MW-05	06/12/2011	78.92	NP	8.60		70.32
MW-06	06/12/2011	78.92	NP	8.49		70.43
RW-01	06/12/2011	79.25	8.54	8.79	0.25	70.67*
RW-02	06/12/2011	79.22	NP	8.03		71.19
RW-04	06/12/2011	78.98	7.60	12.10	4.5	70.57*
RW-05	06/12/2011	79.19	7.81	11.60	3.79	70.70*
RW-06	06/12/2011	77.59	5.79	6.81	1.02	71.62*
		Event 1 -	June 12, 2011–	Post-EFR		
MW-01	06/12/2011	76.29	NP	5.25		71.04
MW-02	06/12/2011	79.38	NP	8.19		71.19
MW-03	06/12/2011	79.94	NP	7.74		72.20
MW-04	06/12/2011	76.78	NP	7.89		68.89
MW-05	06/12/2011	78.92	NP	8.73		70.19
MW-06	06/12/2011	78.92	NP	8.84		70.08
RW-01	06/12/2011	79.25	NP	10.09		69.16
RW-02	06/12/2011	79.22	NP	9.62	NUM BORN NOT	69.60
RW-04	06/12/2011	78.98	NP	9.89	100 KM KM	69.09
RW-05	06/12/2011	79.19	NP	10.36		68.83
RW-06	06/12/2011	77.59	NP	8.09		69.50

Table 8 Groundwater Elevations for Enhanced Fluid Recovery Events

NOTE:

Corrected Groundwater Elevation = Top of casing elevation - Depth to water + (Specific gravity x Product Thickness) Gasoline's specific gravity of 0.82 was used.

*Corrected groundwater elevation because of free product

AMSL = above mean seal level TOC = top of casing ft = feet NP = not present

Well Number	Date Measured	Top of Casing (ft AMSL)	Depth to Free Product (ft TOC)	Water Depth (ft TOC)	Product Thickness (ft)	Corrected Groundwater Elev. (ft)
		Event 2	– July 17, 2011 –	Pre-EFR		
MW-01	07/17/2011	76.29	NP	7.31		68.98
MW-02	07/17/2011	79.38	NP	7.79		71.59
MW-03	07/17/2011	79.94	NP	7.49		72.45
MW-04	07/17/2011	76.78	4.42	4.88	0.46	72.28*
MW-05	07/17/2011	78.92	NP	8.05		70.87
MW-06	07/17/2011	78.92	NP	8.31		70.61
RW-01	07/17/2011	79.25	8.41	8.46	0.05	70.83*
RW-02	07/17/2011	79.22	NP	8.67		70.55
RW-04	07/17/2011	78.98	7.79	10.05	2.26	70.78*
RW-05	07/17/2011	79.19	7.86	10.45	2.59	70.86*
RW-06	07/17/2011	77.59	5.80	6.27	0.47	71.71*
		Event 2	- July 17, 2011-	Post-EFR		
MW-01	07/17/2011	76.29	NP	7.41		68.88
MW-02	07/17/2011	79.38	NP	8.03		71.35
MW-03	07/17/2011	79.94	NP	7.59		72.35
MW-04	07/17/2011	76.78	NP	6.61		70.17
MW-05	07/17/2011	78.92	NP	8.65		70.27
MW-06	07/17/2011	78.92	NP	8.77		70.15
RW-01	07/17/2011	79.25	NP	11.51		67.74
RW-02	07/17/2011	79.22	NP	9.29		69.93
RW-04	07/17/2011	78.98	NP	11.63		67.35
RW-05	07/17/2011	79.19	NP	10.56		68.63
RW-06	07/17/2011	77.59	NP	8.26		69.33

Table 8 Groundwater Elevations for Enhanced Fluid Recovery Events (continued)

NOTE:

Corrected Groundwater Elevation = Top of casing elevation - Depth to water + (Specific gravity x Product Thickness) Gasoline's specific gravity of 0.82 was used.

*Corrected groundwater elevation because of free product

AMSL = above mean sea level TOC = top of casing ft = feet NP = not present

Well Number	Date Measured	Top of Casing (ft AMSL)	Depth to Free Product (ft TOC)	Water Depth (ft TOC)	Product Thickness (ft)	Corrected Groundwater Elev. (ft)
		Event 3 –	August 3, 2011 -	- Pre-EFR		
MW-01	08/06/2011	76.29	NP	7.26		69.03
MW-02	08/06/2011	79.38	NP	7.62		71.76
MW-03	08/06/2011	79.94	NP	8.86	·	71.08
MW-04	08/06/2011	76.78	4.59	4.94	0.35	72.13*
MW-05	08/06/2011	78.92	NP	8.06		70.86
MW-06	08/06/2011	78.92	NP	8.35		70.57
RW-01	08/06/2011	79.25	NP	8.05		71.20
RW-02	08/06/2011	79.22	NP	8.70		70.52
RW-04	08/06/2011	78.98	7.99	9.39	1.40	70.74*
RW-05	08/06/2011	79.19	8.04	9.09	1.05	70.96*
RW-06	08/06/2011	77.59	5.96	6.43	0.47	71.55*
		Event 3 –	August 3, 2011–	Post-EFR		
MW-01	08/06/2011	76.29	NP	7.54		68.75
MW-02	08/06/2011	79.38	NP	7.76	an 12 12	71.62
MW-03	08/06/2011	79.94	NP	8.88		71.06
MW-04	08/06/2011	76.78	NP	7.47		69.31
MW-05	08/06/2011	78.92	NP	8.98		69.94
MW-06	08/06/2011	78.92	NP	8.87		70.05
RW-01	08/06/2011	79.25	NP	9.64		69.61
RW-02	08/06/2011	79.22	NP	9.39		69.83
RW-04	08/06/2011	78.98	NP	11.56		67.42
RW-05	08/06/2011	79.19	NP	10.98		68.21
RW-06	08/06/2011	77.59	NP	8.99		68.60

Table 8 Groundwater Elevations for Enhanced Fluid Recovery Events (continued)

NOTE:

Corrected Groundwater Elevation = Top of casing elevation - Depth to water + (Specific gravity x Product Thickness) Gasoline's specific gravity of 0.82 was used.

*Corrected groundwater elevation because of free product

AMSL = above mean sea level TOC = top of casing ft = feet NP = not present

Extraction Date	Extraction Sites	Hours Extracted	Product Vapor Extracted (pounds)	Free Product Extracted (gal)	Total Product Removed (equiv. gal)	Total Liquid Removed (equiv. gal)
06/12/2011	MW-04, RW-01, RW-04, RW-05, RW-06	7	96	0	14	2,573
10/29/2009	MW-04, RW-01, RW-04, RW-05, RW-06	7	199	0	28	2,600
02/04/2010	MW-04, RW-04, RW-05, RW-06	8	316	0	48	2,494
	Total	22	611	0	90	7,667

Table 9 Free Product Removal Extraction Data

equiv. = equivalent

gal = gallon

Appendix A

Soil Boring Logs

Boring/ Well No:		Installation:	Fort Stewart	Site:			uilding 419	
Project No.:		00209.0007	Client/ Project:	US A			of Engineers	
Contractor:		ronmental Services LLC	Drilling Contractor:		N	/lajor D		
Driller:	James C		Borehole Diameter:	115-8.0 Street 9490 per series and		4 Inc		
Start - Date:		Time: 9:30 AM	End Date: 3/29/	2011		Time:	10:00 AM	
Drilling Method / Ri		Direct Push/Geoprobe	Coordinates:	1			- 1	
Logged By:	Doug Haw	rn E-Log (Y/N)F	ROM To	Protectio	n Lev	el:	Level D	
I I Depth (ft) I Sample SB-01-01 Sample No. I Off-site Lab (Y/N)	[−] On-site lab (Y/N) \odot OVA Reading (ppm) $\overleftarrow{>}$ Headspace (ppm) $\overleftarrow{+}$ Recovery (ft/ft)	GRASS. FROM 0-6" BGS - DARK BGS 80% SAND AND 20% SILT. COARSE SILTS, COLOR 5YR3 GRITTY SAND, MOIST. FROM	Description ORGANIC MATTER. FROM 6"-18" FINE TO MEDIUM SANDS AND /2. FROM 18"-20" BGS - DARK 20"-42" BGS - LIGHT TAN/GREY SOME CLAY. MOTTLING, VERY	HJ WSCS W/M DISCS W/W Blows/6 inch	T	K Well Construction Data	Water Depth & Remarks	
	N 0.0 N/A 4/4	PLA HEAVY MOTTLING. 80% SANE WITH MEDIUM TO COARSE SA 10% SAND, AND 10% SILT, WITH STIFFNESS. FROM 5'-6' BGS COI	STIC. O AND 20% SILT FROM 5'-6' BGS, NDS. FROM 6'-8' BGS 80% CLAY, MEDIUM PLASTICITY. MEDIUM .OR 5YR6/4 AND FROM 6'-8' BGS .EY 1 7/10Y.	SM N/A		Y		
SB-01-02 Y	0.0 N/A 4/4	ENCOUNTERED AT 8.5' BGS. SA	0% CLAY. GROUNDWATER ND IS FINE TO MEDIUM COARSE. BGS COLOR GLEY 1 7/10Y.	N/A		Y	WATER ENCOUNTERED AT 8.5' BGS	
A B C D	E F G H I	k Coring	On-Site G/C (Make/Mo	J K	L	M	N	 C
S = Split Spoon (tub $C = CuttingsNotes:$	O = Oth		GC Operator:	iniRae 200	0 PIL)		

Boring/		No:		SB-	02		Installation		Fort Stewart			Site:				Building 419	
Project N							E00209.0007		Client/ Proje			J	JS A			of Engineers	
Contract	or:				Spec			Services LLC	Drilling Cor					N		Drilling	
Driller:						And the address of the second s	Chambers		Borehole Di	ameter:		0.4.7			4 Inc		
Start - D					29/20	11	Time:	10:30 AM	End Date:		3/29/2	.011			Time:	10:45 AM	1
Drilling		od / I	Rig T	ype:				t Push/Geoprobe	Coordinates	the second se		D		T	1	I 1D	
Logged I	By:				D	oug Hav	vn	E-Log(Y/N)	ROM	То	l	Prote	ction	Lev	el:	Level D	
Depth (ft)	Sample No.	≺ Off-site Lab (Y/N)	Z On-site lab (Y/N)	oVA Reading (ppm)	≥ Headspace (ppm)	₽́₽ Recovery (ft/ft)	GRASS. FR	Litologic OM 0-6" BGS - DARK SAND AND 20% SIL				o USCS	Blows/6 inch	Stratigraphic Log	K Well Construction Data	Water Depth & Remarks	GS Elev. (ft)
	SB-02-01						COARS GRITTY S	E SILTS, COLOR 5YF SAND, MOIST. FROM IND GRAINED WITH	3/2. FROM 18"-: 1 20"-42" BGS - I	20" BGS - DAI LIGHT TAN/G	RK REY	SM CH					
N			N	0.0	N/A	4/4	WITH ME 10% SAND,	AOTTLING. 80% SAN DIUM TO COARSE S. AND 10% SILT, WIT S. FROM 5'-6' BGS CC COLOR C	ANDS. FROM 6'- H MEDIUM PLA	-8' BGS 80% C STICITY. ME	ELAY, EDIUM	SM CL	N/A		Y		
Y	SB-02-02	Y		0.0	N/A	4/4	ENCOUNT	AND, 10% SILT, AND 'ERED AT 9' BGS. SA Y WET. FROM 10'-1	ND IS FINE TO	MEDIUM COA	ARSE.		N/A		Y	WATER ENCOUNTERED AT 9' BGS	_
A B	с	D	Е	F	G	НІ						J	K	L	M	N	Го
U = ThinS = SplitC = CuttNotes:	wa Spo	l Tub	be			R = Roc O = Oth				ite G/C (Mal)perator:		lel) niRae				· · · · · · · · · · · · · · · · · · ·	

Boring/ Well No:	SB-03/MW-01	Installation:	Fort Stewart	Site:	IC A		Building 419	
Project No.:		E00209.0007	Client/ Project:	ι			of Engineers	
Contractor:		vironmental Services LLC	Drilling Contractor: Borehole Diameter:			Major I 4 Inc		
Driller:	3/29/2011	Chambers Time: 11:10 AM		/2011		Time:	11:45 AN	1
Start - Date: Drilling Method		Direct Push/Geoprobe	Coordinates: 3/29	12011		Time:	11:45 Alv	1
Logged By:	Doug H			Prote	ction Le	evel	Level D	
Logged Dy.	Doug II			111000	etion Le		Lever D	
Depth (ft) Sample Sample No. Off.site I ab (V/M)	ON-site lab (Y/N) OVA Reading (ppm) Headspace (ppm)	Litologic	Description	USCS	Blows/6 inch Stratieranhic Log	Well Construction Data	Water Depth & Remarks	
P P P P P P P P P P P P P P P P P P P	N 0.0 N/A 4/4	GRASS. FROM 0-6" BGS - DARK BGS 80% SAND AND 20% SILT COARSE SILTS, COLOR 5YF GRITTY SAND, MOIST. FROM SAND, FIND GRAINED WITH PL	ORGANIC MATTER. FROM 6"-18' . FINE TO MEDIUM SANDS AND 3/2. FROM 18"-20" BGS - DARK 1 20"-42" BGS - LIGHT TAN/GREY SOME CLAY. MOTTLING, VERY ASTIC.	O SM CH	N/A	Y		
I I Z SB-03-02	N 0.0 N/A 4/4	WITH MEDIUM TO COAR ENCOUNTERED AT 7' BGS. FRO AND 10% SILT, WITH MEDIUM FROM 5'-6' BGS COLOR 5YR6/4	D AND 20% SILT FROM 5'-6' BGS, SE SANDS. GROUNDWATER DM 6'-8' BGS 80% CLAY, 10% SAND PLASTICITY. MEDIUM STIFFNESS AND FROM 6'-8' BGS COLOR GLEY 7/10Y.	5.	N/A	Y	WATER ENCOUNTERED AT 7' BGS	
Y 	0.0 N/A 4/4		CLAY. SAND IS FINE TO MEDIUM BGS COLOR GLEY 1 7/10Y.	ſ	N/A	Υ		
N	0.0 N/A 4/4		0% CLAY. SAND IS MEDIUM TO 12'-15' BGS COLOR GLEY 1 7/10Y.		N/A	Y		
	E F G H I			J	KL	. М	N	
A B C D $U = Thin Wall Tu$ $S = Split Spoon (C = Cuttings)$ Notes:	R = R $R = R$ $O = C$	ock Coring ther Instrument (Make/Model)	On-Site G/C (Make/Mo GC Operator: M	odel)	2000 P			

Boring/ Well No:	SB-04	Installation:	Fort Stewart	Site:		uilding 419
Project No.:		E00209.0007	Client/ Project:	US An		of Engineers
Contractor:		vironmental Services LLC	Drilling Contractor:		Major D	
Driller:		Chambers	Borehole Diameter:		4 Inc	
Start - Date:	3/29/2011	Time: 10:55 AM		0/2011	Time:	11:05 AM
Drilling Method / R		Direct Push/Geoprobe	Coordinates:			· · · ·
Logged By:	Doug Ha	wn E-Log(Y/N)	FROM To	Protection	Level:	Level D
	² On-site lab (Y/N) 0 0VA Reading (ppm) v/v V/M r/r Headspace (ppm) r/r Recovery (ft/ft)	GRASS. FROM 0-6" BGS - DARK BGS 80% SAND AND 20% SIL COARSE SILTS, COLOR 5YF GRITTY SAND, MOIST. FROM SAND, FIND GRAINED WITH HEAVY MOTTLING. 80% SAN WITH MEDIUM TO COAR	c Description CORGANIC MATTER. FROM 6"-18 T. FINE TO MEDIUM SANDS AND 13/2. FROM 18"-20" BGS - DARK 4 20"-42" BGS - LIGHT TAN/GREY SOME CLAY. MOTTLING, VERY ASTIC. ID AND 20% SILT FROM 5'-6' BGS, SE SANDS. GROUNDWATER DM 6'-8' BGS 80% CLAY, 10% SANE	O N/A SM CH SM N/A	Kratigraphic Log Kell Construction Data	Water Depth & Remarks
BB-04-02		AND 10% SILT, WITH MEDIUM FROM 5'-6' BGS COLOR 5YR6/4	PLASTICITY. MEDIUM STIFFNES AND FROM 6-8' BGS COLOR GLE 7/10Y.	S.		ENCOUNTERED AT 7' BGS
A B C D	E F G HI			JK	LM	N
U = Thin Wall TubeS = Split Spoon (tubeC = CuttingsNotes:	R = Rc $R = 0$ $O = 0t$	ck Coring ther instrument (Make/Model)	On-Site G/C (Make/M GC Operator: 			

BORING	LOG
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Boring/ Well No		Installation:	Fort Stewart	Site:			uilding 419	
Project No.:		E00209.0007	Client/ Project:	U			of Engineers	
Contractor:	SpecPro Env	ironmental Services LLC	Drilling Contractor:		1	Major D		
Driller:	Construction of the second state	Chambers	Borehole Diameter:			4 Inc		
Start - Date:	3/29/2011	Time: 1:00 PM		/2011		Time:	1:25 PM	
Drilling Method		Direct Push/Geoprobe	Coordinates:					
Logged By:	Doug Hav	vn E-Log (Y/N) H	TROM To	Protec	tion Lev	/el:	Level D	
I I Depth (ft) - - Sample SB-05-01 Sample No.	Z Off-site Lab (Y/N) Z On-site lab (Y/N) ⊖ OVA Reading (ppm) ○ OVA Reading (ppm) ○ F F Headspace (ppm) F Recovery (ft/ft)	ASHPHALT AND FILL MATERI BGS 80% SAND AND 20% SILT COARSE SILTS, COLOR 5YR GRITTY SAND, MOIST. FROM	Description AL FROM 0-6" BGS. FROM 6"-18" . FINE TO MEDIUM SANDS AND 3/2. FROM 18"-20" BGS - DARK 20"-42" BGS - LIGHT TAN/GREY SOME CLAY. MOTTLING, VERY	T	 	Kell Construction Data	Water Depth & Remarks	GS Elev. (ft)
I I I I SB-05-02 SB-05-02 I I	N 0.0 N/A 4/4	PL/ HEAVY MOTTLING. 80% SAN WITH MEDIUM TO COARS ENCOUNTERED AT 6.5' BGS. SAND, AND 10% SILT, WITH M STIFFNESS. FROM 5'-6' BGS CO	SSTIC. D AND 20% SILT FROM 5'-6' BGS, SE SANDS. GROUNDWATER FROM 6'-8' BGS 80% CLAY, 10% 1EDIUM PLASTICITY. MEDIUM LOR 5YR6/4 AND FROM 6'-8' BGS LEY 1 7/10Y.	SM T	N/A	Y	WATER ENCOUNTERED AT 6.5' BGS	
2'								
ABC1U = Thin Wall 7S = Split SpoonC = CuttingsNotes:	(tube) O = Oth	ck Coring ner nstrument (Make/Model)	On-Site G/C (Make/Mo GC Operator:		K L 2000 PII	<u>М</u>	N	0

Boring/ Well No:	SB-06/MW-05	Installation:	Fort Stewart	Site:	~ .		uilding 419	
Project No.:		E00209.0007	Client/ Project:	09			of Engineers	
Contractor:		ironmental Services LLC	Drilling Contractor:		1	Major D		
Driller:		Chambers	Borehole Diameter:	10.0.1.7		4 Inc		
Start - Date:	3/29/2011	Time: 1:30 PM		/2011		Time:	1:45 PM	
Drilling Method / Rig		Direct Push/Geoprobe	Coordinates:		· •	1.	r 15	
Logged By:	Doug Hav	wn E-Log (Y/N) I	FROM To	Protec	tion Lev	/el:	Level D	
Depth (ft) Sample Sample No. Off-site Lab (Y/N)	OVA Reading (ppm) Headspace (ppm) Recovery (ft/ft)	1	Description	T	Blows/6 inch Stratigraphic Log	Well Construction Data	Water Depth & Remarks	
N Y Y	0.0 N/A 4/4	SILT. FINE TO MEDIUM SAN 5YR3/2. FROM 18"-20" BGS - DA 20"-42" BGS - LIGHT TAN/GR SOME CLAY. MOTT	DM 6"-18" BGS 80% SAND AND 20% DS AND COARSE SILTS, COLOR IRK GRITTY SAND, MOIST. FROM EY SAND, FIND GRAINED WITH 'LING, VERY PLASTIC.	SM	J/A	Y		
SB-06-02	0.0 N/A 4/4	WITH MEDIUM TO COAR ENCOUNTERED AT 7' BGS. FRC AND 10% SILT, WITH MEDIUM I FROM 5'-6' BGS COLOR 5YR6/4 J	D AND 20% SILT FROM 5'-6' BGS, SE SANDS. GROUNDWATER DM 6'-8' BGS 80% CLAY, 10% SAND PLASTICITY. MEDIUM STIFFNESS AND FROM 6'-8' BGS COLOR GLEY 7/10Y.	, CL	J/A	Y	WATER ENCOUNTERED AT 7' BGS	
Y Y -	0.0 N/A 4/4		CLAY. SAND IS FINE TO MEDIUN 10'-12' BGS COLOR GLEY 1 7/10Y.		N/A	Y		
N	0.0 N/A 4/4		9% CLAY. SAND IS MEDIUM TO 12'-15' BGS COLOR GLEY 1 7/10Y.	1	N/A	Y		
A B C D E	F G H I			J	KL	M	N	1
U = Thin Wall Tube S = Split Spoon (tube) C = Cuttings Notes:	R = Ro $O = Other$	ck Coring her her (Make/Model)	On-Site G/C (Make/Mo GC Operator: M					

Boring/ Well			SB-	07		Installation		Fort Stewart	and the second	5	Site:	10 .			Building 419	
Project No.:						00209.0007		Client/ Proj			J	JS A			of Engineers	
Contractor:				Spec			Services LLC	Drilling Cor					I		Drilling	
Driller:						hambers		Borehole Di	iameter:					4 Inc	And the second	
Start - Date:				29/20	11	Time:	2:00 PM	End Date:		3/29/2	011			Time:	2:15 PM	
Drilling Met	thod / I	Rig T	ype:				t Push/Geoprobe	Coordinates								
Logged By:				D	oug Haw	/n	E-Log(Y/N)	FROM	То]	Prote	ction	Lev	el:	Level D	
I I Depth (ft) I Sample SB-07-01 Sample No.	Y	\mathbf{z} On-site lab (Y/N)	OVA Reading (ppm)	N/A		SILT. FI 5YR3/2. FF 20"-42" F	Litologic FROM 0-6" BGS. FR NE TO MEDIUM SAN OM 18"-20" BGS - LIGHT TAN/GF SOME CLAY. MOT MOTTLING. 80% SAN	IDS AND COAR ARK GRITTY SA EY SAND, FIND FLING, VERY PI	SE SILTS, CO AND, MOIST. O GRAINED W LASTIC.	LOR FROM /ITH BGS	SM CH	$\stackrel{\mathbf{Z}}{\geq}$ Blows/6 inch	Stratigraphic Log	A Well Construction Data	Water Depth & Remarks	
SB-07-02		N	0.0	N/A	4/4	WITH ENCOUNT AND 10% SI	H MEDIUM TO COAR ERED AT 7' BGS. FR ILT, WITH MEDIUM BGS COLOR 5YR6/4	SE SANDS. GRO DM 6'-8' BGS 80% PLASTICITY. M	OUNDWATEI 6 CLAY, 10% MEDIUM STIF	R SAND, FNESS.	SM CL	N/A		Y	WATER ENCOUNTERED AT 7' BGS	
		Е	F	G	ΗI						J	K	L	М	N	
U = Thin Wa S = Split Spo C = Cuttings Notes:	oon (tu				O = Oth		/ake/Model)	and the second data and the second	Site G/C (Ma Operator:		-	2000) PII)		

Boring/		No:		SB-	08		Installation			Fort Stewart			Site:				Building 419	
Project							00209.0007			Client/ Proje			J	JS AI			of Engineers	
Contrac							ronmental S	Services L	LC	Drilling Con					N		Drilling	
Driller:							hambers			Borehole Dia	imeter:					4 Inc		
Start - I					29/20	11	Time:	2:25		End Date:		3/29/2	2011			Time:	2:50 PM	
Drilling		od / I	≀ig T	ype:				t Push/Geo		Coordinates:			-		-	1		
Logged	By:				D	oug Haw	'n	E-Log	(Y/N)F	ROM	То		Prote	ection	Lev	el:	Level D	
Depth (ft) Samole	Sample No.	Off-site Lab (Y/N)	On-site lab (Y/N)	OVA Reading (ppm)		Recovery (ft/ft)				Description			USCS	Blows/6 inch	Stratigraphic Log	Well Construction Data	Water Depth & Remarks	GS Elev. (ft)
)'Y 	SB-08-01	Y	N	0.0	N/A	4/4	SILT. FI 5YR3/2. FI 20"-42" I	NE TO MEI ROM 18"-20 BGS - LIGH SOME CL	DIUM SANI)" BGS - DA IT TAN/GRE LAY, MOTTI	M 6"-18" BGS 80 DS AND COARS RK GRITTY SA1 Y SAND, FIND LING, VERY PL	E SILTS, COI ND, MOIST. GRAINED W ASTIC.	LOR FROM ITH	O SM CH	N/A		Y		
4"N 	SB-08-02		N	0.0	N/A	4/4	WITH ENCOUNT AND 10% S	H MEDIUM ERED AT 7 ILT, WITH	TO COARS BGS. FRO MEDIUM P R 5YR6/4 A	0 AND 20% SIL1 E SANDS. GRC M 6'-8' BGS 80% LASTICITY. M ND FROM 6'-8' 10Y.	UNDWATER CLAY, 10% S EDIUM STIF	R SAND, FNESS.	SM CL	N/A		Y	WATER ENCOUNTERED AT 7' BGS	
8'																		-
12'																		
$\begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	in Wa			F	G		k Coring				te G/C (Ma	ke/Moo	J del)	K	L	M	N	0
S = Spl C = Cu Notes:		on (tu	ibe)			O = Oth OVA In	er strument (N	/lake/Mod	lel)	GC 0	perator:	Mi	niRae	2000) PII)		

Boring/ Well N	o: SB-09		Installation:		Fort Stewart		Site:				uilding 419	
Project No.:	~		00209.0007		Client/ Proje			J5 A			of Engineers	
Contractor:	Sp		ronmental Se	ervices LLC	Drilling Cor				P	Major D		
Driller:	2/20		hambers	2:50 PM	Borehole Di End Date:		29/2011			4 Inc Time:	3:15 PM	
Start - Date:	3/29/	2011	Time:				29/2011			Time:	5:15 PM	
Drilling Method	1 / Kig Type:	Davia IIau		Push/Geoprobe	Coordinates	То	Drot	ection	Lou	alt	Level D	
logged By:		Doug Hav	/n	E-Log(Y/N)H	KOM	10	Prote	ection	Lev	er:	Level D	
A Sample No.		 Headspace (ppm) Recovery (ft/ft) 	BGS 80% S	Litologic DM 0-6" BGS - DARK AND AND 20% SILT S SILTS, COLOR 5YR	FINE TO MED	IUM SANDS AN	D 0	\overrightarrow{Z} Blows/6 inch	Stratigraphic Log	K Well Construction Data	Water Depth & Remarks	
z 1 sB-09-01 1	N 0.0 N	/A 4/4	GRITTY S, SAND, FI HEAVY M WITH MED 10% SAND, A	AND, MOIST. FROM ND GRAINED WITH PL/ OTTLING. 80% SAN JUM TO COARSE SA AND 10% SILT, WITH . FROM 5'-6' BGS CO	20"-42" BGS - I SOME CLAY. M STIC. D AND 20% SIL NDS. FROM 6- I MEDIUM PLA:	LIGHT TAN/GRE OTTLING, VER T FROM 5'-6' BG: 8' BGS 80% CLA STICITY. MEDI	Y Y CH S, SM Y, CL UM	N/A		Y		
Y Y	0.0 N	/A 4/4	COARSE.	10% SILT, AND 10% VERY WET. GROUN GS. FROM 10'-12' BC	CLAY. SAND I DWATER ENCO	OUNTERED AT		N/A		Y	WATER ENCOUNTERED AT 11' BGS	
-												
	I	G H I R = Roo	k Coring			ite G/C (Make/	J_	K	L	M	N	(
S = Split Spoon $C = CuttingsNotes:$		O = Oth	-	ake/Model)		Operator:	MiniRae	2000) PII)		

Boring/ Well No:	: SB-10	Installation:	Fort Stewart	Site:	~ .		uilding 419	
Project No.:		E00209.0007	Client/ Project:	US			of Engineers	
Contractor:		nvironmental Services LLC	Drilling Contractor:]	Major D		
Driller:		es Chambers	Borehole Diameter:			4 Inc		
Start - Date:	3/29/2011	Time: 3:10 PM	End Date: 3/29/2	2011		Time:	3:55 PM	
Drilling Method		Direct Push/Geoprobe	Coordinates:	1				
Logged By:	Doug H	Iawn E-Log (Y/N) F	ROM To	Protec	tion Lev	/el:	Level D	
Depth (ft) Sample Sample No.	OIL-Sue Lab (17/N) On-site lab (Y/N) OVA Reading (ppm) Headspace (ppm)	(ft/ff) Litologic	Description	USCS	Blows/6 inch Stratigraphic Log	Well Construction Data	Water Depth & Remarks	GS Elev. (ft)
	N 0.0 N/A 0/4	CONCRETE (LOADING DOCK MATERIAL FROM 18"-20" BGS FROM 20"-42" BGS - LIGHT TA WITH SOME CLAY. MO	AREA) FROM 0-18" BGS - FILL - DARK GRITTY SAND, MOIST. N/GREY SAND, FIND GRAINED TTLING, VERY PLASTIC.		J/A	Y		
Z SB-10-01	N 5.7 N/A 4/4	WITH MEDIUM TO COARS ENCOUNTERED AT 5' BGS. SHI ODOR. FROM 6'-8' BGS 80% CI WITH MEDIUM PLASTICITY.	D AND 20% SILT FROM 5'-6' BGS, E SANDS. GROUNDWATER EEN OBSERVED, WITH STRONG LAY, 10% SAND, AND 10% SILT, MEDIUM STIFFNESS. FROM 5'-6' I 6'-8' BGS COLOR GLEY 1 7/10Y.	SM N	J/A	Y	WATER ENCOUNTERED AT 5' BGS	
X Y Y Y	0.0 N/A 4/4		CLAY. SAND IS FINE TO MEDIUM 3GS COLOR GLEY 1 7/10Y.		√A	Y		
				T	VI		N	
A B C D U = Thin Wall To S = Split Spoon (C = Cuttings Notes:	ube $R = H$ (tube) $O = C$	I Rock Coring Other Instrument (Make/Model)	On-Site G/C (Make/Mo GC Operator: Mi		K L 2000 PII	М D	N	

Boring/ Well No	: SB-11/		Installation:		Fort Stewart		Site:	10 1			uilding 419	
Project No.:			00209.0007		Client/ Project		τ	JS AI			of Engineers	
Contractor:	Spe		ronmental Ser	vices LLC	Drilling Cont				N	/lajor D		
Driller:			hambers		Borehole Dia					4 Inc		
Start - Date:	3/29/2	2011	Time:	4:00 PM	End Date:	3/	29/2011			Time:	4:20 PM	
Drilling Method				ush/Geoprobe	Coordinates:	~				1	1 10	
Logged By:		Doug Hav	vn	E-Log(Y/N)F	ROM	То	Prote	ction	Lev	el:	Level D	
Depth (ft) Sample Sample No.	Ott-site Lab (Y/N) On-site lab (Y/N) OVA Reading (ppm) Headsnace (mm)	Recovery (ft/ft)		Litologic	Description		USCS	Blows/6 inch	Stratigraphic Log	Well Construction Data	Water Depth & Remarks	GS Flev (f)
YY 	<u> </u>	A 2/4	MATERIAL FROM 20"-4	E (LOADING DOCK FROM 18"-20" BGS 42" BGS - LIGHT TA H SOME CLAY. MC	AREA) FROM (- DARK GRITT N/GREY SAND,	Y SAND, MOIST FIND GRAINEI	. SM	N/A		Y		
Z SB-11-01	N 10.5 N/4	4/4	WITH MEDIU 10% SAND, AN	TTLING. 80% SANI UM TO COARSE SA ND 10% SILT, WITH FROM 5'-6' BGS CO COLOR G	NDS. FROM 6'-8 MEDIUM PLAS	' BGS 80% CLA TICITY. MEDI	Y, CL UM	N/A		Y		
A P P P P P P P P P P P P P P P P P P P	0.0 N/A	4/4	ENCOUNTERI	D, 10% SILT, AND ED AT 9.5' BGS. SA FROM 10'-12' BGS (ND IS FINE TO	MEDIUM COAR	SE.	N/A		Y	WATER ENCOUNTERED AT 9.5' BGS	
N	0.0 N/2	4/4		, 10% SILT, AND 10 ERY WET. FROM				N/A		Y		
A B C I	DEFG	HI]	K	L	М	N	0
U = Thin Wall T S = Split Spoon C = Cuttings Notes:		O = Oth	ck Coring her hstrument (Mal	ke/Model)		te G/C (Make/ perator:	Model) MiniRae	2000) PII)		

Boring/ W		Jo:		SB-	12		Installation:		Fort Stewart			Site:				Building 419	
Project No							00209.0007		Client/ Proje			U	JS A			of Engineers	
Contractor	:				Spec		ronmental Se	ervices LLC	Drilling Cor					1	0	Drilling	
Driller:							hambers		Borehole Di	ameter:					4 Inc		
Start - Date					29/20	11	Time:	4:30 PM	End Date:		3/29/2	2011			Time:	4:55 PM	
Drilling M		od / F	lig T	ype:		~ ~		Push/Geoprobe	Coordinates						1	T 1D	
Logged By	/:				D	oug Haw	/n	E-Log (Y/N)	FROM	То		Prote	ction	Lev	el:	Level D	
Depth (ft) Sample	Sample No.	Off-site Lab (Y/N)	On-site lab (Y/N)	OVA Reading (ppm)	Headspace (ppm)	Recovery (ft/ft)		Litologic	Description			USCS	Blows/6 inch	Stratigraphic Log	Well Construction Data	Water Depth & Remarks	
Y 	3	Y	N	0.0	N/A	2/4	MATERIAI FROM 20"-	TE (LOADING DOC L FROM 18"-20" BC -42" BGS - LIGHT T TH SOME CLAY. M	S - DARK GRIT AN/GREY SAND	ΓΥ SAND, MO), FIND GRAI	DIST.	O SM CH	N/A		Y		
N 	SB-12-01		N	10.5	N/A	4/4	WITH MED 10% SAND, A	OTTLING. 80% SAN JIUM TO COARSE S AND 10% SILT, WIT FROM 5'-6' BGS CO COLOR C	ANDS. FROM 6'- H MEDIUM PLA	-8' BGS 80% C STICITY. M	CLAY, EDIUM	SM CL	N/A		Y		
Y	SB-12-02	Y		0.0	N/A	4/4	BGS. SHEEN	9, 10% SILT, AND 10 OBSERVED, WITH COARSE. FROM 1	STRONG ODOI	R. SAND IS FI	NE TO		N/A		Y	WATER ENCOUNTERED AT 8' BGS	
												т	V	т		N	
A B O $U = Thin V$ $S = Split S$ $C = Cuttin$ Notes:	poo			F	G	O = Oth	k Coring er strument (Ma	ake/Model)		Site G/C (Ma Operator:		del) niRae	K 2000) PII) M		

Boring/		No:		SB-	13			Installation:		Fort Stewart		Site:				Building 419
Project N					~	D -		00209.0007	LLC.	Client/ Project:			US A			of Engineers
Contract	or:				Spec			conmental Servi	ces LLC	Drilling Contract				N	4 Inc	Drilling
Driller:				2/2	0/20			hambers	0.45 ANA	Borehole Diamete		2011			Time:	9:10 AM
Start - D Drilling		ad / 1	La T		0/20	11			8:45 AM sh/Geoprobe	End Date: Coordinates:	3/30/	2011			Time:	9:10 Alvi
Logged I		04 / 1	Clg 1	ype:		oug	Uou		Log (Y/N) F			Prote	ection	Lev	واب	Level D
Logged	зу.				D	oug	naw		-Log(1/N)1			<u>II IOU</u>		Lev		Level D
Depth (ft) Sample	Sample No.	Off-site Lab (Y/N)	On-site lab (Y/N)	OVA Reading (ppm)	Headspace (ppm)		Recovery (ft/ft)		Litologic	Description		USCS	Blows/6 inch	Stratigraphic Log	Well Construction Data	Water Depth & Remarks
Y	SB-13-01	Y	N	0.0	N/A	4/4		MATERIAL F FROM 20"-42	ROM 18"-20" BGS " BGS - LIGHT TA	AREA) FROM 0-18" 5 - DARK GRITTY SA N/GREY SAND, FINI TTLING, VERY PLA:	ND, MOIST. D GRAINED	O SM CH	N/A		Y	
N 			N	NA	N/A	4/4		WITH MEDIUI 10% SAND, ANI	M TO COARSE SA D 10% SILT, WITH ROM 5'-6' BGS CO	D AND 20% SILT FRC NDS. FROM 6'-8' BG MEDIUM PLASTICI LOR 5YR6/4 AND FR LEY 1 7/10Y.	S 80% CLAY, TY. MEDIUM	SM CL	N/A		Y	
Y	SB-13-02	Y		0.0	N/A	4/4			S FINE TO MEDI	6 CLAY. GROUNDV JM COARSE. FROM LEY 1 7/10Y.			N/A		Y	WATER ENCOUNTERED AT 9' BGS
A B	C	D	Е	F	G	H	I					J	K	L	M	N
U = Thir S = Split C = Cutt Notes:	Spoo			dannar (1999)		O =	Oth	k Coring er strument (Make	e/Model)	On-Site G GC Opera		del) iniRae	e 2000) PII)	

Boring/ Well No:		Installation:	Fort Stewart	Site:			uilding 419	
Project No.:		E00209.0007	Client/ Project:	US			of Engineers	
Contractor:		ironmental Services LLC	Drilling Contractor:		N	Major D		
Driller:		Chambers	Borehole Diameter:			4 Inc		
Start - Date:	3/30/2011	Time: 9:30 AM	End Date: 3/30/2	2011		Time:	9:50 AM	
Drilling Method /		Direct Push/Geoprobe	Coordinates:					
Logged By:	Doug Hav	wn E-Log (Y/N) F	ROM To	Protecti	ion Lev	el:	Level D	
Depth (ft) Sample Sample No. Off.site Lab (V/N)	OIL-SILE LAD (17.14) On-site lab (Y/N) OVA Reading (ppm) Headspace (ppm) Recovery (ft/ft)	Litologic	Description	USCS Diamoté inote	Blows/o incn Stratigraphic Log	Well Construction Data	Water Depth & Remarks	GS Elev. (ft)
SB-14-01	N 0.0 N/A 4/4	CONCRETE (LOADING DOCK MATERIAL FROM 18"-20" BGS FROM 20"-42" BGS - LIGHT TA	AREA) FROM 0-18" BGS - FILL 5 - DARK GRITTY SAND, MOIST. N/GREY SAND, FIND GRAINED TTLING, VERY PLASTIC.	O N/ SM CH	'A	Y		
Z SB-14-02	N NA N/A 4/4	WITH MEDIUM TO COARSE SAN FROM 6'-8' BGS 80% CLAY, 10 MEDIUM PLASTICITY. MED	D AND 20% SILT FROM 5'-6' BGS, IDS. GROUNDWATER AT 7.5' BGS. 1% SAND, AND 10% SILT, WITH 1UM STIFFNESS. FROM 5'-6' BGS 5'-8' BGS COLOR GLEY 1 7/10Y.	SM N/	/A	Y	WATER ENCOUNTERED AT 7.5' BGS	
					,			
A B C D	E F G H I			JJ	K L	M	N	0
U = Thin Wall To S = Split Spoon (C = Cuttings Notes:	(tube) $O = Ot$	ck Coring her nstrument (Make/Model)	On-Site G/C (Make/Mo GC Operator: Mi	del) niRae 20	000 PII)		

Boring/ Well No	: SB-	15/MV		Installation		Fort Stewar			Site:	IC A.			Building 419	
Project No.:		C		00209.0007		Client/ Pro Drilling Co				JS AI			of Engineers Drilling	
Contractor: Driller:				hambers	Services LLC	Borehole D						4 Inc	ACTIVITY OF A DESCRIPTION OF A DESCRIPTI	
Start - Date:	2/2	0/201		Time:	10:00 AM	End Date:	nameter.	3/30/2	2011			Time:	10:15 AN	1
Drilling Method		0/201	1		t Push/Geoprobe	Coordinate	·C*	515012	2011			1 11110.	10.15711	
Logged By:	/ Kig Type.	Do	oug Haw		E-Log(Y/N)]		То		Prote	ection	Lev	el·	Level D	
Logged Dy.		D(ug IIan	11		Rom	10		11000					
Depth (ft) Sample Sample No.	OII-site Lab (Y/N) On-site lab (Y/N) OVA Reading (ppm)	Headspace (ppm)	Recovery (ft/ft)		Litologic	Description			USCS	Blows/6 inch	Stratigraphic Log	Well Construction Data	Water Depth & Remarks	
Y Y	N 0.0	N/A 4	4/4	FROM 18"-	T-PARKING LOT FR -20" BGS - DARK GRI T TAN/GREY SAND, MOTTLING,	TTY SAND, M	DIST. FROM 2 D WITH SOME	20"-42"	О SM СН	N/A		Y		-
B-15-01	N NA	N/A 4	4/4	WITH ME 10% SAND,	MOTTLING. 80% SAN DIUM TO COARSE S AND 10% SILT, WIT S. FROM 5'-6' BGS CC COLOR G	ANDS. FROM 6 H MEDIUM PL	5'-8' BGS 80% C ASTICITY. M	CLAY, EDIUM	SM CL	N/A		Y		-
SB-15-02	0.0	N/A	4/4	BGS. SLI	D, 10% SILT, AND 10 GHT PETROLEUM O ARSE. FROM 10'-12'	DOR. SAND IS	FINE TO MED			N/A		Y	WATER ENCOUNTERED AT 8' BGS	
ABCI	E F	G	ΗI						J	K	L	M	N	
U = Thin Wall T S = Split Spoon C = Cuttings Notes:			O = Oth		/ake/Model)		Site G/C (Ma Operator:		del) niRae	e 2000) PII)		

Boring/ \		No:		SB-	16		Installation		Fort Stewar		S	Site:	10 1			Building 419	
Project N							00209.0007		Client/ Proj			J	JS AI			of Engineers	
Contracto	or:				Spec	and the state of the		Services LLC	Drilling Co					N		Drilling	
Driller:						A REAL PROPERTY AND A REAL PROPERTY A REAL PRO	hambers		Borehole D						4 Inc		
Start - Da					80/20	11	Time:	10:30 AM	End Date:		3/30/20	011			Time:	10:45 AN	1
Drilling l		od / I	Rig 7	ype:				t Push/Geoprobe	Coordinates								
Logged H	By:				D	oug Haw	'n	E-Log (Y/N) FROM	То]	Prote	ection	Lev	el:	Level D	
Depth (ft) Sample	Sample No.	Off-site Lab (Y/N)	On-site lab (Y/N)	OVA Reading (ppm)	Headspace (ppm)	Recovery (ft/ft)		Litolog	gic Description			USCS	Blows/6 inch	Stratigraphic Log	Well Construction Data	Water Depth & Remarks	
Y		Y	N	NA	N/A	4/4	ORGANIC MOIST. V	NEAR FORMER TA MATTER. FROM WOOD DEBRIS. FR IND GRAINED WIT	NK AREA). FROM [18"-20" BGS - DA OM 20"-42" BGS -	RK GRITTY SA LIGHT TAN/GF	AND, REY	O SM CH	N/A		Y		
N 	SB-16-01		N	30	N/A	4/4	WITH ME 10% SAND,	AOTTLING. 80% SA DIUM TO COARSE AND 10% SILT, W S. FROM 5'-6' BGS COLOF	SANDS. FROM 6 ITH MEDIUM PLA	-8' BGS 80% CL STICITY. ME	.AY, DIUM	SM CL	N/A		Y		
Y	SB-16-02	Υ		0.0	N/A	4/4	GROUNDV	AND, 10% SILT, A VATER AT 8.5' BG MEDIUM COARS	5. SLIGHT PETRO	LEUM ODOR. S	AND		N/A		Y	WATER ENCOUNTERED AT 8.5' BGS	
A B	C	D	E	F	G	НІ						J	K	L	M	N	0
U = Thin S = Split C = Cutt Notes:	t Spo					O = Oth		/ake/Model)		Site G/C (Mak Operator:		,	2000) PII)		

Boring/ W		lo:		SB-	17		Installation		Fort Stewar			Site:				Building 419	
Project No	and the state of the				~		00209.0007		Client/ Proj			(JS AI			of Engineers	
Contractor					Spec			ervices LLC	Drilling Co					N		Drilling	
Driller:					0.17		hambers	10.88.57	Borehole D	ameter:	a /a o /a	2011			4 Inc		
Start - Dat		1 / -			0/20	11	Time:	10:55 AM	End Date:		3/30/2	2011			Time:	11:05 AM	1
Drilling M		d / R	ug T	ype:				t Push/Geoprobe	Coordinates	<u>з:</u> То		Duct	ection	Law		Level D	
Logged By	/:				D	oug Haw	'n	E-Log(Y/N)	FROM	10		Prote	cuon	Lev	er:	Level D	
Depth (ft) Sample	Sample No.	Off-site Lab (Y/N)	On-site lab (Y/N)	OVA Reading (ppm)	Headspace (ppm)	Recovery (ft/ft)		Litologi	Description			USCS	Blows/6 inch	Stratigraphic Log	Well Construction Data	Water Depth & Remarks	
Y 	Y	ŗ	N	NA	N/A	4/4	ORGANIC MOIST.	NEAR FORMER TAN MATTER. FROM 1 FROM 20"-42" BGS ED WITH SOME CLA	8"-20" BGS - DA - LIGHT TAN/GI	RK GRITTY S REY SAND, F	SAND, IND	О SM СН	N/A		Y		
N			N	NA	N/A	4/4	WITH MEI 10% SAND,	AOTTLING. 80% SAN DIUM TO COARSE S AND 10% SILT, WIT S. FROM 5'-6' BGS CO COLOR (ANDS. FROM 6' H MEDIUM PLA	-8' BGS 80% (STICITY. M	CLAY, IEDIUM	SM CL	N/A		Y		
Y	SB-17-01	7		15.5	N/A	4/4	BGS. SLI	D, 10% SILT, AND 10 GHT PETROLEUM C ARSE. FROM 10'-12	DOR. SAND IS	FINE TO MEE			N/A		Y	WATER ENCOUNTERED AT 8.5' BGS	
	0	D	F	F								Ţ	K	Ŧ	м	N	
A B $U = Thin V$ $S = Split S$ $C = Cuttin$ Notes:	spoor			F	G	O = Oth		fake/Model)	Contract of the local of the local sectors and	Site G/C (Ma Operator:) PII		1 IN	

Boring/ Well No:	SB-18	Installation:		Site:			uilding 419	
Project No.:		00209.0007	Client/ Project:	U	S Army		of Engineers	
Contractor:		ronmental Services LLC	Drilling Contractor:			Major D		
Driller:		hambers	Borehole Diameter:	2011		4 Inc		
Start - Date:	3/30/2011	Time: 11:10 AM	End Date: 3/30/2	2011		Time:	11:35 AM	
Drilling Method /		Direct Push/Geoprobe	Coordinates:	D			LevelD	
Logged By:	Doug Haw	/n E-Log (Y/N)F	ROM To	Protec	ction Le	ever:	Level D	and the second
Depth (ft) Sample Sample No. Off-site Lab (Y/N)	On-site lab (Y/N) OVA Reading (ppm) Headspace (ppm) Recovery (ft/ft)	Litologic 1	Description	USCS	Blows/6 inch Stratioraphic Log	Well Construction Data	Water Depth & Remarks	GS Elev. (ft)
Y Y	N NA N/A 4/4	GRASS (NEAR FORMER TANK ORGANIC MATTER. FROM 18' MOIST. FROM 20"-42" BGS - 1	AREA). FROM 0-6" BGS - DARK '-20" BGS - DARK GRITTY SAND, LIGHT TAN/GREY SAND, FIND '. MOTTLING, VERY PLASTIC.		N/A	Y		
SB-18-01	N NA N/A 4/4 40	WITH MEDIUM TO COARSE SA 10% SAND, AND 10% SILT, WITH STIFFNESS. FROM 5'-6' BGS COI	D AND 20% SILT FROM 5'-6' BGS, NDS. FROM 6'-8' BGS 80% CLAY, MEDIUM PLASTICITY. MEDIUM .OR 5YR6/4 AND FROM 6'-8' BGS .EY 1 7/10Y.	CL	N/A	Y		
Y Y Y	N/A 4/4	BGS. STRONG PETROLEUM OI	CLAY. GROUNDWATER AT 10.5' DOR. SAND IS FINE TO MEDIUM 3GS COLOR GLEY 1 7/10Y.		N/A	Y	WATER ENCOUNTERED AT 10.5' BGS	
A B C D	E F G H I			J	KL	, M	N	
U = Thin Wall Tu S = Split Spoon (t C = Cuttings Notes:	tube) $O = Oth$	ek Coring ler strument (Make/Model)	On-Site G/C (Make/Mo GC Operator: Mi		2000 P	ID		

Boring/ Well No:	SB-19/MW-03	Installation:	Fort Stewart Site: Building 419							
Project No.:		00209.0007	Client/ Project: US Army Corps of Engineers Drilling Contractor: Major Drilling							
Contractor:		ronmental Services LLC	Drilling Contractor:							
Driller:		hambers	Borehole Diameter:		4 Inches					
Start - Date:	3/30/2011	Time: 2:00 PM	End Date: 3/30/	2011		Time:	2:10 PM			
Drilling Method / Rig		Direct Push/Geoprobe	Coordinates: ROM To	Deata	ection L	avalı	Level D			
Logged By:	Doug Hav	/n E-Log (Y/N) F	ROM 10	Flote	CUOII L	evel.	Level D			
Depth (ft) Sample Sample No. Off-site Lab (Y/N)	On-site lab (Y/N) OVA Reading (ppm) Headspace (ppm) Recovery (ft/ft)	Litologic	Description	USCS	Blows/6 inch	Well Construction Data	Water Depth & Remarks			
Y Y N 	NA N/A 4/4	20" BGS - DARK GRITTY SAND, M TAN/GREY SAND, FIND GRAINE	FILL MATERIAL FROM 0-18". 18"- MOIST. FROM 20"-42" BGS - LIGHT D WITH SOME CLAY. MOTTLING, PLASTIC.		N/A	Y				
SB-19-01	40 N/A 4/4	WITH MEDIUM TO COARSE SA 10% SAND, AND 10% SILT, WITH STIFFNESS. FROM 5'-6' BGS CO	D AND 20% SILT FROM 5'-6' BGS, NDS. FROM 6'-8' BGS 80% CLAY, I MEDIUM PLASTICITY. MEDIUM LOR 5YR6/4 AND FROM 6'-8' BGS LEY 1 7/10Y.	SM CL	N/A	Y				
SB-19-02 K	45 N/A 4/4 27	SAND IS FINE TO MEDIUM CO.	CLAY. GROUNDWATER AT 9' BGS ARSE. FROM 10'-12' BGS COLOR 1 7/10Y.	•	N/A	Y	WATER ENCOUNTERED AT 9' BGS			
N	N/A 4/4		% CLAY. SAND IS MEDIUM TO 12'-15' BGS COLOR GLEY 1 7/10Y.		N/A	Y				
A B C D	E F G H I			J	K	LM	N	(
U = Thin Wall Tube S = Split Spoon (tube C = Cuttings Notes:	e) $O = Oth$	ck Coring ner astrument (Make/Model)	On-Site G/C (Make/Model) GC Operator: MiniRae 2000 PID							

Boring/ We			SB-	20			Installation:	Fort Stewart		Site:				Building 419	
Project No.:							00209.0007	Client/ Project: US Army Corps of Engineers							
Contractor:				Spec			onmental Services LLC	Drilling Contractor:			N	Major Drilling 4 Inches			
Driller:			2/2	0/20	Contract of the local division of the local		Times 2:15 DM	Borehole Diameter:	3/30/2	011			4 Inc Time:	2:25 PM	
Start - Date		D: 7		0/20	11		Time: 2:15 PM		3/30/2	011			1 ime:	2:23 PM	
Drilling Me Logged By:		Rig I	ype:		oug H	Iow	Direct Push/Geoprobe n E-Log (Y/N)	Coordinates: FROM To		Prote	ection	Lev	el·	Level D	
Logged Dy.					ougn	law			I	1100		Dev		LeverD	
Depth (ft) Sample Samnle No.	Off-site Lab (Y/N)	On-site lab (Y/N)	OVA Reading (ppm)	Headspace (ppm)		Recovery (ft/ft)	Litologic	Description		USCS	Blows/6 inch	Stratigraphic Log	Well Construction Data	Water Depth & Remarks	
Y	Y	N	NA	N/A	4/4		20" BGS - DARK GRITTY SAND, TAN/GREY SAND, FIND GRAIN	SHPHALT PARKING LOT AND FILL MATERIAL FROM 0-18".)" BGS - DARK GRITTY SAND, MOIST. FROM 20"-42" BGS - L 'AN/GREY SAND, FIND GRAINED WITH SOME CLAY. MOTTL VERY PLASTIC.					Y		
	10-07-00	N	45	N/A	4/4		WITH MEDIUM TO COARSE S 10% SAND, AND 10% SILT, WIT STIFFNESS. FROM 5'-6' BGS CO	H MEDIUM PLASTICITY. ME	.AY, DIUM	SM CL	N/A		Y		
Y	Y		65	N/A	4/4		80% SAND, 10% SILT, AND 10% SAND IS FINE TO MEDIUM CO GLE ⁻				N/A		Y	WATER ENCOUNTERED AT 9' BGS	
-															
	D	Е	F	C	TT	T				J	К	L	м	N	
A B C $U = Thin W$ $S = Split Sp$ $C = Cutting$ Notes:	all Tu	be		G	O = 0	Roci Othe	c Coring er strument (Make/Model)	On-Site G/C (Mak GC Operator:		lel)	2000			1 11	

Boring/ We			SB-	20/M	W-06	Installation		Fort Stewart		Site				uilding 419	
Project No.							Client/ Project: US Army Corps of Engineers								
Contractor:				Spec			Services LLC	Drilling Con				1	Major D		
Driller:						Chambers		Borehole Dia				4 Inc			
Start - Date							End Date:	/7/2011			Time:	10:15 AM	1		
Drilling Me		Rig T	ype:				t Push/Geoprobe	Coordinates:							
Logged By:				D	oug Hav	vn	E-Log (Y/N)	FROM	То	Prot	ectior	n Lev	rel:	Level D	
L Depth (ft)	Y Y N NA N/A 4/4											Water Depth & Remarks	GS Elev. (ft)		
N		N	NA	N/A	4/4	FROM 5'-6 TO COARS 80%	42" BGS - GRAV BGS ORGANIC, BL SE SANDS. GROUNE CLAY, 10% SAND, A Y. MEDIUM STIFFN	EL FILL MATERI ACK, MUCKY SO WATER AT 6' BC ND 10% SILT, WI ESS. FROM 5'-6' 1	, FILL MATERIAL. K, MUCKY SOIL WITH MEDIUM ATER AT 6' BGS. FROM 6'-8' BGS D 10% SILT, WITH MEDIUM IS. FROM 5'-6' BGS COLOR 5YR6/4 COLOR GLEY 1 7/10Y.		N/A		Y	WATER ENCOUNTERED AT 6' BGS	
Y	Y		NA	N/A	4/4	1	, 10% SILT, AND 10% ARSE. FROM 10'-12			UM	N/A		Y		
N 				N/A	4/4		ND, 10% SILT, AND 1 VERY WET. FROM				N/A		Y		
		-									IV.	_T		NT	F
ABC $U = Thin W$ $S = Split Split C = CuttingNotes:$	/all Tul 000n (ti		F	G	O = Oth		/ake/Model)		ite G/C (Make/ perator:	Model) MiniRa	K e 200	L 	<u>М</u>	N	0

Appendix B

Nonhazardous Waste Manifests – Soils and Well Installation

	e onnt or wre	and the second						-			
For	NON-HAZARDOUS	1. Generator ID Number	2. Page	1 of 3.	Emergency Response		4. Waste Tra	cking Num	iber		
	5. Generator's Name and Maili	ng Address			enerator's Site Address		in the second se			992-091-092-092-091-091-091-091-091-092-092-092-092-092-092-092-092-092-092	
	Generator's Phone: 6. Transporter 1 Company Nar				999		U.S. EPA ID N			unagi ha anggi bu ang	-
	7. Transporter 2 Company Nar	ike stiftet folgend ik fizier ne	e (Million (1997				U.S. EPA ID N		and Patrice Sa		
		34									
	8. Designated Facility Name and		APT 14 (19-76-76-				U.S. EPA ID I				
	Facility's Phone:	4.7% - AB 19940	n a sa an tha an						的基本代表工作品件	2	
	9. Waste Shipping Nam	e and Description			10. Conta No.	Type	11. Total Quantity	12. Unit Wt./Vol.			
GENERATOR -	1. Normalite (23) A Normalite (23) A	1月2 開きた日本に「水光就」の 第二7年3月2日 第二7年3月2日	NUTE WALLES		014	1.1					
GENE	2. AT 1777 V M	校会 離かけ Rue Trin Ruite 毎月15日 ()	44 - 67 FI TARK_CC		101	(ir	1600				
	3.										
	4.	-									44
	14. GENERATOR'S CERTIFI	CATION: I certify the materials descri	bed above on this manifest are not		to federal regulations for			lazardous V	Naste.	<u>}</u>	
	Generator's/Offeror's Printed/	Typed Name		Sign	ature	1 in			Month	Day Ye	ear
- J.LNI	15. International Shipments Transporter Signature (for ex	Import to U.S.	Export	from U.	S. Port of e Date leav				-		2
TER	16. Transporter Acknowledgm Transporter 1 Printed/Typed			Sign	ature	-(9		Month	Day Ye	ear
TRANSPORTER	Transporter 2 Printed/Typed	the later of the second s			ature	1	a	a, a (a i i i i i i i a a a i i i i i i i	Month	274	ear
TRA											
A	17. Discrepancy 17a. Discrepancy Indication S	Space Quantity	Туре		Residue	19.19.19.19.20.19.19.19.19.19.19.19.19.19.19.19.19.19.	Partial Re	ection		Full Rejection	
FACILITY -	Image: Constraint of the second constraints Manifest Reference Number: 17b. Alternate Facility (or Generator) U.S. EP.									inter tite of pinners and pinners	
DESIGNATED F	Facility's Phone: 17c. Signature of Alternate Fa	acility (or Generator)							Month	Day Ye	'ear
- DESIC	- -	-	* *								
	18. Designated Facility Owner	er or Operator: Certification of receipt of	of materials covered by the manifes				ىلىلەر تەسىپى مەلىرىكە بىرى مەلىرىكە بىرى بىرىكە بىرىكە بىرىكە بىرىكە بىرىكە بىرىكە بىرىكە بىرىكە بىرىكە بىرىكە				
	Printed/Typed Name			Sigr	nature				Month	Day Ye	'ear
(GC Labels • Printe 1-800-997		GENERATOR'S/SHI	PPEF	S INITIAL COF	ργ	Reorde		# MANIFE 3-897-6968		łW

Appendix C

Groundwater Monitor Well Construction Logs

Well No.: MW -		TION LOG - Standard Flush Mount Site: Building 419
Project No.:	E0209.0007	Client/Project: USACE
Contractor:	SpecPro Environmental Services, .Ll	Drilling Contractor: Major Drilling
Start Date:	4/6/2011	End Date 4/6/2011 Time: 8:15 A
Built By: Jame	s Chambers	Well Coordinates: N: 681051.5 E: 829762.92
Elev. 76.7 Height 0 ft GS Elev. 76.57 GS Height Elev.		PROTECTIVE CASING Material/Type Schedule 40 PVC Diameter 2 inch Watertight O-Ring Yes No
Depth BGS <u>0 ft</u>		Breathes with Vadose Zone Yes ✓ No SURFACE PAD Composition & Size concrete Composition & Size concrete RISER PIPE Type Schedule 40 PVC Diameter 2 inch
1 ft		Total Length (TOC to TOS) 14 ft Ventilated Cap Yes No O-Rings for Threads Yes No GROUT Composition & Amount bentonite pellets, 1/4 bags
		Tremied Ves No
		Interval BGS 0 -2 ft <u>CENTRALIZERS</u> Ves No Depth(s) N/A
		<u>SEAL</u>
2 ft		Type bentonite pellets Source Enviroplug
2 ft	-	Source Enviroping Setup/Hydration Time 1 hour
		Volume Fluid Added 0
		Tremied Yes V No
4 ft		Type DSI Number 1 sand
		Amount Used 4 1/2 bags
		Tremied Ves No
14 ft		Source Driller's Service Inc. Gr. Size Dist number 1
		SCREEN Type Factory Cut Schedule 40 PVC
		Diameter 2 in
		Slot Size 0.010 in
14 ft		Interval BGS 4 - 14 feet
		SUMP
14 ft		Interval BGS N/A
		Type of Bottom Cap
0		<u>BACKFILL PLUG</u> Material N/A
14 ft		Setup/Hydration Time N/A
	4 in	
	Borehole Dia	



Well No.: MW -			Stewart	N LOG - Standard		Building 419		
Project No.:	E0209.0007			Client/Project:	USACE	And the second	ang that which is the first state of the same advice dataset	
Contractor:		ronmental Serv	vices, .LLC	Drilling Contractor		Ma	ajor Drillir	ng
Start Date:	4/6/2011	unduk an dalam kaki kenya kanang salah butu butu butu kaki kenya		End Date	4/6/201	1 Ti	me:	1:00 PM
Built By: James				Well Coordinates:	N:	680902.11	E	: 829692.71
Elev. 80.22 Height 0 ft		~		PROTECTIVE CASIN Material/Type	G	Schedul	e 40 PVC	
GS Elev. 80.22 GS Height				Diameter 2 inch	*****	Schedul		
Elev. Depth BGS 0 ft		0	R	Watertight O-Ring Breathes with Vadose	Zone	✓ Yes ☑ Yes	 ✓ 	No No
				SURFACE PAD Composition & Size <u>RISER PIPE</u>	concrete			
				Type Schedule Diameter 2 inch	40 PVC			
1 ft				Total Length (TOC to	TOS)	14 ft		
				Ventilated Cap O-Rings for Threads		<mark>Yes</mark> ✓ Yes	>	No No
				GROUT Composition & Amour	nt .	bentonite pellets	, 1/4 bag	
				Tremied Interval BGS	0 -2 ft	✓ Yes		No
				<u>CENTRALIZERS</u> Depth(s) N/A	<u> </u>	✓ Yes	\checkmark	No
2 ft				SEAL	pellets, 1/4	l har		
				Source	ponoto, n	Enviroplug]	
2 ft			X	Setup/Hydration Time		1 hour	****	
				Volume Fluid Added	0			
2 ft				Tremied FILTER PACK		Yes	1	No
4 ft					per 1 sand			
				Amount Used	4 1/2 bag	and the second se		
				Tremied Source Driller's S	ervice Inc.	✓ Yes		No
14 ft	10 ft			Gr. Size Dist	number '			
				SCREEN	ut Schedul			
				Diameter 2 in				
				Slot Size 0.010 in				
14 ft				Interval BGS	4 - 14 fee	et		
				SUMP	N1/A			
14 ft				Interval BGS Type of Bottom Cap	N/A N/A			
	٦ 🛛			BACKFILL PLUG	11/71			
				Material N/A				
14 ft			4	Setup/Hydration Time	e N/A			
	>	4 in		Tremied		Yes		No
		Borehole Dia						






Appendix D

EcoVac Monthly Reports



The World Leader in Mobile Dual-Phase/Multi-Phase Extraction and Patented SURFAC[®]/ISCO-EFR[®]/COSOLV[®] Technologies Treatability Studies/Research & Development

July 11, 2011

Mr. Doug Hawn SpecPro Environmental 1006 Floyd Culler Court Oak Ridge, Tennessee 37830 <u>dhawn@specproenv.com</u>

Subject: REVISED--Enhanced Fluid Recovery (EFR®) Results Event No. 1 Building 419 Fort Stewart, Georgia

Dear Mr. Hawn:

Please find attached the data summary for the first EFR[®] event conducted at the subject site on June 12, 2011. The following summarizes the results of this EFR[®] event.

SUMMARY OF RESULTS

Separate-phase hydrocarbons (SPH) were detected in one monitor well (MW-04 - 0.42 feet) and four recovery wells (RW-01 - 0.25 feet, RW-04 - 4.50 feet, RW-05 - 3.79 feet, and RW-06 - 1.02 feet) prior to conducting this EFR[®] event. This EFR[®] event was conducted for seven hours at five extraction points, consisting of the initial 4.25 hours of extraction at recovery wells RW-01, RW-04, RW-05, and RW-06. Monitor well MW-04 was added to the extraction array for the final 2.75 hours of this event. SPH was not detected in the extraction wells upon completion of the event.

A calculated total of 96 pounds of petroleum hydrocarbons (approximately 14 equivalent gallons of gasoline/diesel fuel) was removed during this EFR[®] event.

The hydrocarbon removal rate ranged from 12 to 16 pounds per hour with a trend of decreasing removal rates throughout the event.

Vapor concentrations ranged from 9,700 to 10,000 parts per million by volume (PPM_V) during this $EFR^{\text{@}}$ event. Vapor flow rates ranged from 78 to 98 cubic feet per minute (CFM) throughout this event. In-well vacuums recorded during this $EFR^{\text{@}}$ event are detailed on the $EFR^{\text{@}}$ Field Data Sheet and summarized below:

105 Weatherstone Drive, Suite 610 - Woodstock, Georgia 30188 (770) 592-1001 - Fax (770) 592-1801 www.ecovacservices.com Mr. Doug Hawn July 7, 2011 Page 2

Extraction Well Location	Vacuum Reading
RW-01	10 inches of mercury
RW-04	8 inches of mercury
RW-05	15 inches of mercury
RW-06	15 inches of mercury
MW-04	10 inches of mercury

Differential pressures were recorded during this event to assess the vacuum influence induced by EFR^{\circledast} in the vadose zone. The differential pressure data are detailed in the attached data table and summarized below:

Monitor Well	Maximum Change	Nearest Extraction Well (Approx. Distance)
MW-04	-0.03 inch of water	RW-06 (22 feet)
RW-02	-0.15 inch of water	RW-04 (30 feet)
MW-02	0.00 inch of water	RW-01 (42 feet)
MW-05	-0.01 inch of water	RW-05 (42 feet)
MW-06	-0.15 inch of water	RW-05 (55 feet)
MW-03	0.00 inch of water	RW-01 (90 feet)

Groundwater levels were recorded during this event to assess the groundwater drawdown created by EFR[®]. The drawdown data are detailed in the attached table and summarized below:

Monitor Well	Maximum Change	Nearest Extraction Well (Approx. Distance)
RW-02	-1.59 feet	RW-04 (30 feet)
MW-02	-0.18 feet	RW-01 (42 feet)
MW-05	-0.13 feet	RW-05 (42 feet)
MW-06	-0.35 feet	RW-05 (55 feet)
MW-03	-0.08 feet	RW-01 (90 feet)

Approximately 2,573 gallons of liquid were removed during this EFR[®] event and transported to the Georgia Petroleum treatment facility (Valdosta, Georgia) for disposal. SPH was not detected in the vacuum truck tank upon completion of the event.

Thank you for the continued opportunity to team with SpecPro in serving the environmental needs of your clients. We look forward to working with you again in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

EcoVac Services

Joid M. Dodra-

David M. Goodrich, P.G.

EFR[®] FIELD DATA SHEET

Client: SpecPro					Facil	ity Na	ime:	Buildi	ing 419				Event #: 1	
Facility Address: Fort Stewart; Hinesville, Georgia								Technician: Wi	Technician: Wilson Date: 6/12/11					
Extraction Well-						Vacuum Truck Exhaust								
Extraction Well(s)	Time hh:mm				(head Vacuum (in. Hg)				Concentration	Offgas Velocity	Flow Rate	Removal Rate	Interval Removal
Start Time:	7:45	Inlet	RW-01	RW-04	RW-05	RW-06	MW-04			PPM	FT/MIN	CFM	LBS/HR	LBS
RW-01,04,05,06	8:00	23	10	8	15	15	-			10,000	2,000	98	16	4.0
11	8:15	23	10	8	15	15	-			10,000	2,000	98	16	4.0
11	8:30	23	10	8	15	15	-			10,000	2,000	98	16	4.0
17	9:00	23	10	8	15	15	-			10,000	1,900	93	15	7.6
"	9:30	23	10	8	15	15	-			10,000	1,700	83	14	6.8
	10:00	23	10	8	15	15	-			10,000	1,700	83	14	6.8
	11:00	23	10	8	15	15	-			10,000	1,600	78 78	13	13
RW-01,04,05,06; MW-04	12:00	23	10	8	15	15	10			10,000	1,600	78	13	13
	13:00 14:00	23 24	10 10	8	15 15	15 15	10 10			10,000	1,600	78	13	13
	14:00	24	$\frac{10}{10}$	8	15	15	10			9,800	1,600	78	13	12
Well Ga	and the second sec	-	10		15	15		Refore	EFR® E	and ferror and an and an and an and	1,000	After EFR [®] Even	Louis and the second se	Corr. DTW
Well No.	Diam.	- 10 M 10 20	ΓD (ft		F	DTS (1	and the second second	and a sector.	TW (ft)	SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft)
MW-01	2"		13.71			-			7.64	0.00	-	5.25	0.00	2.39
MW-01	2"		14.23			_			8.01	0.00	_	8.19	0.00	-0.18
MW-03	2"		13.73			_			7.66	0.00	-	7.74	0.00	-0.08
MW-04	2"		13.20			4.51			4.93	0.42		7.89	0.00	-3.28
MW-05	2"		13.79			-			8.60	0.00		8.73	0.00	-0.13
MW-06	2"		13.04			_			8.49	0.00		8.84	0.00	-0.35
RW-01	6"		15.92			8.54			8.79	0.25	-	10.09	0.00	-1.49
RW-02	2"		14.44			-			8.03	0.00		9.62	0.00	-1.59
RW-04	6"		15.41			7.60		-	12.10	4.50		9.89	0.00	-1.17
RW-05	6"		16.40			7.81			11.60	3.79		10.36	0.00	-1.60
RW-06	6"		10.31			5.79			6.81	1.02	-	8.09	0.00	-2.05
Vacuum Tru	ick Infor		and which which is not been set			Well I	D	Bre	eather Por	Stinger Depth		Recovery/Disp	osal Informatio	n
Subcontractor:		AllV				MW- 0			(closed)	13 feet	Hvdrocarbons I	Removed (vapor):	96	pounds
Truck Operator:		Wilse				RW-0			(closed)	15 feet	Hydrocarbons I	Removed (liquid):	0	gallons
Truck No.:		149				RW-0			(closed)	15 feet	Total Hydrocar		14	equiv. gal.
Vacuum Pumps:		Beck	er			RW-0		<u> </u>	(closed)	16 feet	Molecular Weig		103	g/mole
Pump Type:			LC-4	40		RW-0			(closed)	10 feet	Disposal Facilit		Georgia Petrolei	
Tank Capacity (gal.):		2,89		то		12.14-0	0		(ciosca)	10100	Manifest Numb	·	Storgia i entitiet	****
Stack I.D. (inches)		3.0	/ T								Total Liquids R		2,573	gallons
Stack I.D. (menes)		5.0						7.4	5 4- 14.4		10tar Elquids K	cinovea.	2,315	gunons
	-				Time			/:4	5 to 14:4		· · · · · · · · · · · · · · · · · · ·	7 1		
27					mps:			2			7 hours of extract			
CEEDMAL.	RPMs						900	tank reaching it	s maximum liqui	d weight capacity	•			
	Time:													
www.ecova					1	mps:								
770-5	92-1001				RPM	ls:								

Differential Pressure and Groundwater Drawdown Data Recorded During EFR[®] Event #: 1 Date: 6/12/11 Facility Name: Building 419 Facility Address: Fort Stewart; Hinesville, Georgia

				Well Des	ignation:		
		<u>MW-04</u>	<u>RW-02</u>	<u>MW-02</u>	<u>MW-05</u>	<u>MW-06</u>	<u>MW-03</u>
Nearest Ex	straction Well:	RW-06	RW-04	RW-01	RW-05	RW-05	RW-01
Approxin	nate Distance:	22 feet	30 feet	42 feet	42 feet	55 feet	90 feet
Time	Elapsed Time		Differential Pressure Readings (inches of water):				
8:45	1.0 hr.	-0.01	-0.14	0.00	-0.01	-0.01	0.00
9:45	2.0 hrs.	-0.01	-0.14	0.00	0.00	-0.15	0.00
10:45	3.0 hrs.	-0.03	-0.15	0.00	0.00	-0.02	0.00
11:45	4.0 hrs.	-0.03	-0.15	0.00	0.00	-0.02	0.00
12:45	5.0 hrs.	-	-0.15	0.00	0.00	-0.02	0.00
13:45	6.0 hrs.	-	-0.13	0.00	0.00	-0.01	0.00
Maxim	um Change:	-0.03	-0.15	0.00	-0.01	-0.15	0.00

DIFFERENTIAL PRESSURE DATA

GROUNDWATER DRAWDOWN DATA

			W	ell Designatio	on:	
		<u>RW-02</u>	<u>MW-02</u>	<u>MW-05</u>	<u>MW-06</u>	<u>MW-03</u>
Nearest Ex	straction Well:	RW-04	RW-01	RW-05	RW-05	RW-01
Approxim	nate Distance:	30 feet	42 feet	42 feet	55 feet	90 feet
Time	Elapsed Time	Ι	Depth to Liqui	id (feet below	top of casing)):
Prior	to EFR®	8.03	8.01	8.60	8.49	7.66
14:45 7.0 hrs.		9.62	8.19	8.73	8.84	7.74
Maxim	um Change:	-1.59	-0.18	-0.13	-0.35	-0.08



The World Leader in Mobile Dual-Phase/Multi-Phase Extraction and Patented SURFAC[®]/ISCO-EFR[®]/COSOLV[®] Technologies Treatability Studies/Research & Development

August 3, 2011

Mr. Doug Hawn SpecPro Environmental 1006 Floyd Culler Court Oak Ridge, Tennessee 37830 <u>dhawn@specproenv.com</u>

Subject: Enhanced Fluid Recovery (EFR[®]) Results Event No. 2 Building 419 Fort Stewart, Georgia

Dear Mr. Hawn:

Please find attached the data summary for the second EFR[®] event conducted at the subject site on July 17, 2011. The initial EFR[®] event was conducted on June 12, 2011. The following summarizes the results of this EFR[®] event.

SUMMARY OF RESULTS

Separate-phase hydrocarbons (SPH) were detected in one monitor well (MW-04 - 0.46 feet) and four recovery wells (RW-01 - 0.05 feet, RW-04 - 2.26 feet, RW-05 - 2.59 feet, and RW-06 - 0.47 feet) prior to conducting this EFR[®] event. These SPH thicknesses are less than SPH thicknesses detected in RW-01 (0.25 feet), RW-04 (4.50 feet), RW-05 (3.79 feet), and RW-06 (1.02 feet) and greater than the SPH thickness detected in MW-04 (0.42 feet) prior to the initial event. This EFR[®] event was conducted for seven hours at five extraction points, consisting of the initial three hours of extraction at recovery wells RW-01, RW-04, RW-05, and RW-06. Monitor well MW-04 was added to the extraction array for the final four hours of this event. SPH was not detected in the extraction wells upon completion of the event.

A calculated total of 199 pounds of petroleum hydrocarbons (approximately 28 equivalent gallons of gasoline/diesel fuel) was removed during this EFR[®] event. This hydrocarbon recovery is greater than the recovery achieved during the initial event (a calculated total of 96 pounds of petroleum hydrocarbons - approximately 14 equivalent gallons of gasoline/diesel fuel).

The hydrocarbon removal rate ranged from 12 to 96 pounds per hour with a trend of decreasing removal rates throughout the event. This removal rate ranges higher than the removal rate attained during the initial event (12 to 16 pounds per hour).

Vapor concentrations ranged from 15,000 to 60,000 parts per million by volume (PPM_V) during this $EFR^{\text{(R)}}$ event, as compared to concentrations of 9,700 to 10,000 PPM_V detected during the initial event. Vapor flow rates ranged from 49 to 98 cubic feet per minute (CFM) throughout this event, as compared to flow rates of 78 to 98 measured during the initial event.

105 Weatherstone Drive, Suite 610 - Woodstock, Georgia 30188 (770) 592-1001 - Fax (770) 592-1801 www.ecovacservices.com Mr. Doug Hawn August 3, 2011 Page 2

In-well vacuums recorded during this EFR[®] event are detailed on the EFR[®] Field Data Sheet and summarized below:

Extraction Well Location	Vacuum Reading
RW-01	15 inches of mercury
RW-04	12 inches of mercury
RW-05	10 inches of mercury
RW-06	14 inches of mercury
MW-04	8 inches of mercury

Differential pressures were recorded during this event to assess the vacuum influence induced by EFR[®] in the vadose zone. The differential pressure data are detailed in the attached data table and summarized below:

Monitor Well	Maximum Change	Nearest Extraction Well (Approx. Distance)
RW-02	-0.29 inch of water	RW-04 (34 feet)
MW-05	-0.10 inch of water	RW-05 (55 feet)
MW-02	0.00 inch of water	RW-01 (58 feet)
MW-06	0.00 inch of water	RW-05 (66 feet)
MW-03	-0.05 inch of water	RW-01 (160 feet)

Groundwater levels were recorded during this event to assess the groundwater drawdown created by EFR[®]. The drawdown data are detailed in the attached table and summarized below:

Maximum Change	Nearest Extraction Well (Approx. Distance)
-0.62 feet	RW-04 (34 feet)
-0.60 feet	RW-05 (55 feet)
-0.24 feet	RW-01 (58 feet)
-0.46 feet	RW-05 (66 feet)
-0.10 feet	RW-01 (160 feet)
	-0.62 feet -0.60 feet -0.24 feet -0.46 feet

Approximately 2,600 gallons of liquid were removed during this EFR[®] event and transported to Georgia Petroleum (Valdosta, Georgia) for disposal. SPH was not detected in the vacuum truck tank upon completion of the event.

Thank you for the continued opportunity to team with SpecPro in serving the environmental needs of your clients. We look forward to working with you again in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

EcoVac Services

Jaid M. Docard

David M. Goodrich, P.G.

EFR[®] FIELD DATA SHEET

Client: SpecPro					Facil	ity Na	me:	Buildi	ng 419				Event #: 2	
Facility Address: Fort	Stewart;	Hines	sville,	Geor	gia					Technician: Wil	son		Date: 7/17/11	
Extraction Well-						Vacuum Truck Exhaust								
Extraction Well(s)	Time hh:mm				hea	d Vac in. Hg	uum g)			Concentration	Offgas	Flow	Removal Rate	Interval Removal
Start Time:	8:00	Inlet	RW-01	RW-04	RW-05	RW-06	MW-04			Concentration PPM	Velocity FT/MIN	Rate CFM	LBS/HR	LBS
RW-01,04,05,06	8:15	24	15	12	10	14	-			60,000	2,000	98	96	24
11	8:30	24	15	12	10	14	-			60,000	1,800	88	86	22
**	8:45	24	15	12	10	14	-			50,000	1,500	74	60	15
ŦŦ	9:30	24	15	12	10	14	-			40,000	1,500	74	48	36
11	10:00	24	15	12	10	14	-			30,000	1,200	59	29	14
RW-01,04,05,06; MW-04	11:00	24	15	12	10	14	8			30,000	1,200	59	29	29
79	12:00	24	15	12	10	14	8			20,000	1,200	59	19	19
11	13:00	24	15	12	10	14	8			20,000	1,000	49	16	16
11	14:00	24	15	12	10	14	8			15,000	1,000	49	12	12
11	15:00	24	15	12	10	14	8			15,000	1,000	49	12	12
Well Ga	uging Da	ata:					I	Before	EFR [®] Eve	ent		After EFR® Even	it	Corr. DTW
Well No.	Diam.	-	ГD (ft	.)	I	DTS (1	t)	D	TW (ft)	SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft)
MW-01	2"		13.71			-			7.31	0.00	-	7.41	0.00	-0.10
MW-02	2"		14.23			-			7.79	0.00	-	8.03	0.00	-0.24
MW-03	2"		13.73			-			7.49	0.00	-	7.59	0.00	-0.10
MW-04	2"		13.20)		4.42			4.88	0.46	-	6.61	0.00	-2.08
MW-05	2"		13.79)		-			8.05	0.00	-	8.65	0.00	-0.60
MW-06	2"		13.04			-			8.31	0.00	-	8.77	0.00	-0.46
RW-01	6"		15.92	2		8.41			8.46	0.05	-	11.51	0.00	-3.09
RW-02	2"		14.44			-			8.67	0.00	-	9.29	0.00	-0.62
RW-04	6"		15.41			7.79			10.05	2.26		11.63	0.00	-3.28
RW-05	6"		16.40)		7.86			10.45	2.59	-	10.56	0.00	-2.05
RW-06	6"		10.31			5.80			6.27	0.47	_	8.26	0.00	-2.34
Vacuum Tru	ick Info	rmati	on			Well I	D	Bre	ather Port	Stinger Depth		Recovery/Disp	osal Information	<u>1</u>
Subcontractor:		AllV	ac		1	MW-0	4	0	(closed)	15 feet	Hydrocarbons I	Removed (vapor):	199	pounds
Truck Operator:		Wils	on			RW-0	1	0	(closed)	15 feet	Hydrocarbons H	Removed (liquid):	0	gallons
Truck No.:		149				RW-0	4	0	(closed)	16 feet	Total Hydrocar	oons Removed:	28	equiv. gal.
Vacuum Pumps:		Beck	er			RW-0	5	0	(closed)	10 feet	Molecular Weig	ht Utilized:	103	g/mole
Pump Type:		Twin	LC-4	4s		RW-0	6	0	(closed)	13 feet	Disposal Facilit	y:	Georgia Petroleu	m
Tank Capacity (gal.):		2,89	94								Manifest Numb	er:		
Stack I.D. (inches)		3.0									Total Liquids R	emoved:	2,600	gallons
ECOVAL	ERGNAL SERVICES				RPM Time	mps: Is: e:		8:00	2 900	1		7 hours of extract d weight capacity		cuum truck
www.ecov			l			mps:								
770-592-1001 RPMs :				1S:			n an							

Differential Pressure and Groundwater Drawdown Data Recorded During EFR[®] Event #: 2 Date: 7/17/11 Facility Name: Building 419 Facility Address: Fort Stewart; Hinesville, Georgia

			W	ell Designatio	on:	
		<u>RW-02</u>	<u>MW-05</u>	<u>MW-02</u>	<u>MW-06</u>	<u>MW-03</u>
Nearest E	straction Well:	RW-04	RW-05	RW-01	RW-05	RW-01
Approxin	nate Distance:	34 feet	55 feet	58 feet	66 feet	160 feet
Time	Elapsed Time	Diff	erential Press	ure Readings	(inches of wa	ter):
9:00	1.0 hr.	-0.23	-0.09	0.00	0.00	0.00
10:00	2.0 hrs.	-0.20	-0.07	0.00	0.00	-0.03
11:00	3.0 hrs.	-0.19	-0.07	0.00	0.00	-0.03
12:00	4.0 hrs.	-0.23	-0.05	0.00	0.00	-0.05
13:00	5.0 hrs.	-0.28	-0.09	0.00	0.00	0.00
14:00	6.0 hrs.	-0.29	-0.10	0.00	0.00	0.00
Maxim	um Change:	-0.29	-0.10	0.00	0.00	-0.05

DIFFERENTIAL PRESSURE DATA

GROUNDWATER DRAWDOWN DATA

			W	ell Designatio	on:	
		<u>RW-02</u>	<u>MW-05</u>	<u>MW-02</u>	<u>MW-06</u>	<u>MW-03</u>
Nearest Ex	straction Well:	RW-04	RW-05	RW-01	RW-05	RW-01
Approxim	Approximate Distance:		55 feet	58 feet	66 feet	160 feet
Time	Elapsed Time	Ι	Depth to Liqui	id (feet below	top of casing)):
Prior	to EFR®	8.67	8.05	7.79	8.31	7.49
15:00	7.0 hrs.	9.29	8.65	8.03	8.77	7.59
Maximum Change:		-0.62	-0.60	-0.24	-0.46	-0.10

WASTE MANIFEST			1 S. Emergency Resp. 770-51	10.1110	4. Waste 7			
5. Generator's Name and Mai	1 ling Address		Generator's Site Add F+ S+ew H:ness	ress (if different,	than mailing add	CX S.C		
Generator's Phone. 6. Transporter 1 Company Ne	me				U.S. EPA IC			
AIL VAC Ser Transporter & Company Na	ruice				U.S. EPA ID	Number		
8. Designated Facility Name (U.S. EPA IC) Number		
Ga Astrokum Valdosta 6-a								
Facility's Phone.			10, C	onteiners	t1. Tatal	12. Unit		
9. Waate Shipping Na			No.	Type	Quantity	WIL/Mol		
Petroleum	Nonres ground was Hydro Carbons	er conventing.)	17	2600	6-945		
2.								
3.								
4.								
 Special Handling Instruct 	tions and Additional Information							
		bad above on this manifest are not su	sject to federal regulation	is for reporting s	roper disposal of	Hazardous V	Vasle	
14. GENERATOR'S CERTIF Generator's/Object's Printed 20 behalf of	ICATION: I certify the materials descri		nject të federai regulation Signature Marada	is for reporting ; Will	roper disposal of	Hazardous V	Vaste. Month	Day Yes 7 1(
14. GENERATOR'S CERTIF Generator's Object's Printed つつ ムモカッド ー 15. International Shipments	ICATION: I certify the materials descripted Name Spec Pro Mari Import to U.S.		Signature Mont en U.S. Port	of entry/exit:	roper disposal of	Hazardous V	WICHTIET	New Bird
14. GENERATOR'S CERTIF Generator's/Officer's Printed on behalf of 15. International Shipments Transporter Signature (for eo	ICATION: I certify the materials descrit Provide Name Spec Pro Mari Import to U.S. conts only;	KWilson 1	Signature Mont en U.S. Port	vil	roper disposal of	Hazardous V		7 11
14. GEMERATOR'S CERTIF Generator's/Offersi's Printed The Behalf of 15. International Shipments Transporter Signature (for ea 16. Transporter Acknowledg	ICATION: I certify the materials descripted Name Spec Pro Maria Import to U.S. goots analy: ment of Receipt of Materials Name	KWilson 1	Signature Months Port Date	of entry/exit:		Hazardous V	Month Month	7 1(Day Ye
14. GEMERATOR'S CERTIF Generator's/Offeror's Printed Debal Pol 15. International Shipments Transporter Signature (for es 16. Transporter Aoknowledg Transporter 1 Printed/Typed	ICATION: I certify the materials descrit Atyped Name Spec Pro Maria Import to U.B. conts only: ment of Receipt of Materials Name Son	KWilson 1	Signature Months Port Date	of entry/exit:		Hazantoos V	Month Month	7 (Day Ye (7 1)
14. GEMERATOR'S CERTIF Generator's/Officers's Protect to behalf of 15. International Shipments Transporter Signature (for ex 16. Transporter Signature (for ex 16. Transporter 1 Printed/Typed Transporter 2 Printed/Typed Transporter 2 Printed/Typed 17. Discrepancy	ICATION: I certify the materials description of the materials description of the materials description of the materials description of the materials of the mat	KWilson 1	Signature on U.S. Port Date Signature Mark U	Uil of entrylexit: + leaving U.S.		Hazardous V	Month 2 Month 2	7 (Day Ye (7 1)
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The World Leader in Mobile Dual-Phase/Multi-Phase Extraction and Patented SURFAC[®]/ISCO-EFR[®]/COSOLV[®] Technologies Treatability Studies/Research & Development

August 10, 2011

Mr. Doug Hawn SpecPro Environmental 1006 Floyd Culler Court Oak Ridge, Tennessee 37830 <u>dhawn@specproenv.com</u>

Subject: Enhanced Fluid Recovery (EFR®) Results Event No. 3 Building 419 Fort Stewart, Georgia

Dear Mr. Hawn:

Please find attached the data summary for the third EFR[®] event conducted at the subject site on August 6, 2011. Previous EFR[®] events have been conducted on June 12, 2011 and July 17, 2011. The following summarizes the results of this EFR[®] event.

SUMMARY OF RESULTS

Separate-phase hydrocarbons (SPH) were detected in one monitor well (MW-04 - 0.35 feet) and three recovery wells (RW-04 - 1.40 feet, RW-05 - 1.05 feet, and RW-06 - 0.47 feet) prior to conducting this EFR[®] event. These SPH thicknesses and/or absence of SPH are less than SPH thicknesses detected in MW-04 (0.46 feet), RW-01 (0.05 feet), RW-04 (2.26 feet), and RW-05 (2.59 feet) and equal to the SPH thickness detected in RW-06 (0.47 feet) prior to the second event. This EFR[®] event was conducted for eight hours at four extraction points, consisting of monitor well MW-04 and recovery wells RW-04, RW-05, and RW-06. SPH was not detected in the extraction wells upon completion of the event.

A calculated total of 316 pounds of petroleum hydrocarbons (approximately 48 equivalent gallons of gasoline/diesel fuel) was removed during this EFR[®] event. This hydrocarbon recovery is greater than the recovery achieved during the second event (a calculated total of 187 pounds of petroleum hydrocarbons - approximately 26 equivalent gallons of gasoline/diesel fuel) and initial event (a calculated total of 96 pounds of petroleum hydrocarbons - approximately 14 equivalent gallons of gasoline/diesel fuel).

The hydrocarbon removal rate ranged from 12 to 96 pounds per hour with a trend of decreasing removal rates throughout the event. This range of removal rates is equal to the range of removal rates attained during the second event (12 to 96 pounds per hour) and higher than the range of removal rates attained during the initial event (12 to 16 pounds per hour).

Vapor concentrations ranged from 6,000 to 60,000 parts per million by volume (PPM_V) during this EFR[®] event, as compared to concentrations of 9,700 to 60,000 PPM_V detected during previous events. Vapor flow rates ranged from 98 to 118 cubic feet per minute (CFM) throughout this event, as compared to flow rates of 48 to 98 measured during previous events.

105 Weatherstone Drive, Suite 610 - Woodstock, Georgia 30188 (770) 592-1001 - Fax (770) 592-1801 www.ecovacservices.com Mr. Doug Hawn August 10, 2011 Page 2

In-well vacuums recorded during this EFR[®] event are detailed on the EFR[®] Field Data Sheet and summarized below:

Extraction Well Location	Vacuum Reading
MW-04	14 inches of mercury
RW-04	12 inches of mercury
RW-05	10 inches of mercury
RW-06	14 to 15 inches of mercury

Differential pressures were recorded during this event to assess the vacuum influence induced by EFR[®]. The differential pressure data are detailed in the attached data table and summarized below:

Monitor Well	Maximum Change	Nearest Extraction Well (Approx. Distance)
RW-01	-1.31 inches of water	RW-04 (34 feet)
RW-02	-0.11 inch of water	RW-04 (34 feet)
RW-03	-0.54 inch of water	RW-04 (35 feet)
MW-05	-0.06 inch of water	RW-05 (55 feet)
MW-06	-0.01 inch of water	RW-05 (66 feet)

Groundwater levels were recorded during this event to assess the groundwater drawdown created by EFR[®]. The drawdown data are detailed in the attached table and summarized below:

Monitor Well	Maximum Change	Nearest Extraction Well (Approx. Distance)
RW-01	-1.59 feet	RW-04 (34 feet)
RW-02	-0.69 feet	RW-04 (34 feet)
RW-03	-0.95 feet	RW-04 (35 feet)
MW-05	-0.92 feet	RW-05 (55 feet)
MW-06	-0.52 feet	RW-05 (66 feet)

Approximately 2,494 gallons of liquid were removed during this EFR[®] event and transported to Georgia Petroleum (Valdosta, Georgia) for disposal. SPH was not detected in the vacuum truck tank upon completion of the event.

Thank you for the continued opportunity to team with SpecPro in serving the environmental needs of your clients. We look forward to working with you again in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

EcoVac Services

id M. Dodril

David M. Goodrich, P.G.

EFR[®] FIELD DATA SHEET

Client: SpecPro					Facil	ity Naı	ne: I	Buildi	ng 419				Event #: 3	
Facility Address: Fort	Stewart:	Hines	sville.	Geor	gia					Technician: Wil	son		Date: 8/6/11	
					COLUMN THE OWNER	ction V	Well-	ALC MAN LOUD			Va	cuum Truck Exh	aust	
Extraction Well(s)	Time hh:mm		4		hea	d Vacu in. Hg	um			Concentration	Offgas Velocity	Flow Rate	Removal Rate	Interval Removal
Start Time:	9:00	Inlet	MW-04	RW-04	RW-05	RW-06				РРМ	FT/MIN	CFM	LBS/HR	LBS
MW-04;RW-04,05,06	9:15	25	14	12	10	15				56,000	2,000	98	89	22
"	9:30	25	14	12	10	15				56,000	2,000	98	89	22
"	9:45	25	14	12	10	15				60,000	2,000	98	96	24
11	10:00	25	14	12	10	15				54,000	2,200	108	95	24
"	10:30	25	14	12	10	15				48,000	2,200	108	84	42
"	11:00	25	14	12	10	15				32,000	2,200	108	56	28
"	12:00	25	14	12	10	14				28,000	2,200	108	49	49
"	13:00	25	14	12	10	14				20,000	2,200	108	35	35
"	14:00	25	14	12	10	14				12,000	2,400	118	23	23
"	15:00	25	14	12	10	14				10,000	2,400	118	19	19
"	16:00	25	14	12	10	14				8,000	2,400	118 118	15	15
	17:00	25	14	12	10	14			EED [®] E	6,000	2,400	After EFR [®] Even	Concerning the second s	Corr. DTW
	uging Da	COLUMN DO NOT				TC (0		1000	EFR [®] Eve			DTW (ft)	SPH (ft)	Corr. DTw Change (ft)
Well No.	Diam.	Contraction of the	TD (ft	NUMBER OF TAXABLE		DTS (ft)	D	TW (ft)	SPH (ft)	DTS (ft)	นี้สามออกสามออกสามออกสามออกสามออกสามออกสามออกสามออกสามออกสามออกสามออกสามออกสามออกสามออกสามออกสามออกสามออกสามออ		and the second se
MW-01	2"		13.71			-			7.26	0.00		7.54	0.00	-0.28
MW-02	2"		14.23			-			7.62	0.00		7.76	0.00	-0.14
MW-03	2"		13.73			-			8.86	0.00		8.88	0.00	-0.02
MW-04	2"		13.2			4.59			4.94	0.35	-	7.47	0.00	-2.79
MW-05	2"		13.79			-			8.06	0.00	-	8.98	0.00	-0.92
MW-06	2"		13.04						8.35	0.00	-	8.87	0.00	-0.52
RW-01	6"		15.92			-			8.05	0.00	-	9.64	0.00	-1.59
RW-02	2"		14.44						8.70	0.00	-	9.39	0.00	-0.69
RW-03	2"					-			8.48	0.00	-	9.43	0.00	-0.95
RW-04	6"		15.41			7.99			9.39	1.40	-	11.56	0.00	-3.22
RW-05	6"		16.4			8.04			9.09	1.05	-	10.98	0.00	-2.68
RW-06	6"		10.31			5.96			6.43	0.47	-	8.99	0.00	-2.91
Vacuum Tr	uck Info	rmati	on	11		Well II	2	Bre	ather Port	Stinger Depth		Recovery/Disp	osal Informatio	<u>n</u>
Subcontractor:		AllV	ac]	MW-04	4	0	(closed)	7 feet	Hydrocarbons F	Removed (vapor):	316	pounds
Truck Operator:		Kess	ler			RW-01	l	0	(closed)	10 feet	Hydrocarbons F	Removed (liquid):	0	gallons
Truck No.:		151				RW-04	1	0	(closed)	11 feet	Total Hydrocarl	oons Removed:	48	equiv. gal.
Vacuum Pumps:		Beck	er			RW-05	5	0	(closed)	10.5 feet	Molecular Weig	ht Utilized:	103	g/mole
Pump Type:		Twir	LC-4	14s		RW-06	5	0	(closed)	8 feet	Disposal Facilit	y:	Georgia Petroleu	ım
Tank Capacity (gal.):		2,89									Manifest Numb	er:	1518611 - 2427	74
Stack I.D. (inches)		3.0									Total Liquids R		2,494	gallons
	~				Time	a:		9.0	0 to 17:00	1				
						mps:		2.0	2	-				
2			>		1				1,000	-				
CERTIFICATE.	Tarearean	Artion	2		RPN				1,000	-				
					Tim									
www.ecov			1		1	mps:								
770-:	592-1001				RPN	1s:		A A A A A A A A A A A A A A A A A A A						

Differential Pressure and Groundwater Drawdown Data Recorded During EFR[®] Event #: 3 Date: 8/6/11 Facility Name: Building 419 Facility Address: Fort Stewart; Hinesville, Georgia

			١	Well Designation	1:				
		<u>RW-01</u>	<u>RW-02</u>	<u>RW-03</u>	<u>MW-05</u>	<u>MW-06</u>			
Nearest Ex	xtraction Well:	RW-04	RW-04	RW-04	RW-05	RW-05			
Approxin	nate Distance:	34 feet	34 feet	35 feet	55 feet	66 feet			
Time	Elapsed Time		Differential Pressures (inches of water):						
10:00	1.0 hr.	-1.22	-0.09	-0.50	-0.02	0.00			
11:00	2.0 hrs.	.0 hrs1.31 -0.11 -0.54		-0.06	0.00				
12:00	3.0 hrs.	-1.15	-1.15 -0.06 -0.48		-0.05	0.00			
13:00	4.0 hrs.	-1.11	-0.03	-0.48	-0.02	0.06			
14:00	5.0 hrs.	-1.15	-0.05	-0.50	-0.02	0.00			
15:00	6.0 hrs.	-1.17	-0.07	-0.52	-0.03	-0.01			
16:00	7.0 hrs.	-1.18	-0.08	-0.54	-0.05	0.00			
Maxim	um Change:	-1.31	-0.11	-0.54	-0.06	-0.01			

DIFFERENTIAL PRESSURE DATA

GROUNDWATER DRAWDOWN DATA

			7	Vell Designation	1:		
		<u>RW-01</u>	<u>RW-02</u>	<u>RW-03</u>	<u>MW-05</u>	<u>MW-06</u>	
Nearest Ex	traction Well:	RW-04	RW-04	RW-04	RW-05	RW-05	
Approxim	nate Distance:	34 feet	34 feet	35 feet	55 feet	66 feet	
Time	Elapsed Time		Depth to Liquid (feet below top of casing):				
Prior	to EFR [®]	8.05	8.70	8.48	8.06	8.35	
17:00			9.39	9.43	8.98	8.87	
Maxim	um Change:	-1.59	-0.69	-0.95	-0.92	-0.52	

CUMULATIVE EFR[®] DATA TABLE Building 419 Fort Stewart, Georgia

	6/12/2011	7/17/2011	8/6/2011
SPH Thickness (ft.) MW-04	0.42	0.46	0.35
SPH Thickness (ft.) RW-01	0.25	0.05	0.00
SPH Thickness (ft.) RW-04	4.50	2.26	1.40
SPH Thickness (ft.) RW-05	3.79	2.59	1.05
SPH Thickness (ft.) RW-06	1.02	0.47	0.47
Liquid Removed/Event (Gal.)	2,573	2,578	2,494
Cumulative Liquid Removed (Gal.)	2,573	5,151	7,645
Pounds Removed/Event	96	187	316
Cumulative Pounds Removed	96	283	599
Equiv. Gal. Gasoline Removed/Event	14	26	48
Cumulative Equiv. Gal. Removed	14	40	88



	NON-HAZARDOUS WASTE MANIFEST	1. Generator's U	JS EPA ID No.	Manifest Document No.	2. Pag of		8.6	24274	
	Generator's Name and Mailing Address US ARMY - FT STEWART 1557 FRANK COCHRAN DR ET STEWART GA 31314 Sen arater stationer (912 676-2010		34-016	anna an			(¥1—	29219	
	Fransporter 1 Company Name	F]	6. US EP	A ID No.	A. Trar	sporter's	Phone	F	
	ECO VAC SERVICES		<u> </u>	4) <u>5 5 4 5 1</u>	L	770-5			
7.3	Fransporter 2 Company Name		1	A ID No.	B. Irar	isporter's	Phone		
9, 1	Designated Facility Name and Site Addre Georgia Petroleum, Ir 1620 James P. Rodgers Valdosta, Georgia 316	nc. Drive		A ID No. 31222433	C. Fac	ility's Pho 22	Phone 229-244-9110 Containers 13 Total 0. Type Quantity 1 TT 2,494		
11.	Waste Shipping Name and Description		E			12. Con No.	1	Entral	U. Wb
8.		(1979) 1972 1973 1973 1974 1974 1974 1974 1974 1974 1974 1974					-		
b.	WASTE WATER, DOT & RCR/	A NON-REGUL	ATED			1		2,494	GA
C.						2 3		0 E 7 1	
	Additional Descriptions for Materials List API V CHLOR Special Handling Instructions and Addit In the ever	tional Information	BSW	29-244-9110	Mon	- Fri	odes for 8-5	Waste Listed A	bove
D. 15	API V CHLOR Special Handling Instructions and Addit In the ever	/IS tional Information ht of an eme	rgency call 2	29-244-9110	Mon	- Fri ROS	8-5 S 249 BSW T 249	Waste Listed A Waste Listed A 0 94	
D. 15	API V CHLOR V . Special Handling Instructions and Addit	/IS tional Information ht of an eme	rgency call 2	29-244-9110	Mon	- Fri ROS	8-5 S 249 BSW T 249	Waste Listed A Waste Listed A 0 94 0 94	Vagto
D. 15	API V CHLOR V Special Handling Instructions and Addit In the even	/IS tional Information nt of an eme	rgency call 2	29-244-9110	Mon	- Fri ROS	8-5 S 249 BSW T 249	Waste Listed A Waste Listed A 0 94 0 94	Vagto
D. 15	API V CHLOR V Special Handling Instructions and Addit In the even In the even GENERATOR'S CERTIFICATION: 1 cent Printed/Typed Name Transporter 1 Acknowledgement of Be Arthread/Typed Name Arthread/Typed Name	TIS tional Information int of an eme the the meterials describe costpt of Materials	rgency call 2	29-244-9110	Mon	- Fri ROS	8-5 S 249 BSW T 249	Waste Listed A Waste Listed A 0 34 0 34 Month /	Vasie Geor 1
D. 15	API V CHLOR V Special Handling Instructions and Addit In the even In the even Chined/Typed Name	TIS tional Information int of an eme the the meterials describe costpt of Materials	rgency call 2 d above on the manifest ar Signature	29-244-9110	Mon	- Fri ROS	8-5 S 249 BSW T 249	Waste Listed A Waste Listed A 0 34 0 34 Month 0 8 Month 0 8 C	Vaste. Day)
	APIV CHLOR Special Handling Instructions and Addit In the even In the even GENERATOR'S CERTIFICATION: 1 cert Printed/Typed Name C. Transporter 1 Acknowledgement of Re Printed/Typed Name S. Transporter 2 Acknowledgement of Re Printed/Typed Name D. Discrepancy Indication Space	TIS tional Information Int of an eme the materials describe resipt of Materials William Ke weipt of Materials	rgency call 2 d above on the manifest an Signature 25.5 ler Signature Signature	29-244-9110	Mon G	- Fri i ROS: NE	ades for 8-5 S 249 BSW T 249	Waste Listed A Waste Listed A 0 94 0 94 Month 0 8 Month 0 8 C Month	Vaste Clay
	API V CHLOR V Special Handling Instructions and Addit In the even In the even CHLOR In the even In the	TIS tional Information Int of an eme the materials describe resipt of Materials William Ke weipt of Materials	rgency call 2 d above on the manifest an Signature 25.5 ler Signature Signature	29-244-9110	Mon G	- Fri i ROS: NE	ades for 8-5 S 249 BSW T 249	Waste Listed A Waste Listed A 0 94 0 94 Month 0 8 Month 0 8 C Month	Vaste Clay

Appendix E

Soil and Groundwater Analytical Results

SDG	: 1104178	Pro	ject:	FTC Bldg 419
Meth	od: Semivolatiles 82700	C Ma	trix/No	. Samples: Water7
Valio	lation Samples: MW-03-03 MW-02-02 MW-01-01	MW-05-05 MW-05-059 MW-06-06	MW-	-04-04
	Data	Validation Rep	ort Sur	nmary
		Status Code		Comments
1.	Sample Preservation, Handling, and Transport	4		
2.	Chain of Custody	<u>A</u>		
3.	Holding Times	Ą		
4.	GC/MS Tune/Inst Perf	A		51
5.	Calibrations	A		
6.	Blanks	X		
7.	Blank Spike/LCS	Д		
8.	Matrix Spike	A		See comment # 1
9.	Surrogates	X		
10.	Internal Standards	Ą		
11.	Compound Identification	<u> </u>		
12.	System Performance	A		
13.	Field QC Samples	×		
14.	Overall Assessment	Χ		
:	Status Codes:			

- Status Codes:
- A = Acceptable

R = Data RejectedX = Data acceptable but qualified due to problems

Qualifications:

7a . Low surrogabe recoveries à samples mu-03-03, MW-02-02 ad. mw-04-04 resulted in "us/s" qualifiers - this was due to the presence of some matrix interference - the laboraton noted the formation of an emulsion during the prep phase For these 3 samples.

6c. The presence of 1-methy inaphthalene & 2-methy naphthale the vinsate blanks resulted """ quelifiers for th Z cpds in sample mw-04-04

Significant Findings/Recommendations:

benzo (a) anthracene had a low ms recommy, the msD recovery as well as the LCS recovery was acceptable - no guals were 41 Veguined.

Overall Data Quality:

e as guelifoed. Accepto Mmcs K Validator's Signature:_ Date: 5 3 2011 NS

MW-03-03

Laboratory:	Empirical Laboratories,	LLC	٤	SDG:	<u>1104178</u>			
Client:	SES, Inc. (S750)		I	Project:	FTS UST 2008-	-2010		
Matrix:	Ground Water	Laboratory ID:	<u>1104178-</u>	<u>-01</u>	File ID:	<u>0417801.D</u>		
Sampled:	04/12/11 09:40	Prepared:	<u>04/18/11</u>	<u>1 14:45</u>	Analyzed:	04/24/11 02:45		
Solids:	 The second s	Preparation:	EXT_35	510	Dilution:	1		
Batch:	1D16012 Seque		1	Calibration:	<u>1112002</u>	Instrument:	MS-BNA4	
CAS NO.	COMPOUND		1	ONC. (ug/L)	MDL	MRL	Q	Rev Que UJ 79
83-32-9	Acenaphthene				0.0463	0.185	U	UJ 79
208-96-8	Acenaphthylene				0.0463	0.185	U	
120-12-7	Anthracene				0.0463	0.185	U	
56-55-3	Benzo(a)anthracene				0.0463	0.185	U	
50-32-8	Benzo(a)pyrene	Andth All Marcoland			0.0463	0.185	U	
205-99-2	Benzo(b)fluoranthene				0.0463	0.185	U	
191-24-2	Benzo(g,h,i)perylene	17.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.			0.0463	0.185	U	
207-08-9	Benzo(k)fluoranthene				0.0463	0.185	U	
218-01-9	Chrysene				0.0463	0.185	U	
53-70-3	Dibenz(a,h)anthracene				0.0463	0.185	U	
206-44-0	Fluoranthene				0.0463	0.185	U	
86-73-7	Fluorene				0.0463	0.185	U	
193-39-5	Indeno(1,2,3-cd)pyrene				0.0463	0.185	U	
90-12-0	1-Methylnaphthalene				0.0463	0.185	U	
91-57-6	2-Methylnaphthalene				0.0463	0.185	U	
91-20-3	Naphthalene				0.0463	0.185	U	
85-01-8	Phenanthrene				0.0463	0.185	U	AL
129-00-0	Pyrene			0.0563	0.0463	0.185	J	370
SYSTEM MON	NITORING COMPOUND	ADDE	D (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
2-Fluorobipheny	vl	46.	.30	15.38	33.2	34 - 167	*	
Terphenyl-d14		46.	.30	6.514	14.1	34 - 167	*	

MW-02-02

Laboratory:	Empirical Laboratories, L	<u>.LC</u>	S	SDG:	<u>1104178</u>			
Client:	SES, Inc. (S750)		F	Project:	FTS UST 2008	-2010		
Matrix:	Ground Water	Laboratory ID:	<u>1104178-</u>	02	File ID:	0417802.D		
Sampled:	04/12/11 09:40	Prepared:	04/18/11	14:45	Analyzed:	04/24/11 03:10		
Solids:		Preparation:	EXT 35	10	Dilution:	1		
Batch:	1D16012 Sequen		(Calibration:	<u>1112002</u>	Instrument:	MS-BNA4	
CAS NO.	COMPOUND		C	ONC. (ug/L)	MDL	MRL	Q	Revan
83-32-9	Acenaphthene				0.0472	0.189	U	Rev 24 45 79
208-96-8	Acenaphthylene				0.0472	0.189	Ŭ	4
120-12-7	Anthracene				0.0472	0.189	U	
56-55-3	Benzo(a)anthracene				0.0472	0.189	U	
50-32-8	Benzo(a)pyrene				0.0472	0.189	U	
205-99-2	Benzo(b)fluoranthene			10-00	0.0472	0.189	U	
191-24-2	Benzo(g,h,i)perylene				0.0472	0.189	U	
207-08-9	Benzo(k)fluoranthene				0.0472	0.189	U	
218-01-9	Chrysene		A SALAR		0.0472	0.189	U	
53-70-3	Dibenz(a,h)anthracene				0.0472	0.189	U	
206-44-0	Fluoranthene				0.0472	0.189	U	
86-73-7	Fluorene				0.0472	0.189	U	
193-39-5	Indeno(1,2,3-cd)pyrene				0.0472	0.189	U	
90-12-0	I-Methylnaphthalene				0.0472	0.189	U	
91-57-6	2-Methylnaphthalene				0.0472	0.189	U	
91-20-3	Naphthalene				0.0472	0.189	U	
85-01-8	Phenanthrene				0.0472	0.189	U	
129-00-0	Pyrene				0.0472	0.189	U	V
SYSTEM MON	NITORING COMPOUND	ADDEI	D (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
2-Fluorobiphen	vl	47.	17	8.605	18.2	34 - 167	*	
Terphenyl-d14		47.	17	4.670	9.90	34 - 167	*	

MW-01-01

Laboratory:	Empirical Laboratories.	LLC	5	SDG:	1104178			
Client:	SES, Inc. (S750)		1	Project:	FTS UST 2008	-2010		
Matrix:	Ground Water	Laboratory ID:	<u>1104178</u> .	03	File ID:	0417803.D		
Sampled:	04/12/11 12:10	Prepared:	04/18/11	14:45	Analyzed:	04/24/11 03:35		
Solids:		Preparation:	EXT 35		Dilution:	1		
		57 					MC DNIAA	PAI
Batch:	<u>1D16012</u> Sequ	ence: <u>1D11510</u>		Calibration:	1112002	Instrument:	MS-BNA4	BW,
CAS NO.	COMPOUND		C	ONC. (ug/L)	MDL	MRL	Q	Jud
83-32-9	Acenaphthene				0.0463	0.185	U	u u
208-96-8	Acenaphthylene				0.0463	0.185	U	
120-12-7	Anthracene				0.0463	0.185	U	
56-55-3	Benzo(a)anthracene				0.0463	0.185	U	
50-32-8	Benzo(a)pyrene				0.0463	0.185	U	
205-99-2	Benzo(b)fluoranthene				0.0463	0.185	U	
191-24-2	Benzo(g,h,i)perylene				0.0463	0.185	U	
207-08-9	Benzo(k)fluoranthene				0.0463	0.185	U	
218-01-9	Chrysene				0.0463	0.185	U	
53-70-3	Dibenz(a,h)anthracene				0.0463	0.185	U	
206-44-0	Fluoranthene				0.0463	0.185	U	
86-73-7	Fluorene				0.0463	0.185	U	
193-39-5	Indeno(1,2,3-cd)pyrene				0.0463	0.185	U	
90-12-0	1-Methylnaphthalene				0.0463	0.185	U	
91-57-6	2-Methylnaphthalene				0.0463	0.185	U	
91-20-3	Naphthalene				0.0463	0.185	U	
85-01-8	Phenanthrene				0.0463	0.185	U	
129-00-0	Pyrene				0.0463	0.185	U	*
SYSTEM MO	NITORING COMPOUND	ADDEI	D (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
2-Fluorobipher	iyl	46.	30	18.51	40.0	34 - 167		
Terphenyl-d14		46.	30	20.49	44.3	34 - 167		

MW-05-05

.aboratory:	Empirical Laboratories, I	<u>_LC</u>	5	SDG:	<u>1104178</u>			
lient:	SES, Inc. (S750)		I	Project:	FTS UST 2008	3-2010		
Matrix:	Ground Water	Laboratory ID:	<u>1104178-</u>	<u>04</u>	File ID:	<u>0417804.D</u>		
Sampled:	04/12/11 14:25	Prepared:	04/18/11	14:45	Analyzed:	04/24/11 03:59		
Solids:		Preparation:	EXT 35	10	Dilution:	Ĩ		
Batch:	1D16012 Sequer		(Calibration:	1112002	Instrument:	MS-BNA4	Rev
CAS NO.	COMPOUND		C	ONC. (ug/L)	MDL	MRL	Q	Qui
83-32-9	Acenaphthene				0.0463	0.185	U	ü
208-96-8	Acenaphthylene				0.0463	0.185	U	1
120-12-7	Anthracene				0.0463	0.185	U	
56-55-3	Benzo(a)anthracene				0.0463	0.185	U	
50-32-8	Benzo(a)pyrene				0.0463	0,185	U	
205-99-2	Benzo(b)fluoranthene				0.0463	0.185	U	
191-24-2	Benzo(g,h,i)perylene				0.0463	0.185	U	
207-08-9	Benzo(k)fluoranthene				0.0463	0.185	U	
218-01-9	Chrysene				0.0463	0.185	U	
53-70-3	Dibenz(a,h)anthracene				0.0463	0.185	U	
206-44-0	Fluoranthene				0.0463	0.185	U	
86-73-7	Fluorene				0.0463	0.185	U	
193-39-5	Indeno(1,2,3-cd)pyrene				0.0463	0.185	U	
90-12-0	I-Methylnaphthalene				0.0463	0.185	U	
91-57-6	2-Methylnaphthalene				0.0463	0.185	U	
91-20-3	Naphthalene				0.0463	0.185	U	
85-01-8	Phenanthrene				0.0463	0.185	U	
129-00-0	Pyrene				0,0463	0.185	U	¥
SYSTEM MO	NITORING COMPOUND	ADDEI	D (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
2-Fluorobipher	iyl	46.	30	29.80	64.4	34 - 167		
Terphenyl-d14		46.	30	39.57	85.5	34 - 167		

MW-05-059

.aboratory:	Empirical Laboratories, I	<u>.LC</u>	S	SDG:	<u>1104178</u>			
lient:	SES, Inc. (S750)		F	Project:	FTS UST 2008-	-2010		
Aatrix:	Ground Water	Laboratory ID:	1104178-	<u>05</u>	File ID:	0417805.D		
Sampled:	04/12/11 14:25	Prepared:	04/18/11	14:45	Analyzed:	04/24/11 04:25		
Solids:		Preparation:	EXT 35	10	Dilution:	1		
Batch:	1D16012 Seque			Calibration:	1112002	Instrument:	MS-BNA4	Re
CAS NO.	COMPOUND	and the state of the	C	DNC. (ug/L)	MDL	MRL	Q	120
83-32-9	Acenaphthene				0.0467	0.187	U	
208-96-8	Acenaphthylene				0.0467	0.187	U	
120-12-7	Anthracene				0.0467	0.187	U	
56-55-3	Benzo(a)anthracene				0.0467	0.187	U	
50-32-8	Benzo(a)pyrene	1.000000			0.0467	0.187	U	
205-99-2	Benzo(b)fluoranthene				0.0467	0.187	U	
191-24-2	Benzo(g,h,i)perylene				0.0467	0.187	U	î
207-08-9	Benzo(k)fluoranthene				0.0467	0,187	U	
218-01-9	Chrysene				0.0467	0.187	U	
53-70-3	Dibenz(a,h)anthracene				0.0467	0.187	U	
206-44-0	Fluoranthene				0.0467	0.187	U	
86-73-7	Fluorene				0.0467	0.187	U	_
193-39-5	Indeno(1,2,3-cd)pyrene				0.0467	0.187	U	
90-12-0	1-Methylnaphthalene				0.0467	0.187	U	
91-57-6	2-Methylnaphthalene				0.0467	0.187	U	_
91-20-3	Naphthalene				0.0467	0.187	U	
85-01-8	Phenanthrene				0.0467	0.187	U	_
129-00-0	Pyrene				0.0467	0.187	U	
SYSTEM MC	ONITORING COMPOUND	ADDEI	D (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
2-Fluorobiphe	enyl	46.	73	29.66	63.5	34 - 167		
Terphenyl-d1	4	46.	73	43.52	93.1	34 - 167		

MW-06-06

Laboratory:	Empirical Laboratories	LLC	5	SDG:	1104178			
Client:	SES, Inc. (S750)		I	Project:	FTS UST 2008	-2010		
Matrix:	Ground Water	Laboratory ID:	1104178-	<u>.06</u>	File ID:	<u>0417806.D</u>		
Sampled:	04/12/11 14:50	Prepared:	04/18/11	14:45	Analyzed:	04/24/11 04:49		
Solids:		Preparation:	EXT 35		Dilution:	L		
		22 					MC DNA4	Re
Batch:	<u>1D16012</u> Sequ	ence: <u>1D11510</u>		Calibration:	1112002	Instrument:	MS-BNA4	Rev Qu
CAS NO.	COMPOUND		C	ONC. (ug/L)	MDL	MRL	Q	qu
83-32-9	Acenaphthene				0.100	0.400	U	n
208-96-8	Acenaphthylene				0.100	0.400	U	
120-12-7	Anthracene				0.100	0.400	U	
56-55-3	Benzo(a)anthracene				0.100	0.400	N. U	
50-32-8	Benzo(a)pyrene				0.100	0.400	U	
205-99-2	Benzo(b)fluoranthene				0,100	0.400	U	
191-24-2	Benzo(g,h,i)perylene				0,100	0.400	N, U	
207-08-9	Benzo(k)fluoranthene				0.100	0.400	U	
218-01-9	Chrysene				0.100	0.400	U	
53-70-3	Dibenz(a,h)anthracene				0.100	0.400	N, U	
206-44-0	Fluoranthene			2.55	0.100	0.400	U	
86-73-7	Fluorene				0.100	0.400	U	
193-39-5	Indeno(1,2,3-cd)pyrene				0.100	0.400	N, U	
90-12-0	1-Methylnaphthalene				0.100	0.400	U	
91-57-6	2-Methylnaphthalene				0.100	0.400	U	
91-20-3	Naphthalene				0.100	0.400	U	
85-01-8	Phenanthrene				0,100	0.400	U	
129-00-0	Pyrene				0.100	0.400	U	V
SYSTEM MON	NITORING COMPOUND	ADDEI	O(ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
2-Fluorobiphen	yl	100	0.0	69.62	69.6	34 - 167		
Terphenyl-d14		100	0.0	78.97	79.0	34 - 167		

MW-04-04

Laboratory:	Empirical Laboratories, L	LLC	1	SDG:	1104178			
Client:	SES, Inc. (\$750)		7	Project:	<u>FTS UST 2008</u>	-2010		
Matrix:	Ground Water	Laboratory ID:	<u>1104178</u> -	<u>-07</u>	File ID:	0417807.D		
Sampled:	04/12/11 16:40	Prepared:	<u>04/18/11</u>	1 14:45	Analyzed:	04/24/11 06:04		
Solids:		Preparation:	EXT 35		Dilution:	1		
Batch:	1D16012 Sequen		878	Calibration:	<u>1112002</u>	- Instrument:	MS-BNA4	Rev 0
CAS NO.	COMPOUND			ONC. (ug/L)	MDL	MRL	Q	Quel
83-32-9	Acenaphthene				0.0463	0.185	Ŭ	45 7
208-96-8	Acenaphthylene				0.0463	0.185	U	L
120-12-7	Anthracene				0.0463	0.185	U	
56-55-3	Benzo(a)anthracene				0.0463	0,185	U	
50-32-8	Benzo(a)pyrene				0.0463	0.185	U	
205-99-2	Benzo(b)fluoranthene				0.0463	0.185	U	
191-24-2	Benzo(g,h,i)perylene				0.0463	0.185	U	
207-08-9	Benzo(k)fluoranthene		10000		0.0463	0.185	U	
218-01-9	Chrysene				0.0463	0.185	U	
53-70-3	Dibenz(a,h)anthracene				0.0463	0.185	U	
206-44-0	Fluoranthene				0.0463	0.185	U	
86-73-7	Fluorene				0.0463	0.185	U	
193-39-5	Indeno(1,2,3-cd)pyrene				0.0463	0.185	U	V.
90-12-0	I-Methylnaphthalene			0.414	0.0463	0.185		u 6
91-57-6	2-Methylnaphthalene			0.110	0.0463	0.185	J	u 6
91-20-3	Naphthalene				0.0463	0.185	U	457
85-01-8	Phenanthrene				0.0463	0.185	U	457
129-00-0	Pyrene			0.139	0.0463	0.185	J	57
SYSTEM MON	NITORING COMPOUND	ADDEJ	D (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
2-Fluorobipheny	vl	46.1	.30	7.022	15.2	34 - 167	*	
Terphenyl-d14		46.		2.250	4.86	34 - 167	*	

Reviewer	r: <u> </u>	tchings		Date: 5 3			
Project:_	FTC	-419 SDG: 110	4178	Matrix/No. Samples:	W-7		
Ι.	Technica	al Holding Times					
	А.	Sample Preservation, Handling	g and Transport				
		1. Have all samples been preserv	ved correctly?		Yes	No	N/A
		2. Have sample temperatures been	en kept at 4° C (+ c	or - 2 °)?	ves	No	N/A
	8	3. Were all samples received in p	proper condition?		Yes	No	N/A
	1	4. Were any qualifications require	red based on this i	nformation?	Yes	Nog	N/A
	Coolers	@ 2.5,4.0				\bigcirc	
	В.	Chain of Custody					
		1. Were all samples properly rec	corded on COCs?		Yes	No	N/A
	ŝ	2. Were correct analyses perform	ned on samples?		Yes	No	N/A
	C.	Holding Times					
		1. Were samples extracted and a	nalyzed within acc	ceptable holding times?	Yes	No	N/A
	5	2. Were any qualifications require	red based on this i	nformation?	Yes	No	N/A
	SA	AMPLED	PREPPEI	D	ANALYZ	ZED ZED	
		4/12	4/18		4/24		
II.	GC/MS	Instrument Performance Check	k				
	1. Were	instrument performance check sa	amples run for each	1 analysis period?	Yes	No	N/A
	2. Were	ion abundance criteria met for D'	TFPP analysis?		Ves	No	N/A
	3. Do la	boratory forms match raw data?			Yes	No	(N/A)
	and a second sec	any qualifications required based	l on this informatic	on?	Yes	No	N/A
Comm	ents/Quali	fications:				\bigcirc	
	IC	CAL 4/19/14:38		CCAL 4/246	2 00:20		
		all criteria met.					
		all criteria mot.			ß		

1

Reviewer	Kitchings Date: 53			
Project:_	<u>FTC-419</u> SDG: 1104178 Matrix/No. Samples: <u>u</u>	0-7		
111.	Initial Calibration			
	1. Were correct concentrations of standards used for initial calibration? Were sample analyzed within 12 hours of associated instrument performance check?	s Yes	No	N/A
	2. Were initial calibration RRFs for all volatile target compounds and system monitoring compounds $>$ or = 0.05? Do recalculations for RRFs agree with reported values?	Yes	No	N/A
	3. Were $%RSDs < or = 30\%$ for all volatile target compounds? Do recalculations for RSDs agree with reported values?	r <u>Ves</u>	No	N/A
	4. Were any qualifications required based on this information?	Yes	(No)	N/A
RRI	Comments/Qualifications: 950 02592 176 742 176 176 1742 176 176 176 176 1160 1160 1160 1160 1160 1160 176 176 166 1160 160 166 176 1742 166 1160 1762 166 1760 1789 5 1760 1782 96 1820 372 372	0786	= 18/	\$
F	- SPS. 1104 . 728 / 292			
IV.	Continuing Calibration '843 / 1.898/9	41/8		
	1. Were continuing calibration samples run at the required frequency, and compared to the correct initial calibration?	e Ves	No	N/A
	2. Did calculations from raw data agree with laboratory reported values for RRF and %D?	Yes	No	N(A)
	3. Were continuing calibration RRFs for volatile organic compounds and system monitoring compounds (surrogates) > or = 0.05 ?	n Yes	No	N/A
	4. Were %D between initial calibration RRF and the continuing calibration RRFs within + or - 25%?	Yes	No	N/A
	5. Were any qualifications required based on this information?	Yes	(No)	N/A
	Comments/Qualifications: 4/24 Acempt. $0.817 - 0.713 = 12.726\sqrt{202}.Fluorene. 0.807 - 0.7710.807 = 4.526$			

1

Reviewer	: <u>Kitchings</u> Date: <u>5/3</u>			
roject:_	FTC-419 SDG: 1104178 Matrix/No. Samples: 6	-7		
v.	Blanks			
	1. Were any target or non-target compounds reported in laboratory prep or calibration blanks?	Yes	No	N/A
	2. Were method blank analyses performed at required frequency, and for each GC/MS system used to analyze samples for each type of analysis (i.e., matrix)?	Yes	No	N/A
	3. Were any qualifications required based on this information?	Yes	(No)	N/A
	Comments/Qualifications: 434k. 16012 421 - 416			
VI.	System Monitoring Compounds (Surrogate Spikes)			
	1. Were laboratory surrogate recoveries calculated and reported correctly?	(Yes)	No	N/A
	2. Were surrogate recoveries within acceptable limits?	Yes	(No)	N/A
	3. Were any qualifications required based on surrogate spike QC information?	(Yes)	No	N/A
8-6	Comments/Qualifications: -03 -02 -02 -02 +u3/3 -04			
VII.	Matrix Spikes/Matrix Spike Duplicates	2.52		
Ŵ.	1. Were MS/MSD samples analyzed at required frequency for each ample matrix?	Yes	No	N/A
	2. Were MS/MSD results for recovery and RPD within advisory limits?	Yes	(No)	N/A
	3. Were Samples used for MS/MSD field blanks?	Yes	No	N/A
	4. Were laboratory reported results correctly calculated from raw data?	Yes	No	NA
	5. Were any qualifications required, based on results of MS/MSD samples in conjunction with other QC information?	Yes	No	N/A
17- 18-	• • • • • • • • • • • • • • • • • • • •	= 22.0	61.5% 77.2 %	

Reviewer:	Kitchings Date: 5/3										
Project:	<u>FTC-419</u> SDG: 1104178 Matrix/No. Samples: W.	.7	-								
VIII.	Laboratory Control Sample (LCS)										
	1. Were LCS samples run at correct frequency for each matrix samples?	Yes	No	N/A							
	2. Were LCS calculations performed correctly, and did laboratory reported values match raw data? Were recoveries within laboratory QC limits?	Yes	No	N/A							
	4. Were any qualifications required based on LCS data in conjunction with other QC information?	Yes	No	N/A							
18-0	Comments/Qualifications: $b(0) pyrese \frac{.8648}{1.000} = 86.526$ 70,5 - 129.0										
	phenanth										
IX.	Internal Standards										
	1. Were standard area counts within a factor of two (-50% to +100%) from associated calibration standard?	Yes	No	N/A							
	2. Were retention times of internal standard within + or - 30 seconds of retention time of associated calibration check?	Yes	No	N/A							
	3. Were any qualifications required based on internal standard results?	Yes	(No)	N/A							
	Comments/Qualifications:										
	$-05 \text{ IS1} \frac{110063}{121021} = 90.9\% \qquad -04 \qquad \text{IS2} \frac{55270}{56064} = 98.6\%$										
	RT. 9.665/ 9.668 RT 14.8	8									
X.	Target Compound Identification	and the second second									
	1. Are relative retention times (RRTs) within + or - 0.06 RRT units of standard RRT?	Yes	No	NA							
	2. Do sample compound spectra meet specified criteria in relation to laboratory standard spectra?	Yes	No	NA							
	3. Were all compounds accounted for on chromatogram?	Yes	No	NA							
	Comments/Qualifications: Level III - no raw data			V							

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Reviewer:	Kitchings		Date: <u>5</u> [3	_		
Project:	FTC- 419	SDG: 1104178	Matrix/No. Samples:	7	•	
XI.	Compound Quantitation	and Reported Contract Requi	ired Quantitation Limits (CRQI	Ls)		
	1. Were sample results cor	rectly calculated and reported b	y laboratory?	Yes	No	NA
	2. Were correct internal st for all samples?	andard quantitation ion and RRJ	F used to quantify all compounds	Yes	No	N/A
	3. Were CRQLs adjusted for by the method?	to reflect sample dilutions and	dry weight factors not accounted	Yes	No	N/A
	4. Were any laboratory QA integration?	VQC sample results calculated	from peaks derived using manual	Yes	No	N/A
	5. Were any qualifications	required based on this informat	ion?	Yes	No	Y/A
	Field QC		- K		11.000	
		tes associated with this SDG?		(Yes)	No	N/A
	a. If Yes, were RP	Ds acceptable (50% for water sa	amples, 100% for soil samples)?	Yes	No	N/A
		equipment rinsates associated		(Yes)	No	N/A
	a. If yes, were any	compounds reported in sample	s >IDL?	(es)	No	N/A
	b. Were any quali	fications required based on this	information?	Ves	No	N/A
8	Comments/Qualifications:	-05 -059 "u"	-04 419-RS01 WF1mh@0.2 2-mh@0. Naphth@0.	9877- 126- 228	.64 sca { 5 7	mples
XIII. Ov	erall Assessment of Data					
s 	. Are there any specific co	ncerns or limitations regarding	the data in this SDG?	Yes	(No)	N/A
Commen	ts/Qualifications:		-			

SDG	: 1104178	Project:	FTC Bldg 419
Meth	nod: Volatiles 8260 B	Matr	ix/No. Samples: Water7
Valio	dation Samples: MW-03-03 MW-02-02 MW-01-01	MW-05-05 MW-05-059 MW-06-06	MW-04-04
	Data	Validation Rep	ort Summary
		Status Code	Comments
1.	Sample Preservation, Handling, and Transport	Д	
2.	Chain of Custody	<u> </u>	
3.	Holding Times	Α	
4.	GC/MS Tune/Inst Perf	<u>A</u>	
5.	Calibrations	A	
6.	Blanks	A	
7.	Blank Spike/LCS	μ	
8.	Matrix Spike	A	
9.	Surrogates	<u>A</u>	
10.	Internal Standards	A	
11,	Compound Identification	Α	
12.	System Performance	Α	
13.	Field QC Samples	A	
14.	Overall Assessment	A	

8

Status Codes:

A = Acceptable R = Data Rejected X = Data acceptable but qualified due to problems

SDG: 104128

Page 2

Qualifications:

Significant Findings/Recommendations:

Overall Data Quality:

Acceptable as reported. Munar Kibchige Date: 5 Validator's Signature: +. 2011

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13934

Send Results to:		Send Invoice to:		1		A	nalysis	Requi	remen	nts:	 Lab	Use On	ly:	
City Date Kidg State, Zip TN 3 Phone 865-48 Fax 48 E-mail Project No./Name:	481-0290 Phone 481-0290 Fax E-mail		RTEX	GA PAHS	vecs					VOA Headspace Field Filtered Correct Containers Discrepancies Cust. Seals Intact Containers Intact Airbill #: CAR #:	1180		NA PNA NA	
Building 419 Lab Use Only Lab #	Date/Time Sampled	Sample Description	Sample Matrix								Comments	No. of Bottles	Lab (Contai	Use Only ners/Pres.
1104178-01	4-12-11 0940 4-12-11 0910	mw-03-03	GW	-								5	35	149+1#
-62	4+12-11 1210	mw-02-02 mw-01-01	GW	X								5		
- 04	4-12-11 1425 4-12-11 1425	mw-05-05	GW	1.	X	-						5		
- 85 - 66	4-12-11 1450	MW-05-059 MW-06-06	GW	X								5		
of	4-12-11 1450	1nw-06-061450	GW	X						$\left \right $		5	$\left \right $	
-07 -08	4-12-11 1640 4-12-11 1550	mw-04-04 419-R501	GW Ris.	X	XX							5	V	
-09	LAB	419-T-1p-B	Blunk		-	X			-			2	Zi	5HG -
Sample Kit Prep'd by: (Sign	ature)	Date/Time Received By: (Sig	gnature)	1			REMAR	KS:				Page	Detail	s:
Relinquished by: (Signature)		Date/Time 4-13-11 1630	gnature)			_						Cooler	pro. 1	_of <u>3</u>
Relinquistied by: (Signature)		Date/Time Received By: (Sig	gnature)									Shippe	d By	4-13-11 Ed-EX
Received for Laboratory by:	(Signature)	Date/Time Temperature										Tumar	ound _	Vormal

Distribution: Original and yellow copies accompany sample shipment to laboratory; Pink retained by samplers.

MW-03-03

Laboratory:	Empirical Laboratories	1	SDG:	1104178				
Client:	SES, Inc. (\$750)	Į.	Project:	FTS UST 2008-2010				
Matrix:	Ground Water	Laboratory ID:	1104178	<u>-01</u>	File ID:	0417801.D		
Sampled:	04/12/11 09:40	Prepared:	04/19/11	1 00:00	Analyzed:	04/19/11 13:57		
Solids:		Preparation:	5030B		Dilution:	1		
Batch:	<u>1D19005</u> Sequ	quence: <u>ID1102</u>	29	Calibration:	<u>1110001</u>	Instrument:	MS-VOA5	2.5
CAS NO.	COMPOUND	C	CONC. (ug/L)	MDL	MRL	Q	Rew Que	
71-43-2	Benzenc	Benzene			0.140	1.00	U	u.
100-41-4	Ethylbenzene			0.150	1.00	U		
108-88-3	Toluene			0.190	1.00	U		
1330-20-7	Xylenes (total)			0.220	1.00	U	×	
SYSTEM MONITORING COMPOUND) ADD	ED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
Bromofluorobenzene		3	30.00	30.56	102	75 - 120		
Dibromofluoromethane		3	30.00	30.15	101	85 - 115		
1,2-Dichloroethane-d4		3	30.00	32.33	108	70 - 120		
Toluenc-d8		3	30.00	31.05	103	85 - 120		
MW-02-02

_aboratory:	Empirical Laboratorio	es, LLC		1	SDG:	<u>1104178</u>			
Client:	SES. Inc. (\$750)				Project:	FTS UST 2008	-2010		
Matrix:	Ground Water	Laborator	ry ID:	<u>1104178</u>	-02	File ID:	0417802.D		
Sampled:	04/12/11 09:40	Prepared:		04/19/1	00:00	Analyzed:	04/19/11 14:24		
Solids:		Preparatio	on:	<u>5030B</u>		Dilution:	1		
Batch:	<u>1D19005</u> Sec	quence:	<u>1D11029</u>	(Calibration:	1110001	Instrument:	MS-VOA5	Rev
CAS NO.	COMPOUND			C	ONC. (ug/L)	MDL	MRL	Q	21
71-43-2	Benzene					0.140	1.00	U	ü
100-41-4	Ethylbenzene					0,150	1.00	U	
108-88-3	Toluene					0.190	1.00	U	
1330-20-7	Xylenes (total)					0.220	1.00	U	
SYSTEM MO	NITORING COMPOUNE)	ADDED	(ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
Bromofluorobe	enzene		30.0	0	30.31	101	75 - 120		
Dibromofluoro	omethane		30.0	0	29.17	97.2	85 - 115		
1,2-Dichloroet	hane-d4		30.0	0	30.93	103	70 - 120		
Toluene-d8			30.0	0	31.78	106	85 - 120		

MW-01-01

Laboratory:	Empirical Laboratories	LLC		SDG:	<u>1104178</u>			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	3-2010		
Matrix:	Ground Water	Laboratory ID:	<u>1104178</u>	-03	File ID:	0417803.D		
Sampled:	04/12/11 12:10	Prepared:	<u>04/19/1</u>	00:00	Analyzed:	04/19/11_14:50		
Solids:		Preparation:	<u>5030B</u>		Dilution:	1		
Batch:	<u>1D19005</u> Sequ	ence: <u>1D11029</u>		Calibration:	<u>1110001</u>	Instrument:	MS-VQA5	2
CAS NO.	COMPOUND		C	ONC. (ug/L)	MDL	MRL	Q	Roual
71-43-2	Benzene				0.140	1.00	U	1u
100-41-4	Ethylbenzene				0.150	1.00	U	
108-88-3	Toluene				0.190	1.00	U	
1330-20-7	Xylenes (total)				0.220	1.00	U	· 🖞
SYSTEM MO	NITORING COMPOUND	ADDE	O (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
Bromofluorobe	enzene	30.	00	30.60	102	75 - 120		
Dibromofluoro	methane	30.	00	29.20	97.3	85 - 115		
1,2-Dichloroet	hane-d4	30.	00	30.11	100	70 - 120		
Toluene-d8		30.	00	31.09	104	85 - 120		

MW-05-05

Laboratory:	Empirical Labora	tories, LLC		5	SDG:	1104178			
Client:	SES, Inc. (\$750)			,	Project:	FTS UST 2008	3-2010		
Matrix:	Ground Water	Labora	tory ID:	1104178	-04	File ID:	0417804.D		
Sampled:	04/12/11 14:25	Prepare	d:	04/19/11	00:00	Analyzed:	04/19/11 15:17		
Solids:		Prepara	tion:	<u>5030B</u>		Dilution:	1		
Batch:	1D19005	Sequence:	<u>1D11029</u>		Calibration:	1110001	Instrument:	MS-VOA5	~
CAS NO.	COMPOUND			C	ONC. (ug/L)	MDL	MRL	Q	Rev
71-43-2	Benzene					0.140	1.00	U	ú
100-41-4	Ethylbenzene					0.150	1.00	U	_ 1
108-88-3	Toluene					0.190	1.00	U	
1330-20-7	Xylenes (total)					0.220	1.00	U	V
SYSTEM MON	NITORING COMPO	UND	ADDED	(ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
Bromofluorobe	mzene		30.0	0	31.40	105	75 - 120		
Dibromofluoro	methane		30.0	0	30.40	101	85 - 115	17	
1,2-Dichloroeth	hane-d4		30.0	0	31.26	104	70 - 120		
Toluene-d8			30.0	0	32.37	108	85 - 120		

MW-05-059

.aboratory:	Empirical Laboratorio	es, LLC		5	SDG:	1104178			
Client:	SES, Inc. (\$750)			1	Project:	FTS UST 200	8-2010		
Matrix:	Ground Water	Laborat	ory ID:	1104178	-05	File 1D:	0417805.D		
Sampled:	04/12/11 14:25	Prepare	d:	04/19/11	00:00	Analyzed:	04/19/11 15:43		
Solids:		Prepara	tion:	<u>5030B</u>		Dilution:	1		
Batch:	<u>1D19005</u> Se	quence:	<u>1D11029</u>		Calibration:	<u>1110001</u>	Instrument:	MS-VOA5	- Rev
CAS NO.	COMPOUND			C	ONC. (ug/L)	MDL	MRL	Q	2u
71-43-2	Benzene					0.140	1.00	U	ü
100-41-4	Ethylbenzene					0.150	1.00	U	
108-88-3	Tolucne					0.190	1.00	U	
1330-20-7	Xylenes (total)					0.220	1.00	U	
SYSTEM MO	NITORING COMPOUNI)	ADDED	(ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
Bromofluorobe	enzene		30.0	00	30.70	102	75 - 120		
Dibromofluoro	methane		30.0	0	29.60	98.7	85 - 115		
1,2-Dichloroet	hane-d4		30.0	0	31.45	105	70 - 120		
Toluene-d8			30.0	00	30.64	102	85 - 120		

MW-06-06

Laboratory:	Empirical Labor	atories, LLC		S	DG:	<u>1104178</u>			
Client:	SES, Inc. (S750)	2		Ι	Project:	FTS UST 2008	-2010		
Matrix:	Ground Water	Laborat	ory ID:	<u>1104178-</u>	06	File ID:	0417806.D		
Sampled:	04/12/11 14:50	Prepare	d:	<u>04/19/11</u>	00:00	Analyzed:	04/19/11 16:10		
Solids:		Prepara	lion:	<u>5030B</u>		Dilution:	<u>1</u>		
Batch:	1D19005	Sequence:	1D11029	(Calibration:	<u>1110001</u>	Instrument:	MS-VOA5	Rev
CAS NO.	COMPOUND			C	ONC. (ug/L)	MDL	MRL	Q	Qu
71-43-2	Benzene					0.140	1.00	U	u.
100-41-4	Ethylbenzene		120.22			0.150	1.00	U	
108-88-3	Toluene		and Schar		211	0.190	1.00	U	
1330-20-7	Xylenes (total)					0.220	1.00	U	- *
and the second se	NITORING COMPO	DUND	ADDED) (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	
Bromofluorobe	1.000	and an international second	30.0	00	30.38	101	75 - 120		
Dibromofluoro	Zene		00	29.93	99.8	85 - 115			
1.2-Dichloroet		20		00	31.14	104	70 - 120		
Toluene-d8			30.	00	31.19	104	85 - 120		

MW-04-04

T - b	Consistent Labore	turing LLC			SDG:	1104179			
Laboratory:	Empirical Labora	tories, LLC			SDG:	<u>1104178</u>			
Client:	SES, Inc. (S750)				Project:	FTS UST 2008	8-2010		
Matrix:	Ground Water	Labora	tory ID:	1104178	07RE1	File ID:	0417807D.D		
Sampled:	04/12/11 16:40	Prepare	ed:	<u>04/20/11</u>	00:00	Analyzed:	04/20/11 17:03		
Solids:		Prepara	ation:	<u>5030B</u>		Dilution:	2		
Batch:	1D20010	Sequence:	<u>1D11102</u>	(Calibration:	<u>1110001</u>	Instrument:	MS-VOA5	Rev
CAS NO.	COMPOUND			C	ONC. (ug/L)	MDL	MRL	Q	Qual
71-43-2	Benzene				3.67	0.280	2.00	D	
100-41-4	Ethylbenzene				19.8	0.300	2.00	D	
108-88-3	Toluene				0.839	0.380	2.00	J, D	J
1330-20-7	Xylenes (total)				112	0.440	2.00	D	
SYSTEM MO	NITORING COMPO	UND	ADDED	(ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q	62
Bromofluorobe	enzene		30.0	0	30.15	101	75 - 120		
Dibromofluoro	omethane		30.0	0	28.71	95.7	85 - 115		
1,2-Dichloroet	hane-d4		30.0	0	29.72	99.1	70 - 120		
Toluene-d8			30.0	0	31.49	105	85 - 120		

Reviewer:	Kitchings

Project: <u>FTC 419</u> SDG: <u>1104178</u> Matrix/No. Samples: <u>W-7</u>

Date: 5(3

I.	Technic	eal Holding Times			
	A.	Sample Preservation, Handling and Transport			
		1. Have all samples been preserved correctly?	Yes	No	N/A
		2. Have sample temperatures been kept at 4° C (+ or - 2°)?	Ves	No	N/A
		3. Were all samples received in proper condition?	Ves	No	N/A
		4. Were any qualifications required based on this information?	Yes	No	N/A
	Coolers	@ 25,4.0°C.		-	
	В.	Chain of Custody			
l T	r.73	1. Were all samples properly recorded on COCs?	Ves	No	N/A
		2. Were correct analyses performed on samples?	Yes	No	N/A
	C.	Holding Times	Ŭ		
		1. Were samples extracted and analyzed within acceptable holding times?	Yes	No	N/A
		2. Were any qualifications required based on this information?	Yes	No	N/A
		SAMPLED PREPPED	ANALYZ		
		4 12 - 01 + 100 - 00 + 100 - 00 + 000 +	4/19 4/20)	
П.	GC/MS	S Instrument Performance Check			
	1. Wer	e instrument performance check samples run for each analysis period?	Yes	No	N/A
	2. Wer	e ion abundance criteria met for BFB analysis?	Yes	No	N/A
	3. Do l	aboratory forms match raw data?	Yes	No	N/A
	4. Wer	e any qualifications required based on this information?	Yes	No	N/A
Comm	ients/Qua	lifications: ICAL 4/1508:29 CCAL 4/1907:26 C 95 base	ieal 4	20 8:22	<u>.</u>
		all criteria		۵	

viewer: <u> </u>	itchings	an a suite an	Date:	5/3			
ject: FTC	419 SDG:	1104178	Matrix/No. Samp	oles: W.7			
II. Initial (Calibration				1		
	re correct concentrations d within 12 hours of asso		or initial calibration? W formance check?	ere samples	Yes	No	N/A
2. Wer compou	e initial calibration RRFs inds $>$ or = 0.05? Do rec	for all volatile target alculations for RRFs a	compounds and system n gree with reported values	nonitoring ?	Ves	No	N/A
	re %RSDs < or = 30% gree with reported value		compounds? Do recale	culations for	Yes	No	N/A
4. Wer	e any qualifications requ	ired based on this info	rmation?		Yes	NO)	N/A
4/150	ents/Qualifications: 8:29 F. Xylene 8 Gtd. 8 Gtd.	1,591 1,493 1,697 1.838 1.722 1.722 1.722 1.505 1.722 1.505 1.722 1.505 1.722 1.505 1.722 1.505 1.722 1.505 1.722 1.722 1.697 1.722 1.727 1.722 1.727 1.7777 1.7777 1.7777 1.7777 1.7777 1.7777 1.7777 1.7777 1.7777	$\frac{14,303}{9} = 1.589$	02924 533 7673 17472 9 20 2103 1061	100884 1166 1769 58 436 922 4326 15761/	, 8	= 8,
V. Contin	uing Calibration			V			
	e continuing calibration initial calibration?	samples run at the req	uired frequency, and com	pared to the	Yes	No	N/A
2. Did	calculations from raw da	ta agree with laborator	ry reported values for RR	F and %D?	Yes	No	NA
	ere continuing calibrat ring compounds (surroga		le organic compounds	and system	Yes	No	N/A
	ere %D between initial ca + or - 25%?	llibration RRF and the	continuing calibration	RRFs	Ves	No	N/A
5. Wer	e any qualifications requ	ired based on this info	ormation?		Yes	No	N/A
Comm	ents/Qualifications:		. 04				
	CV ID11029 - CC	(1	CCV1011102-	CCVI			
05,03,	1.0-11.0 Benzere.		0.4-9.2				
059			121	1.1.2			
	0.906-0.81	-	tolnene.	1,124 -	9	0.49	2
	0,817						
		- 48					

Reviewer	Kitchings			Date:	(3	<u> </u>		
Project:	FTC-419 SDG:	1104178	Mati	rix/No. Sample	s: W-7			
v.	Blanks					0		
	 Were any target or non-tar blanks? 	get compounds repo	orted in labor	atory prep or c	alibration		No	N/A
	2. Were method blank analyst system used to analyze samples				h GC/MS	Yes	No	N/A
	3. Were any qualifications requ	ired based on this in	formation?			Yes	No	N/A
	Comments/Qualifications: 1900S-BLK 4(190US 4'SS		2	ail O-B2K1 4/20@10:21 U's,	,			
VI.	System Monitoring Compoun	ds (Surrogate Spik	es)					<u></u>
	1. Were laboratory surrogate re	coveries calculated	and reported c	orrectly?		Yes	No	N/A
	2. Were surrogate recoveries w	ithin acceptable limi	its?			Yes	No	N/A
	3. Were any qualifications requ	ired based on surros	zate spike QC	information?		Yes	No	N/A
Z8-0	Comments/Qualifications:	L 101- 9 105	Z 15.7 - 161	3_ 99.1- \68	<u>4</u> [02- 108			
VII.	Matrix Spikes/Matrix Spike D	uplicates		1. – Weitzenste, "Brynis				
	1. Were MS/MSD samples ana	lyzed at required fre	quency for eac	ch ample matrix	?	(Yes)	No	N/A
	2. Were MS/MSD results for re	covery and RPD wi	thin advisory l	imits?		Yes	No	N/A
	3. Were Samples used for MS/I	MSD field blanks?				Yes	No	N/A
	4. Were laboratory reported res	ults correctly calcul	ated from raw	data?		Yes	No	NA
	5. Were any qualifications requirements with other QC information?	lired, based on resu	lts of MS/MS	D samples in co	onjunction	Yes	No	N/A
	Comments/Qualifications:							
	- 86 MS/MSA	5	52.0	= 1042	_	1.8	-0	
8.0	- 86 ms/msa ms 101-110	Ethylk	18.2	= 96.4%	rid.	49.1 = 3,	126	
J-0	M 50 93.9-101							
	RPP. 7-8.5		3					

Project:	Kitchings Date: 5(3			
0	1276-419 SDG: 1004178 Matrix/No. Samples: W-7			
	Laboratory Control Sample (LCS)			
	1. Were LCS samples run at correct frequency for each matrix samples?	(Yes)	No	N/A
	2. Were LCS calculations performed correctly, and did laboratory reported values match raw data? Were recoveries within laboratory QC limits?	Yes	No	N/A
	4. Were any qualifications required based on LCS data in conjunction with other QC information?	Yes	No	N/A
	Comments/Qualifications:			
8.0	Les 1019005-BSI 961 105	10-1551	1	1.202
4-0 10	2-114 Les 1019005-BSI 99.1-105 Benz. 57.0 = 11420 96.1-105 50.0 0.4-6.3	mene 5	9.4 S	= 100. = 98.
		10	<u>8/-</u> 49,8	1.6 6
IX.	Internal Standards			1
	1. Were standard area counts within a factor of two (-50% to $+100\%$) from associated calibration standard?	(Yes)	No	N/A
	2. Were retention times of internal standard within + or - 30 seconds of retention time of associated calibration check?	Yes	No	N/A
	3. Were any qualifications required based on internal standard results?	Yes	(No)	N/A
	Comments/Qualifications:		\bigcirc	
	-03 ISI -059 IS2 -0	04 IS	3	
	anea <u>129+398</u> = 96,26 <u>523829</u> = 89.9% C. <u>134+936</u> = 96,26 <u>582698</u> = 89.9%	40.	1872 = 3164 =	84.92
	RT 7.898 7.91 RT 11.034	RT.	13.433	
X.	Target Compound Identification			
	1. Are relative retention times (RRTs) within + or - 0.06 RRT units of standard RRT?	Yes	No	NA
	2. Do sample compound spectra meet specified criteria in relation to laboratory standard spectra?	Yes	No	NA
	3. Were all compounds accounted for on chromatogram?	Yes	No	MA
	Comments/Qualifications: No Yow data - Levelt			

oject:	Kitchings Date: \$/3 IFTG419 SDG: 104178 Matrix/No. Samples: \$\frac{14.7}{7}\$			
-				
XI.	Compound Quantitation and Reported Contract Required Quantitation Limits (CRQI	Ls)		
	1. Were sample results correctly calculated and reported by laboratory?	Yes	No	NKA
	2. Were correct internal standard quantitation ion and RRF used to quantify all compounds for all samples?	Yes	No	(N/A
	3. Were CRQLs adjusted to reflect sample dilutions and dry weight factors not accounted for by the method?	Yes	No	N/A
	4. Were any laboratory QA/QC sample results calculated from peaks derived using manual integration?	Yes	No	N/A
	5. Were any qualifications required based on this information?	Yes	No	NXA
XII.	Field QC			
XII.	Field QC 1. Were any Field Duplicates associated with this SDG?	Yes	No	N/A
samples	a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil)?	Yes	No	N/A
	2. Were any field blanks or equipment rinsates associated with this SDG?	Ves	No	N/A
	a. If yes, were any compounds reported in samples >1DL?	Yes	No	N/A
	b. Were any qualifications required based on this information?	Yes	No	N/A
	Comments/Qualifications: $-05 -059$ 419-RS01 - U all 419TB-B - U U^{5} .	1 s 1 ' s		
XIII. C	overall Assessment of Data			
	1. Are there any specific concerns or limitations regarding the data in this SDG?	Yes	(No)	N/A
Comme	1. Are there any specific concerns or limitations regarding the data in this SDG? nts/Qualifications:	Yes	No	ľ

SDC	SDG: 1103047 Project: FTC Bidg 419												
Met	hod: <u>Semive</u>	olatiles - DRO	8015 M	Matrix/No. Sar	nples: Soil.	-25							
	Validation Samples: SB-02-01 SB-03-02 SB-05-02 SB-07-02 SB-09-02 SB-11- SB-01-01 SB-02-02 SB-04-01 SB-06-01 SB-08-01 SB-10-01 SB-12-												
							SB -12-01						
_35	0-01-02	513-03-019		513-06-02 SB-07-01	the second se		SB-12-02						
			3)-05-01	39-07-01	58-09-01	SB-11-01							
		Dat	a Validation F	Report Summa	у								
			Status Coc	le	Con	nments							
1.	Sample Pres	ervation,											
	Handling, ar	nd Transport	A										
2		1	A										
2.	Chain of Cu	stody											
3.	Holding Tim	165	Ą										
<i></i>	riolang rin	105											
4.	GC/MS Tun	e/Inst Perf	W/A										
5.	Calibrations		A										
6.	Blanks		A										
7.	Blank Spike/	LCS	A										
8.	Matrix Spike	e	A										
9.	Surrogates		×	,									
	C												
10.	Internal Stan	dards	N/A										
11.	Compound I	dentification	4										
12.	System Perfo	ormance	Α										
13.	Field QC Sar	nples	A										
14.	Overall Asse	ssment	X										
	Status Codes												

Status Codes:

A = Acceptable R = Data Rejected X = Data acceptable but qualified due to problems

SDG: 1103247

Page 2

Qualifications: 7a. A high surrogate recovery for sample SB-11-01 resulted is a "J" qualifier for that cpd i that sample. Significant Findings/Recommendations: Overall Data Quality: Acceptelale as gualified. Validator's Signature. J. Thomas Libels Date: 4 20 2011

SB-01-01

Laboratory:	Empirical Laborat	tories, LLC		5	SDG:	1103247			
Client:	SES, Inc. (S750)			1	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laborate	ory ID:	1103247	<u>-01</u>	File ID:	006B0601.D		
Sampled:	03/29/11 09:50 Prepared:			03/30/11	12:45	Analyzed:	03/31/11 12:04		
Solids:	89.59 Preparation:		ion:	EXT_3546		Dilution:	1		
Batch:	1C30010	Sequence:	1D09110	10 Calibration:		1038002	Instrument:	GL-GCFID	Rev
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	qua
11-84-7	Diesel Range Organics (C10-C28)					7.28	7.28	U	ú
SYSTEM MON	NITORING COMPOUND ADDED (g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	1.2			0	1.182	81.5	35 - 140		

SB-01-02

Solids:	85.52 Preparation:		ration:	EXT_3546		Dilution:	1		
Batch:	<u>1C30010</u>	Sequence:	1D09110	009110 Calibration:		1038002	Instrument:	GL-GCFID	Red
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	and
11-84-7	Diesel Range Organics (C10-C28)					7.68	7.68	U	n
				ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
	1.5								

SB-02-01

Laboratory:	Empirical Labor	atories, LLC		3	SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)	1			Project:	FTS UST 2008	-2010		
Matrix:	<u>Soil</u>	Soil Laboratory		1103247	-04	File ID:	010B1001.D		
Sampled:	03/29/11 10:35 Prepared:		1:	03/30/11 12:45		Analyzed: <u>03/31/11 14;19</u>			
Solids:	94.48 Preparation:		ion: <u>EXT</u>		46	Dilution:	1		
Batch:	<u>1C30010</u>	Sequence:	<u>1D09110</u>		Calibration:	1038002	Instrument:	GL-GCFID	- Rev o
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	Shel
11-84-7	Diesel Range Orga	nics (C10-C28)			19.3	6.91	6.91		•
SYSTEM MON	EM MONITORING COMPOUND ADDR		ADDED (m	ig/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl			1.37	5	1.049	76.3	35 - 140		

SB-02-02

	E Callebra	Empirical Laboratories, LLC			SDG:	1102247			
Laboratory:	Empirical Labora	atories, LLC			500:	<u>1103247</u>			
Client:	SES, Inc. (\$750)			1	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Labora	atory ID:	1103247	05	File ID:	011B1101.D		
Sampled:	03/29/11 10:40	ed:	03/30/1	12:45	Analyzed: 03/31/11 14:53				
Solids:	72.28 Preparation:		ation:	EXT 35	46	Dilution:	1		
Batch:	1C30010	Sequence:	1D09110	1D09110 Calibrat		1038002	Instrument:	GL-GCFID	Rev
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	Que
11-84-7	Diesel Range Organics (C10-C28)					8.91	8.91	U	u
SYSTEM MON	NITORING COMPOUND ADDED (r			g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	1.77			4	1.276	72.0	35 - 140		

SB-04-01

Laboratory:	Empirical Labor	atories, LLC		3	SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750	2			Project:	FTS UST 2008	3-2010		
Matrix:	<u>Soil</u>	Soil Laboratory ID:		D: <u>1103247-06</u>		File ID:	012B1201.D		
Sampled:	<u>03/29/11_11:00</u> Prepared:		ed:	03/30/11 12:45		Analyzed:	03/31/11 15:27		
Solids:	88.11 Preparation:		ation:	EXT_3;	46	Dilution:	<u>1</u>		
Batch:	1C30010	Sequence:	<u>1D09110</u>	1D09110 Calibration:		1038002	Instrument:	GL-GCFID	Rev ,
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	Quel
11-84-7	Diesel Range Organics (C10-C28)			39.5	7.55	7.55			
SYSTEM MON	40NITORING COMPOUND ADDED (n		ig/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q		
o-Terphenyl	1.50)3	0.8271	55.0	35 - 140			

SB-04-02

Laboratory:	Empirical Labor	Empirical Laboratories, LLC			SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)			I	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Labora	tory ID:	1103247	07	File ID: <u>013B1301.D</u>			
Sampled:	03/29/11 11:05	Prepar	ed:	03/30/11	12:45	Analyzed: 03/31/11 16:01			
Solids:	84.70 Preparation:		ation:	EXT_3546		Dilution:	1		
Batch:	1C30010	Sequence:	1D09110	D09110 Calibration:		1038002	Instrument:	GL-GCFID	Rev
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	qual
11-84-7	Diesel Range Organics (C10-C28)					7.61	7.61	U	K
SYSTEM MON	NITORING COMPOUND ADDED (1			g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	1.51			4	1.161	76.7	35 - 140		

SB-03-01

_aboratory:	Empirical Labor	atories, LLC		5	SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)	L		F	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Labora	atory ID:	<u>1103247-</u>	08	File ID:	014B1401.D		
Sampled:	03/29/11 11:20	03/29/11 11:20 Prepared:			12:45	Analyzed: <u>03/31/11 16:35</u>			
Solids:	86.20	86.20 Preparation:		<u>EXT_35</u>	<u>46</u>	Dilution:	<u>1</u>		
Batch:	<u>1C30010</u>	Sequence:	<u>1D09110</u>	Calibration:		1038002	Instrument:	GL-GCFID	Rev
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	que
11-84-7	Diesel Range Organics (C10-C28)					7.47	7.47	U	u
SYSTEM MON	NITORING COMPOUND ADDED			ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	1.4			37	0.9708	65.3	35 - 140		

Laboratory:	Empirical Labor	atories, LLC			SDG:	<u>1103247</u>			
Client:	SES, Inc. (\$750)	Ω.		1	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Soil Laboratory ID:		1103247-09		File ID:	015B1501.D		
Sampled:	03/29/11 11:20	Prepa	red:	03/30/11	12:45	Analyzed:	Analyzed: 03/31/11 17:08		
Solids:	85.54 Preparation:		ration:	EXT_3546		Dilution:	1		
Batch:	1C30010	Sequence:	<u>1D09110</u>	10 Calibration:		1038002	Instrument:	GL-GCFID	RU 1
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	que
11-84-7	Diesel Range Organics (C10-C28)					7.68	7.68	U	u
SYSTEM MON	NITORING COMPOUND ADDED			ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	1.			28	1.076	70.4	35 - 140		

SB-03-02

Laboratory:	Empirical Labora	atories, LLC		5	SDG:	1103247			
Client:	SES, Inc. (S750)			I	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Soil Laboratory ID:			10	File ID:	016B1601.D		
Sampled:	03/29/11 11:35 Prepared:			03/30/11 12:45		Analyzed:	03/31/11 17:42		
Solids:	85.04 Preparation:		tion:	EXT_3546		Dilution:	1		
Batch:	<u>1C30010</u>	Sequence:	<u>1D09110</u>	10 Calibration:		1038002	Instrument:	GL-GCFID	Rev
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	que
11-84-7	Diesel Range Organics (C10-C28)					7.67	7.67	U	N
SYSTEM MON	NITORING COMPOUND ADDED (g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	1.5			7	1.138	74.5	35 - 140		

SB-05-01

Laboratory:	Empirical Labor	atories. LLC		5	SDG:	<u>1103247</u>			
Client:	SES, Inc. (\$750)	1		1	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laboratory ID:			.11	File ID:	018B1801.D		
Sampled:	03/29/11 13:15	<u>03/29/11 13:15</u> Prepared:			12:45	03/31/11 18:49			
Solids:	91.08	91.08 Preparation:		EXT_3546		Dilution:	1		
Batch:	<u>1C30010</u>	Sequence:	1D09110	Calibration:		<u>1038002</u>	Instrument:	GL-GCFID	Rev .
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	Sur
11-84-7	Diesel Range Organics (C10-C28)					7.31	7.31	U	ü
SYSTEM MON	NITORING COMPOUND ADDED (r			ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	1.45			4	1.010	69.4	35 - 140		

SB-05-02

Laboratory:	Empirical Labor	Empirical Laboratories, LLC			SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)			F	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Labor	atory ID:	1103247-	12	File ID:	019B1901.D		
Sampled:	03/29/11 13:20	Prepa	ed:	<u>03/30/11 12:45</u> Analyzed: <u>03/31/11 19</u>					
Solids:	83.51 Preparation:		ration:	EXT_3546		Dilution:	1		
Batch:	1C30010	Sequence:	<u>1D09110</u>	(Calibration:	1038002	Instrument:	GL-GCFID	Rev
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	Quar
11-84-7	Diesel Range Organics (C10-C28)				9.33	7.92	7.92		
				ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	1.5			76	1.045	66.3	35 - 140		

SB-06-01

Laboratory:	Empirical Labor	irical Laboratories, LLC			SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)	1			Project:	FTS UST 2008	-2010		
Matrix:	Soil	Labora	atory ID:	1103247	<u>·13</u>	File ID:	020B2001.D		
Sampled:	03/29/11 13:40	Prepar	ed:	03/30/1	12:45	Analyzed:	03/31/11 19:57		
Solids:	91.00	Preparation:		EXT 35	46	Dilution:	1		
Batch:	<u>1C30010</u>	Sequence:	<u>1D09110</u>		Calibration:	1038002	Instrument:	GL-GCFID	Rev ,
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	Quel
11-84-7	Diesel Range Orga	ganics (C10-C28)				7.22	7.22	U	u
SYSTEM MON	NITORING COMPO	NG COMPOUND ADDED (mg		ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl		1.43			0.8376	58.3	35 - 140		

Laboratory:	Empirical Labor	mpirical Laboratories, LLC			SDG:	1103247			
Client:	SES, Inc. (S750)	1			Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laboratory ID:		1103247	-14	File ID:	021B2101.D		
Sampled:	03/29/11 13:45	Prepare	ed:	03/30/11 12:45		Analyzed:	03/31/11 20:30		
Solids:	81.70	Preparation:		EXT 3546		Dilution:	1		
Batch:	1C30010	Sequence:	<u>1D09110</u>		Calibration:	1038002	Instrument:	GL-GCFID	Rev
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	Qual
11-84-7	Diesel Range Orga	Range Organics (C10-C28)				7.84	7.84	U	u
SYSTEM MON	NITORING COMPO	TORING COMPOUND ADDED (m		ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	1.5:			i9	1.039	66.6	35 - 140		

SB-07-01

Laboratory:	Empirical Labor	npirical Laboratories, LLC			DG:	<u>1103247</u>			
Client:	SES, Inc. (S750)			F	roject:	FTS UST 2008	-2010		
Matrix:	Soil	Labor	atory 1D:	<u>1103247-</u>	<u>15</u>	File ID:	022B2201.D		
Sampled:	03/29/11 14:05	5 Prepared:			12:45	Analyzed:	03/31/11 21:04		
Solids:	77.91	Prepa	ration:	<u>EXT 35</u>	<u>46</u>	Dilution:	<u>1</u>		
Batch:	1C30010	Sequence:	<u>1D09110</u>	(Calibration:	<u>1038002</u>	Instrument:	GL-GCFID	Ber 0
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	quel
11-84-7	Diesel Range Orga	iesel Range Organics (C10-C28)			11.2	8.27	8.27		
- Internet and a second s	TORING COMPOUND ADDED ()			ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	_
o-Terphenyl	1.64			46	0.8409	51.1	35 - 140		

SB-07-02

Laboratory:	Empirical Labor	Empirical Laboratories, LLC			SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)	2			Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laboratory ID:			-16	File ID:	023B2301.D		
Sampled:	03/29/11 14:10 Prepared:			03/30/11	12:45	Analyzed:	03/31/11 21:38		
Solids:	84,91	Preparation:		EXT_35	46	Dilution:	1		
Batch:	1C30010	Sequence:	<u>1D09110</u>	(Calibration:	1038002	Instrument:	GL-GCFID	Rev
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	Que
11-84-7	Diesel Range Organics (C10-C28)					7.79	7.79	U	u
SYSTEM MON	IITORING COMPOUND ADDED (ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	1.55			50	1.060	68.4	35 - 140		

SB-08-01

	1.51								
SYSTEM MON	NITORING COMPO	TORING COMPOUND ADDED (n		ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
11-84-7	Diesel Range Orga	nge Organics (C10-C28)				7.59	7.59	U	u
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	Qual
Batch:	<u>1C30010</u>	Sequence:	<u>1D09110</u>	(Calibration:	1038002	Instrument:	GL-GCFID	Rev
Solids:	83.78	Prepar	Preparation:		46	Dilution:	1		
Sampled:	03/29/11 14:35	Prepared:		03/30/11 12:45		Analyzed:	03/31/11 22:11		
Matrix:	Soil	Laboratory ID:		<u>1103247</u> -	<u>•17</u>	File ID:	ile ID: <u>024B2401.D</u>		
Client:	SES, Inc. (S750)	2		I	Project:	FTS UST 2008	3-2010		
Laboratory:	Empirical Labor	atories, LLC		S	SDG:	<u>1103247</u>			

SB-08-02

Diesel Range Orga		ADDED (m	ig/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
Diesel Range Orga	nics (C10-C28)				1.02	7.02	0	- n
Diesel Range Organics (C10-C28)					7.62	7.62	ET.	u
COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	Que
<u>1C30010</u>	Sequence:	1D09110	(Calibration:	1038002	Instrument:	GL-GCFID	Revo
84,52	Preparation:		EXT 35	<u>46</u>	Dilution:	1		
03/29/11 14:45	14:45 Prepared:			03/30/11 12:45		03/31/11 22:45		
Soil	Labora	tory ID:	1103247-	18	File ID:	025B2501.D		
SES, Inc. (\$750)	Σ		F	Project:	FTS UST 2008	-2010		
Empirical Labor	Empirical Laboratories, LLC			SDG:	1103247			
	<u>SES. Inc. (S750)</u> <u>Soil</u> 03/29/11 14:45 <u>84.52</u> 1C30010 COMPOUND	SES, Inc. (\$750) Soil Labora 03/29/11 14:45 Prepare 84.52 Prepare 1C30010 Sequence: COMPOUND Compound	SES. Inc. (\$750) Soil Laboratory ID: 03/29/11 14:45 Prepared: 84.52 Preparation: 1C30010 Sequence: 1D09110 COMPOUND Interview Interview	SES. Inc. (S750) F Soil Laboratory ID: 1103247- 03/29/11 14:45 Prepared: 03/30/11 84.52 Preparation: EXT 35 1C30010 Sequence: 1D09110 0 COMPOUND CONF CONF	SES. Inc. (\$750) Project: Soil Laboratory ID: 1103247-18 03/29/11 14:45 Prepared: 03/30/11 12:45 84.52 Preparation: EXT 3546 1C30010 Sequence: 1D09110 Calibration: COMPOUND CONC. (mg/Kg dry) CONC. (mg/Kg dry)	SES. Inc. (\$750) Project: FTS UST 2008 Soil Laboratory ID: 1103247-18 File ID: 03/29/11 14:45 Prepared: 03/30/11 12:45 Analyzed: 84.52 Preparation: EXT 3546 Dilution: 1C30010 Sequence: 1D09110 Calibration: 1038002 COMPOUND CONC. (mg/Kg dry) MDL	SES. Inc. (S750) Project: FTS UST 2008-2010 Soil Laboratory ID: 1103247-18 File ID: 025B2501.D 03/29/11 14:45 Prepared: 03/30/11 12:45 Analyzed: 03/31/11 22:45 84.52 Preparation: EXT 3546 Dilution: 1 1C30010 Sequence: 1D09110 Calibration: 1038002 Instrument: COMPOUND CONC. (mg/Kg dry) MDL MRL	Emigration Decimanity Deciman SES. Inc. (\$750) Project: FTS UST 2008-2010 Soil Laboratory ID: 1103247-18 File ID: 025B2501.D 03/29/11 14:45 Prepared: 03/30/11 12:45 Analyzed: 03/31/11 22:45 84,52 Preparation: EXT_3546 Dilution: 1 1C30010 Sequence: ID09110 Calibration: 1038002 Instrument: GL-GCFID COMPOUND CONC. (mg/Kg dry) MDL MRL Q

SB-09-01

Laboratory:	Empirical Labora	Empirical Laboratories, LLC			SDG:	1103247			
Client:	SES, Inc. (S750)			I	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laboratory 1D:		<u>1103247-19</u>		File ID:	026B2601.D		
Sampled:	03/29/11_15:00	/29/11 15:00 Prepared:		03/30/11	12:45	Analyzed:	03/31/11 23:19		
Solids:	91.32	Preparation:		EXT 3546		Dilution:	1		
Batch:	<u>1C30010</u>	Sequence:	<u>1D09110</u>	(Calibration:	1038002	Instrument:	GL-GCFID	Rev .
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	and
11-84-7	Diesel Range Organ	Diesel Range Organics (C10-C28)			10.3	7.19	7.19		
SYSTEM MON	TORING COMPOUND ADDED (n		g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q		
o-Terphenyl	1.43			1	0.7532	52.6	35 - 140		

SB-09-02

Laboratory:	Empirical Labora	npirical Laboratories, LLC			SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)	6		I	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laborate	ory ID:	<u>1103247-</u>	20	File ID:	027B2701.D		
Sampled:	03/29/11 15:10	Preparec	i:	03/30/11	12:45	Analyzed: <u>03/31/11 23:53</u>			
Solids:	80.66	Preparat	ion:	<u>EXT 35</u>	<u>46</u>	Dilution:	1		
Batch:	<u>1C30010</u>	Sequence:	<u>1D09110</u>	(Calibration:	<u>1038002</u>	Instrument:	<u>GL-GCFID</u>	Rev.
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	anal
11-84-7	Diesel Range Orga	Lange Organics (C10-C28)				8.14	8.14	U	N
	TORING COMPOUND ADDED (r			ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	1.62			21	0.9953	61.4	35 - 140		

SB-10-01

o-Terphenyl	266			.1	234.1	88.0	35 - 140		
SYSTEM MON	NITORING COMPOUND ADDED (m		ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q		
11-84-7	Diesel Range Orga	Diesel Range Organics (C10-C28)			22100	1340	1340		-
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDI.	MRL	Q	Zue
Batch:	<u>1C30019</u>	Sequence:	<u>1D09110</u>	(Calibration:	1038002	Instrument:	GL-GCFID	Rev 0
Solids:	68.32	Preparation:		EXT_35	<u>46</u>	Dilution:	1		
Sampled:	03/29/11 15:40	40 Prepared:		03/30/11	14:45	Analyzed:	04/01/11_02:09		
Matrix:	Soil	Laboratory ID:		<u>1103247-</u>	21	File ID:	031B3101.D		
Client:	SES, Inc. (S750)				Project:	FTS UST 2008	3-2010		
Laboratory:	Empirical Labor	atories, LLC		5	SDG:	1103247			
1 - hann tanna	Empirical Labor	Empirical Laboratories, LLC			anc.	1103247			

SB-10-02

Laboratory:	Empirical Labor	Empirical Laboratories, LLC		5	SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)	1			Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laboratory ID:		1103247	-22	File ID:	035B3501.D		
Sampled:	03/29/11 15:45	9/11 15:45 Prepared:		03/30/11 12:45		Analyzed:	04/01/11 10:20		
Solids:	81.50	Preparation:		EXT 35	46	Dilution:	1		
Batch:	<u>1C30012</u>	Sequence:	1D09110		Calibration:	1038002	Instrument:	GL-GCFID	Rev 1
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	Que
11-84-7	Diesel Range Orga	Diesel Range Organics (C10-C28)			16.2	8.06	8.06		
SYSTEM MON	ITORING COMPOUND ADDED (m		g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q		
o-Terphenyl	1.60			4	1.052	65.6	35 - 140		

SB-11-01

Laboratory:	Empirical Labor	Empirical Laboratories, LLC			SDG:	1103247			
Client:	SES. Inc. (S750)	1		1	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laboratory ID:			-23	File ID:	040B4001.D		
Sampled:	03/29/11 16:10	Prepar	ed:	03/30/11	<u>03/30/11 12:45</u> Analyzed: <u>04/01/11 13:10</u>				
Solids:	88.60	Preparation:		EXT 35	46	Dilution:	<u>5</u>		
Batch:	<u>1C30012</u>	Sequence:	<u>1D09110</u>	09110 Calibration:		1038002	Instrument:	GL-GCFID	Rev
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	Qual
11-84-7	Diesel Range Organics (C10-C28)			918	36.4	36.4	D	37a	
SYSTEM MON	NITORING COMPOUND ADDED (m		g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q		
o-Terphenyl	1.44			7	2.052	142	35 - 140	*	

Laboratory:	Empirical Labor	Empirical Laboratories, LLC			SDG:	1103247			
Client:	SES, Inc. (S750)		8	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laboratory ID:		1103247	-24	File ID:	037B3701.D		
Sampled:	03/29/11 16:15	6:15 Prepared:		03/30/11 12:45 Analyzed:		Analyzed:	04/01/11 11:28		
Solids:	83.17	Preparation:		EXT_3546		Dilution:	1		
Batch:	<u>1C30012</u>	Sequence:	<u>1D09110</u>	8	Calibration:	1038002	Instrument:	GL-GCFID	Rev .
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	que
11-84-7	Diesel Range Orga	Diesel Range Organics (C10-C28)				7.75	7,75	U	ü
SYSTEM MON	TORING COMPOUND ADDED (m		ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q		
o-Terphenyl	1.5			12	1.041	67.5	35 - 140		
Laboratory:	Empirical Labor	Empirical Laboratories, LLC			SDG:	1103247			
-------------	---------------------------------	-----------------------------	----------------	------------------	----------------	---------------	----------------	----------	------
Client:	SES, Inc. (S750)	1			Project:	FTS UST 2008-	2010		
Matrix:	Soil	Labora	atory ID:	1103247	-25	File ID:	038B3801.D		
Sampled:	03/29/11 16:40	Prepar	ed:	03/30/11	1 12:45	Analyzed:	04/01/11 12:02		
Solids:	80.60	Prepar	ation:	EXT_35	46	Dilution:	1		
Batch:	<u>1C30012</u>	Sequence:	<u>1D09110</u>		Calibration:	1038002	Instrument:	GL-GCFID	Revi
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	and
11-84-7	Diesel Range Organics (C10-C28)			29.3	8.10	8.10			
SYSTEM MON	ONITORING COMPOUND ADDED (mg/		ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q		
o-Terphenyl			1.61	1	1.064	66.1	35 - 140		

SB-12-02

Laboratory:	Empirical Labor	Empirical Laboratories, LLC			SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)	SES. Inc. (S750)		1	Project:	FTS UST 2008			
Matrix:	Soil	Labor	Laboratory ID: 110		-26	File ID:	039B3901.D		
Sampled:	03/29/11_16:50	Prepa	repared: 03		12:45	Analyzed:	04/01/11 12:36		
Solids:	90.89	Prepa	ration:	<u>EXT_35</u>	46	Dilution: <u>1</u>	1		
Batch:	1C30012	Sequence:	1D09110	,	Calibration:	1038002	Instrument:	GL-GCFID	Rev 1
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	and
11-84-7	Diesel Range Orga	Diesel Range Organics (C10-C28)			39.6	7.04	7.04		
SYSTEM MON	NITORING COMPOUND ADDED (mg/		ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q		
o-Terphenyl			1,40	12	1.033	73.7	35 - 140		

.

l.	Technical]	Holding Times		- Andread Cow American Mail						
	A. Sa	ample Preservation, Handling and Tr	ansport							
	1.	Have all samples been preserved corre	etly?		Yes	No	N/A			
	2.	Have sample temperatures been kept a	4° C (+ or - 2 °)?		Yes	No	N/A			
	3.	Were all samples received in proper co	ndition?		Yes	No	N/A			
	4.	Were any qualifications required based	on this information?		Yes	No	N/A			
	Coolers @ 1.7, 1, 9°C.									
	B. Cl	hain of Custody								
	1.	1. Were all samples properly recorded on COCs?					N/A			
	2.	Were correct analyses performed on sa		Yes	No	N/A				
1	C. Holding Times									
	1.	Were samples extracted and analyzed v	ies?	Yes	No	N/A				
	2. Were any qualifications required based on this information?					No	N/A			
	SAMPLED PREPPED				ANALYZED					
					,					
			3/30		3/3	1				
		29	3/30		3/3	1				
	3	, [29	3/30		э (з					
Т.	3 GC/MS In	5 29 strument Performance Check	L				NA			
I.	GC/MS In 1. Were ins	, [29	a for each analysis period?		Э (З Yes Yes	 No	K			
11.	GC/MS In 1. Were ins 2. Were ion	strument Performance Check	a for each analysis period?		Yes	No	N/A N/A			

Reviewer:	: Kitchings Date: 4/20	^		
Project:_	FTC 419 SDG: [103247 Matrix/No. Samples: 5	5-25		
ш.	Initial Calibration			
	1. Were correct concentrations of standards used for initial calibration? Were sam analyzed within 12 hours of associated instrument performance check?	ples Yes	No	N/A
	2. Were initial calibration RRFs for all volatile target compounds and system monitoring compounds $>$ or = 0.05? Do recalculations for RRFs agree with reported values?	Yes	No	N/A
	3. Were %RSDs < or = 30% for all volatile target compounds? Do recalculations for R agree with reported values?	SDs Yes	No	N/A
	4. Were any qualifications required based on this information?	Yes	Ng)	N/A
	Comments/Qualifications: 13520 69169 $2(4@14:16)$ 14940 13456 15740 15740 1681 71824 18830 7144 1703 9687 167595 6 5 5	= 183.1 1615	- 11.3%	
IV.	Continuing Calibration			
	1. Were continuing calibration samples run at the required frequency, and compared to correct initial calibration?	o the Ne	No	N/A
	2. Did calculations from raw data agree with laboratory reported values for RRF and %D		100	
	3. Were continuing calibration RRFs for volatile organic compounds and system monito compounds (surrogates) $>$ or = 0.05?	oring Yes	No	N/A
	4. Were %D between initial calibration RRF and the continuing calibration RRFs within + or - 25%?	Yes	No	N/A
	5. Were any qualifications required based on this information?	Yes	(No)	N/A
	Comments/Qualifications: 3/33 9 10 ccv2 ccv3	C		
	1652-1615 1615-1580 1615-1510 1615 1615 1615		5-1571	
	= 2.3% = 2.2% = 5.9%		= 27	221

roject:	: <u>Kitchings</u> Date: <u>4</u> (20 <i>F=</i> 70 <u>419</u> <u>SDG: 1103247</u> <u>Matrix/No. Samples: </u> <u>S-2</u>)	1								
	<u>Kitchings</u> <u>Date:</u> <u>1</u> <u>20</u> <u>F=7C 419</u> <u>SDG:</u> <u>1103247</u> <u>Matrix/No. Samples:</u> <u>S-2</u>)									
V.	Blanks									
	1. Were any target or non-target compounds reported in laboratory prep or calibration blanks?	Yes	(N)	N/A						
	2. Were method blank analyses performed at required frequency, and for each GC/MS system used to analyze samples for each type of analysis (i.e., matrix)?	(c)	No	N/A						
	3. Were any qualifications required based on this information?	Yes	No	N/A						
	Comments/Qualifications: 30010-BLK, 30019 BLK 30012 BLK									
	u u									
VI.	System Monitoring Compounds (Surrogate Spikes)									
	1. Were laboratory surrogate recoveries calculated and reported correctly?	Ves	No	N/A						
	2. Were surrogate recoveries within acceptable limits?	Yes		N/A						
	3. Were any qualifications required based on surrogate spike QC information?	Ves	No	N/A						
	-10-01 recording -> 142									
	Matrix Spikes/Matrix Spike Duplicates									
VII.	Matrix Spikes/Matrix Spike Duplicates									
VII.	Matrix Spikes/Matrix Spike Duplicates 1. Were MS/MSD samples analyzed at required frequency for each ample matrix?	res	No	N/A						
VII.		Yes)	No No	N/A N/A						
VП.	1. Were MS/MSD samples analyzed at required frequency for each ample matrix?	$\mathbf{\nabla}$	2/2							
VII.	 Were MS/MSD samples analyzed at required frequency for each ample matrix? Were MS/MSD results for recovery and RPD within advisory limits? 	Ves	No	N/A						
VII.	 Were MS/MSD samples analyzed at required frequency for each ample matrix? Were MS/MSD results for recovery and RPD within advisory limits? Were Samples used for MS/MSD field blanks? 	Yes Yes	No No	N/A N/A						
	 Were MS/MSD samples analyzed at required frequency for each ample matrix? Were MS/MSD results for recovery and RPD within advisory limits? Were Samples used for MS/MSD field blanks? Were laboratory reported results correctly calculated from raw data? Were any qualifications required, based on results of MS/MSD samples in conjunction with other QC information? 	Yes Yes Yes	No No No	N/A N/A N/A						
VII.	 Were MS/MSD samples analyzed at required frequency for each ample matrix? Were MS/MSD results for recovery and RPD within advisory limits? Were Samples used for MS/MSD field blanks? Were laboratory reported results correctly calculated from raw data? Were any qualifications required, based on results of MS/MSD samples in conjunction with other QC information? 	Yes Yes Yes	No No No	N/A N/A N/A						
	 Were MS/MSD samples analyzed at required frequency for each ample matrix? Were MS/MSD results for recovery and RPD within advisory limits? Were Samples used for MS/MSD field blanks? Were laboratory reported results correctly calculated from raw data? Were any qualifications required, based on results of MS/MSD samples in conjunction with other QC information? 	Yes Yes Yes	No No No	N/A N/A N/A						

oject:_	<u>F-TC419</u> SDG: (103247 Matrix/No. Samples: S-25			
/Ш.	Laboratory Control Sample (LCS)		1	
	1. Were LCS samples run at correct frequency for each matrix samples?	tos	No	N/A
	2. Were LCS calculations performed correctly, and did laboratory reported values match raw data? Were recoveries within laboratory QC limits?	Yes	No	N/A
	4. Were any qualifications required based on LCS data in conjunction with other QC information?	Yes	No	N/A
	Comments/Qualifications: 30010 BSI 30019 BSI 30012 (X) U 2242 LCS 3	58.05	1 =	87.17
	$\frac{68.46}{66.67} = 102.7$ $\frac{2242}{2727} = 84.0 \qquad LCSD$	63.25	- 66.67 =	94.91
X.	Internal Standards 60.6	5	V /0	
	1. Were standard area counts within a factor of two (-50% to +100%) from associated calibration standard?	Yes	No	MA
	2. Were retention times of internal standard within + or - 30 seconds of retention time of associated calibration check?	Yes	No	N/A
	3. Were any qualifications required based on internal standard results?	Yes	No	NA
κ.	Target Compound Identification			0-
	1. Are relative retention times (RRTs) within + or - 0.06 RRT units of standard RRT?	Yes	No	(N/A
	2. Do sample compound spectra meet specified criteria in relation to laboratory standard spectra?	Yes	No	NA
	3. Were all compounds accounted for on chromatogram?	Yes	No	N/A
	Comments/Qualifications: Level II - no raw donta			4

roject:_	FTC419 SDG: 1103247 Matrix/No. Samples: 5-25			
XI.	Compound Quantitation and Reported Contract Required Quantitation Limits (CRQLs			
	1. Were sample results correctly calculated and reported by laboratory?	Yes	No	N
	2. Were correct internal standard quantitation ion and RRF used to quantify all compounds for all samples?	Yes	No	N
	3. Were CRQLs adjusted to reflect sample dilutions and dry weight factors not accounted for by the method?	Yes	No	N /
	4. Were any laboratory QA/QC sample results calculated from peaks derived using manual integration?	Yes	No	N/
	5. Were any qualifications required based on this information?	Yes	No	NA
XII.	Field QC			
XII.	Field QC 1. Were any Field Duplicates associated with this SDG?	Yes	No	N/
XII.		Yes Yes	No No	
XII.	1. Were any Field Duplicates associated with this SDG?	\sim		N/
XII.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? 	Yes	No	N/. N/.
ХП.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? 	Yes Yes	No No	N/. N/. N/.
ХП.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? b. Were any qualifications required based on this information? 	Yes Yes Yes	No No	N/. N/. N/. N/.
ХП.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? b. Were any qualifications required based on this information? 	Yes Yes Yes	No No	N/. N/. N/.
ХП.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? b. Were any qualifications required based on this information? 	Yes Yes Yes	No No	N/. N/. N/.
ХП.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? b. Were any qualifications required based on this information? 	Yes Yes Yes	No No	N/. N/. N/.
	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? b. Were any qualifications required based on this information? 	Yes Yes Yes	No No	N/. N/. N/.

SDG	1032	247	F	Project: FT	c Bldg 41	9
Meth	od: <u>Semivo</u> l	latiles PAHs	8276C	Matrix/No. Sar	nples Soil -	25
	ation Samples	SB-02-02 SB-03-01	5B-04-02 5B-05-01	513-06-02	SB-08.02	513-11-01
2000	01-02	SB-03-02		58-07-02		SB-11-02.
	02-01	5B-04-01 5B-03-01	53.06-01		SB- 10-01	SB-12-01 SB-12-02
		Dat	ta Validation F	Report Summar	ry	
			Status Coc	łe	Comm	nents
1.	Sample Prese Handling, an		A			
2.	Chain of Cus	stody	Α			
3.	Holding Tim	es	Α			
4.	GC/MS Tune	e/Inst Perf	A			
5.	Calibrations		×			
6.	Blanks		A			un an
7.	Blank Spike/	LCS	×		see comment	- HZ
8.	Matrix Spike		A			
9.	Surrogates		A		see comment	· #1
10.	Internal Stan	dards	A			
11.	Compound I	dentification	A			
12.	System Perfc	ormance	A			
13.	Field QC Sar	mples	A			
14.	Overall Asse	ssment	X			
	Status Codes:					

Status Codes:

A = Acceptable R = Data Rejected X = Data acceptable but qualified due to problems

Qualifications:

#130 · High recoveries for the nitrobengene of temphenyl surrogates in Samples SB-10-01 cd SB-03-02, respectively, resulted in "I" qualifiers For detects in those samples, all results nondetects-noqualifiers AND IL: The LCS recovery (30011) was above the QC limit for benzo(b) fluorenthere Samples 5B-05-01 & 5B-09-01 had that cpd qualified as "9" (9108 3/31). 56. The opening CCV To D for pyrene was above the QC limit ad all results were qualified as " UJ (J ", for those samples associated with the Significant Findings/Recommendations: the LCS recovery for b(b)f was above the QC timit, however the JUD HZ The LCS (30020) recoveries had a number of compounds at bevels > pc criteria - all samples cpds were nondetects so no quils were required, Overall Data Quality: Acceptable as qualified. +. Humas Kitch Date: 4 20 2011 Validator's Signature: 1/00

SB-01-01

Laboratory:	Empirical Laboratories, LLC	. <u>C</u>	S	SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)		Р	Project:	FTS UST 2008-	-2010		
Matrix:	Soil	Laboratory ID:	<u>1103247-0</u>	<u>01</u>	File ID:	<u>0324701.D</u>		
Sampled:	03/29/11 09:50	Prepared:	03/30/11	16:15	Analyzed:	03/31/11 22:07	1.	
Solids:	89.59	Preparation:	• <u>EXT_354</u>	4 <u>6</u>	Dilution:	1		G
Batch:	IC30011 Sequence	100 million (100 m	(Calibration:	1032006	Instrument:	MS-BNA1	Rev Qual
CAS NO.	COMPOUND		CON	IC. (ug/Kg dry)	MDL	MRL	Q	Jan
83-32-9	Acenaphthene				28.5	361	U	ц
208-96-8	Acenaphthylene				21.9	361	U	
120-12-7	Anthracene				29.5	361	U	
56-55-3	Benzo(a)anthracene				39.4	361	U	
50-32-8	Benzo(a)pyrene				25.2	361	U	
205-99-2	Benzo(b)fluoranthene				35.0	361	Q, U	
191-24-2	Benzo(g,h,i)perylene			840110	76.6	361	U	
207-08-9	Benzo(k)fluoranthene				42.7	361	U	
218-01-9	Chrysene				33.9	361	U	
53-70-3	Dibenz(a,h)anthracene		1		65.7	361	U	
206-44-0	Fluoranthene				59.1	361	U	
86-73-7	Fluorene				28.5	361	U	
193-39-5	Indeno(1,2,3-cd)pyrene				50.3	361	U	
90-12-0	1-Methylnaphthalene	and the second se	-		109	361	U	
90-12-0	2-Methylnaphthalene				38.3	361	U	
91-20-3	Naphthalene				35.0	361	U	
85-01-8	Phenanthrene				25.2	361	U	1
129-00-0	Pyrene				43.8	361	X, U	uj sb
	DNITORING COMPOUND	ADDED ((ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphe			48	2333	64.0	45 - 105		
Nitrobenzene-	and the second	364	48	2669	73.2	35 - 100		
Terphenyl-dl4	towner and the second	364		2929	80.3	30 - 125	X	

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1

SB-01-02

aboratory:	Empirical Laboratories, L.	. <u>LC</u>	SE	DG:	<u>1103247</u>			
lient:	SES, Inc. (S750)		Pr	roject:	FTS UST 2008-	<u>·2010</u>		
A. A	Solid	Laboratory ID:	1103247-0	<u>3</u>	File ID:	0324703.D		
latrix:		Eucoranory	03/30/11		Analyzed:	03/31/11 22:36		
ampled:	03/29/11 09:55	Prepared:			an a	10 <u></u>		
olids:	85.52	Preparation:	EXT_354	<u>6</u>	Dilution:	1		Rei
latch:	<u>1C30011</u> Sequen	nce: <u>1D09108</u>	C	alibration:	<u>1032006</u>	Instrument:	MS-BNA1	7 Quel
CAS NO.	COMPOUND		CONC	C. (ug/Kg dry)	MDL	MRL	Q	- u
83-32-9	Acenaphthene				30.0	381	<u> </u>	- 7
208-96-8	Acenaphthylene				23.1	381	U	-
120-12-7	Anthracene				31.2	381	<u> </u>	
56-55-3	Benzo(a)anthracene				41.5	381	<u> </u>	-1
50-32-8	Benzo(a)pyrene			Market	26.5	381	U	
205-99-2	Benzo(b)fluoranthene				36.9	381	0.0	
191-24-2	Benzo(g,h,i)perylene				80.8	381	U	
207-08-9	Benzo(k)fluoranthene				45,0	381	<u> </u>	
218-01-9	Chrysene				35.8	381	U	
53-70-3	Dibenz(a,h)anthracene				69.2		U	
206-44-0	Fluoranthene				62.3	381	U	_
86-73-7	Fluorene				30,0	381	U	
	Indeno(1,2,3-cd)pyrene				53.1	381	U	
193-39-5	1-Methylnaphthalene				115	381	U	
90-12-0	2-Methylnaphthalene	<u>2017</u>			40.4	381	U	
91-57-6	Naphthalene				36.9	381	U	
91-20-3	Phenanthrene			1.000	26.5	381	U	- 1
85-01-8	Pyrene				46.2	381	X, U	us
129-00-0	NITORING COMPOUND	ADDED	(ug/Kg dry)	CONC (ug/Kg dry)) % REC	QC LIMITS	Q	
2-Fluorobipher		38	346	3681	95.7	45 - 105		
2-Fluorobipher Nitrobenzene-		38	846	3455	89.8	35 - 100		
Terphenyl-d14	A CONTRACTOR OF		846	4385	114	30 - 125	X	

SB-02-01

Laboratory:	Empirical Laboratories, L	. <u>LC</u>	5	SDG:	1103247			
Client:	SES. Inc. (S750)		1	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laboratory ID:	1103247-	-04	File ID:	0324704.D		
Sampled:	03/29/11 10:35	Prepared:	03/30/11	16:15	Analyzed:	03/31/11 23:04		
Solids:	94.48	Preparation:	EXT_35	46	Dilution:	1		
Batch:	1C30011 Sequer	nce: <u>1D09108</u>	(Calibration:	1032006	Instrument:	MS-BNA1	Ren
CAS NO.	COMPOUND	Contract Contract Contract	CON	IC. (ug/Kg dry)	MDL	MRL	Q] Que
83-32-9	Acenaphthene				27.2	345	U	u
208-96-8	Accnaphthylene				20.9	345	U	
120-12-7	Anthracene				28.2	345	U	
56-55-3	Benzo(a)anthracene				37.6	345	U	
50-32-8	Benzo(a)pyrene				24.0	345	U	
205-99-2	Benzo(b)fluoranthene				33.4	345	Q. U	
191-24-2	Benzo(g,h,i)perylene				73.1	345	U	
207-08-9	Benzo(k)fluoranthene				40.7	345	U	
218-01-9	Chrysene				32.4	345	U	
53-70-3	Dibenz(a,h)anthracene				62.7	345	U	
206-44-0	Fluoranthene				56.4	345	U	
86-73-7	Fluorene				27.2	345	U	
193-39-5	Indeno(1,2,3-cd)pyrene				48.0	345	U	
90-12-0	I-Methylnaphthalene				104	345	U	
91-57-6	2-Methylnaphthalene				36.6	345	U	
91-20-3	Naphthalene				33.4	345	U	
85-01-8	Phenanthrene				24.0	345	U	4
129-00-0	Pyrene			94.4	41.8	345	X, J	J 56
SYSTEM MON	NITORING COMPOUND	ADDED (ig/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	yl	348	32	2227	64.0	45 - 105		
Nitrobenzene-d	5	348	32	2307	66.2	35 - 100		
Terphenyl-d14	and the second sec	348	32	3845	110	30 - 125	X	

SB-02-02

Laboratory:	Empirical Laboratorie	es. LLC		SDG:	1103247			
Client:	SES, Inc. (S750)		1	Project:	FTS UST 2008	8-2010		
Matrix:	Soil	Laboratory ID:	<u>1103247</u> .	<u>-05</u>	File ID:	0324705,D		
Sampled:	03/29/11 10:40	Prepared:	03/30/11	1 16:15	Analyzed:	03/31/11 23:32		
Solids:	72.28	Preparation:	EXT_35	<u>546</u>	Dilution:	1		
Batch:	<u>1C30011</u> Sec	quence: <u>1D09108</u>	Ĩ	Calibration:	1032006	Instrument:	MS-BNA1	Rev
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL.	MRL	Q	Quel
83-32-9	Acenaphthene				34.8	442	U	u
208-96-8	Acenaphthylene				26.8	442	U	
120-12-7	Anthracene				36.2	442	U	
56-55-3	Benzo(a)anthracene				48.2	442	U	
50-32-8	Benzo(a)pyrene				30.8	442	U	
205-99-2	Benzo(b)fluoranthene				42.8	442	0, U	
191-24-2	Benzo(g,h,i)perylene				93.7	442	U	
207-08-9	Benzo(k)fluoranthene				52.2	442	U	
218-01-9	Chrysene				41.5	442	U	
53-70-3	Dibenz(a,h)anthracene				80.3	442	U	
206-44-0	Fluoranthene				72.3	442	U	
86-73-7	Fluorene				34.8	442	U	
193-39-5	Indeno(1,2,3-cd)pyrene				61.6	442	U	
90-12-0	1-Methylnaphthalene				134	442	U	
91-57-6	2-Methylnaphthalene				46.9	442	U	
91-20-3	Naphthalene				42.8	442	U	
85-01-8	Phenanthrene				30.8	442	U	
129-00-0	Pyrene				53.6	442	X, U	45 56
SYSTEM MON	NITORING COMPOUNE	D ADDED (u	ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	ıyl	446	53	3497	78.3	45 - 105		
Nitrobenzene-d	15	446	53	3978	89.1	35 - 100		
Terphenyl-d14		446	53	4515	101	30 - 125	X	7

SB-04-01

aboratory:	Empirical Laboratories,	LLC	S	DG:	<u>1103247</u>			
lient:	SES, Inc. (S750)		P	roject:	FTS UST 2008-	-2010		
Aatrix:	Soil	Laboratory ID:	<u>1103247-</u>	<u>06</u>	File ID:	0324706.D		
Sampled:	03/29/11 11:00	Prepared:	03/30/11	16:15	Analyzed:	04/01/11 00:01		
		Preparation:	EXT 35	16	Dilution:	1		
Solids:	88.11		0				MS-BNA1	P.J
Batch:	<u>1C30011</u> Sequ	ience: <u>1D09108</u>	(alibration:	1032006	Instrument:		Rew
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	dur
83-32-9	Accnaphthene				29.3	372	U	u
208-96-8	Acenaphthylene				22.5	372	U	
120-12-7	Anthracene				30.4	372	U	_
56-55-3	Benzo(a)anthracene	200			40.6	372	U	_
50-32-8	Benzo(a)pyrene	in the second			25.9	372	U	
205-99-2	Benzo(b)fluoranthene				36.1	372	0, U	_1
191-24-2	Benzo(g,h,i)perylene				78.9	372	U	
207-08-9	Benzo(k)fluoranthene				44.0	372	U	
218-01-9	Chrysene				34.9	372	U	_
53-70-3	Dibenz(a,h)anthracene				67.6	372	U	
206-44-0	Fluoranthene				60.9	372	U	
86-73-7	Fluorene	- 104 CONTRACTOR - 104			29.3	372	U	
193-39-5	Indeno(1,2,3-cd)pyrene			03000	51.9	372	U	
90-12-0	1-Methylnaphthalene				113	372	U	
91-57-6	2-Methylnaphthalenc				39.5	372	U	
91-20-3	Naphthalene				36,1	372	U	
85-01-8	Phenanthrene				25.9	372	U	-
129-00-0	Pyrene				45.1	372	X. U	NJ 5
the second s			(ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
-	2-Fluorobiphenyl 37:		58	2150	57.2	45 - 105		
	Nitrobenzene-d5 375			2132	56.7	35 - 100		
Terphenyl-d14	(viiiobelizene-dz)			2662	70.8	30 - 125	Х	

SB-04-02

Laboratory:	Empirical Laboratori	es, LLC		3	SDG:	1103247			
Client:	SES, Inc. (S750)				Project:	FTS UST 200	8-2010		
Matrix:	Soil	Laborator	ry ID:	1103247	<u>-07</u>	File ID:	0324707.D		
Sampled:	03/29/11 11:05	Prepared:		03/30/1	16:15	Analyzed:	04/01/11 00:29		
Solids:	84.70	Preparatio	on:	EXT 35	46	Dilution:	1		
Batch:		quence:	1D09108		Calibration:	1032006	- Instrument:	MS-BNAL	Rev
CAS NO.	COMPOUND			CON	C. (ug/Kg dry)	MDL	MRL	0	Qual
83-32-9	Acenaphthene			00.		30.3	384	U	u
208-96-8	Acenaphthylene					23.3	384	U	
120-12-7	Anthracene					31.5	384	U	
56-55-3	Benzo(a)anthracene					41.9	384	U	
50-32-8	Benzo(a)pyrene	and the second second	COLUMN T	1		26.8	384	U	
205-99-2	Benzo(b)fluoranthene					37.3	384	Q. U	
191-24-2	Benzo(g,h,i)perylene					81.6	384	U	
207-08-9	Benzo(k)fluoranthene					45.4	384	U	
218-01-9	Chrysene					36.1	384	U	
53-70-3	Dibenz(a,h)anthracene					69.9	384	U	
206-44-0	Fluoranthene					62.9	384	U	
86-73-7	Fluorene					30.3	384	U	
193-39-5	Indeno(1,2,3-cd)pyrene					53.6	384	U	
90-12-0	1-Methylnaphthalene					117	384	U	
91-57-6	2-Methylnaphthalene				A A A A A A A A A A A A A A A A A A A	40.8	384	U	
91-20-3	Naphthalene					37.3	384	U	
85-01-8	Phenanthrene					26.8	384	U	
129-00-0	Pyrene					46.6	384	X. U	UJ 56
SYSTEM MON	NITORING COMPOUN	ט	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	yl		388	3	3566	91.8	45 - 105		
Nitrobenzene-d	Vitrobenzene-d5 3883		3	3295	84.9	35 - 100			
Terphenyl-d14	Are and		388	3	3707	95.4	30 - 125	x	

SB-03-01

Laboratory:	Empirical Laboratories,	LLC		SDG:	1103247			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laboratory ID:	1103247	-08	File ID:	0324708.D		
Sampled:	03/29/11_11:20	Prepared:	03/30/1	1_16:15	Analyzed:	04/01/11 00:58		
Solids:	86.20	Preparation:	EXT_35	546	Dilution:	1		
Batch:	<u>1C30011</u> Seque	ence: <u>1D09108</u>		Calibration:	1032006	Instrument:	MS-BNA1	Rew Qual
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	Qual
83-32-9	Acenaphthene				30.0	380	Ų	K
208-96-8	Accnaphthylene				23.0	380	U	
120-12-7	Anthracene				31.1	380	U	
56-55-3	Benzo(a)anthracene				41.5	380	U	
50-32-8	Benzo(a)pyrene				26,5	380	U	
205-99-2	Benzo(b)fluoranthene				36.9	380	0. U	
191-24-2	Benzo(g,h,i)perylene				80.7	380	U	
207-08-9	Benzo(k)fluoranthene				44.9	380	U	
218-01-9	Chrysene				35.7	380	U	
53-70-3	Dibenz(a,h)anthracene				69.1	380	U	
206-44-0	Fluoranthene				62.2	380	U	
86-73-7	Fluorene				30.0	380	U	
193-39-5	Indeno(1,2,3-cd)pyrene				53.0	380	U	
90-12-0	I-Methylnaphthalene				115	380	U	
91-57-6	2-Methylnaphthalene				40.3	380	U	
91-20-3	Naphthalene				36.9	380	U	
85-01-8	Phenanthrene				26.5	380	U	1
129-00-0	Pyrene				46,1	380	X, U	UJ 56
SYSTEM MO	NITORING COMPOUND	ADDED (1	ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobipher	nyl	384	12	2344	61.0	45 - 105		
Nitrobenzene-o	itrobenzene-d5 3842		42	2503	65.2	35 - 100		
Terphenyl-d14		384	42	3133	81.5	30 - 125	X	

SB-03-019

Laboratory:	Empirical Laboratories,	, LLC	1	SDG:	<u>1103247</u>			
Client:	SES, Inc. (\$750)		1	Project:	FTS UST 2008	8-2010		
Matrix:	Soil	Laboratory ID:	1103247-	-09	File ID:	0324709.D		
Sampled:	03/29/11 11:20	Prepared:	03/30/11	1 16:15	Analyzed:	04/01/11 01:26		
Solids:	85.54	Preparation:	EXT 35	46	Dilution:	1		
Batch:		uence: 1D09108		Calibration:	1032006	Instrument:	MS-BNAL	2.5
CAS NO.	COMPOUND	<u>1007100</u>	T		MDL	MRL	Q	Rew
			CON	NC. (ug/Kg dry)				Qual
83-32-9	Acenaphthene				29.8	378	<u> </u>	
208-96-8	Acenaphthylene		+		22.9	378	U	-11
120-12-7	Anthracene		+		30.9	378	U	- 1
56-55-3	Benzo(a)anthracene	· · · · · · · · · · · · · · · · · · ·			41.3	378	U	- 1
50-32-8	Benzo(a)pyrene		+		26.4	378	U	
205-99-2	Benzo(b)fluoranthene				36.7	378	0. U	
191-24-2	Benzo(g,h,i)perylene				80.2	378	U	_
207-08-9	Benzo(k)fluoranthenc				44.7	378	U	
218-01-9	Chrysene				35.5	378	U	
53-70-3	Dibenz(a,h)anthracene				68.8	378	U	
206-44-0	Fluoranthene				61.9	378	U	
86-73-7	Fluorene				29.8	378	U	
193-39-5	Indeno(1,2,3-cd)pyrene				52.7	378	U	
90-12-0	1-Methylnaphthalene				115	378	U	
91-57-6	2-Methylnaphthalene				40.1	378	U	
91-20-3	Naphthalene				36.7	378	U	
85-01-8	Phenanthrene				26.4	378	U	1
129-00-0	Pyrene				45.8	378	X. U	UJ 5
	NITORING COMPOUND	ADDED (u	ag/Kg dry)	CONC (ug/Kg dry)		QC LIMITS	Q	7
2-Fluorobipheny	-Fluorobiphenyl 382		21	2365	61.9	45 - 105		
Nitrobenzene-di			21	2319	60.7	35 - 100		
Terphenyl-d14		382	21	3035	79.4	30 - 125	X	

SB-03-02

Laboratory:	Empirical Laboratorie	es. LLC	1	SDG:	1103247			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	8-2010		
Matrix:	Soil	Laboratory ID:	1103247	-10	File ID:	<u>0324710.D</u>		
Sampled:	03/29/11_11:35	Prepared:	03/30/11	1 16:15	Analyzed:	04/01/11 01:55	Į	
Solids:	85.04	Preparation:	EXT 35	546	Dilution:	1		
Batch:	<u>1C30011</u> Seq	quence: <u>1D09108</u>		Calibration:	1032006	Instrument:	<u>MS-BNΛ1</u>	Rev.
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	Qual
83-32-9	Acenaphthene				29.6	376	U	n
208-96-8	Acenaphthylene				22.8	376	U	- 1
120-12-7	Anthracene				30.7	376	U	
56-55-3	Benzo(a)anthracene				41.0	376	U	
50-32-8	Benzo(a)pyrene				26.2	376	U	
205-99-2	Benzo(b)fluoranthene				36,4	376	0. U	
191-24-2	Benzo(g,h,i)perylene				79.7	376	U	
207-08-9	Benzo(k)fluoranthene				44,4	376	U	-
218-01-9	Chrysene				35.3	376	U	
53-70-3	Dibenz(a,h)anthracene				68.3	376	U	
206-44-0	Fluoranthene				61.5	376	U	
86-73-7	Fluorene				29.6	376	U	
193-39-5	Indeno(1,2,3-cd)pyrene				52.3	376	U	
90-12-0	1-Methylnaphthalene				114	376	U	
91-57-6	2-Methylnaphthalene				39.8	376	U	
91-20-3	Naphthalene				36.4	376	U	-
85-01-8	Phenanthrene				26.2	376	U	
129-00-0	Pyrene				45.5	376	X, U	uJ 51
SYSTEM MON	NITORING COMPOUND) ADDED (u	ig/Kg dry)	CONC (ug/Kg dry)		QC LIMITS	Q	
2-Fluorobipheny	-Fluorobiphenyl 3793		13	3127	82.4	45 - 105		-
Nitrobenzene-d5	itrobenzene-d5 3793			3006	79.2	35 - 100		-
Terphenyl-d14		379	13	4776	126	30 - 125	*X	-

SB-05-01

_aboratory:	Empirical Laboratories, L	LC	S	DG:	1103247			
lient:	SES, Inc. (S750)		P	roject:	FTS UST 2008	-2010		
		Laboration ID:			File ID:	0324711.D		
Matrix:	Soil	Laboratory ID:	1103247-	<u>11</u>				
Sampled:	03/29/11 13:15	Prepared:	03/30/11	16:15	Analyzed:	04/01/11 02:23		
Solids:	91.08	Preparation:	EXT_35	<u>46</u>	Dilution:	1		
Batch:	1C30011 Sequen	ce: <u>1D09108</u>	C	Calibration:	1032006	Instrument:	<u>MS-BNA1</u>	Rev
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	Zne
83-32-9	Acenaphthene				28.0	355	U	li
208-96-8	Acenaphthylene				21.5	355	U	
120-12-7	Anthracene				29.1	355	U	
56-55-3	Benzo(a)anthracene				38.7	355	U	+
50-32-8	Benzo(a)pyrene			118	24.8	355	J	5
205-99-2	Benzo(b)fluoranthene			140	34.4	355	O, J	1 1
191-24-2	Benzo(g.h.i)perylene			106	75.3	355	J	J
207-08-9	Benzo(k)fluoranthene			54.4	42.0	355	J	
218-01-9	Chrysene			92.1	33.4	355	J	4
53-70-3	Dibenz(a,h)anthracene				64.6	355	U	u
206-44-0	Fluoranthene				58.1	355	U	
86-73-7	Fluorene				28.0	355	U	
193-39-5	Indeno(1,2,3-cd)pyrene				49.5	355	U	
90-12-0	1-Methylnaphthalene				108	355	U	
91-57-6	2-Methylnaphthalene				37.7	355	U	
91-20-3	Naphthalene				34.4	355	U	
85-01-8	Phenanthrene	11			24.8	355	U	¥.
129-00-0	Pyrene			95.5	43.1	355	X, J	3 :
SYSTEM MO	ADDED ADDED		ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	ıyl	35	88	3232	90.1	45 - 105		
Nitrobenzene-d	15	35	88	2796	77.9	35 - 100		
Terphenyl-d14			88	3692	103	30 - 125	X	

SB-05-02

Laboratory:	Empirical Laboratories, I	<u>. LLC</u>	f	SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)		Ţ	Project:	FTS UST 2008	<u>3-2010</u>		
Matrix:	Soil	Laboratory ID:	1103247-	-12	File ID:	0324712.D		
Sampled:	03/29/11 13:20	Prepared:	<u>03/30/11</u>	<u>1 16:15</u>	Analyzed:	04/02/11 21:53		
Solids:	83,51	Preparation:	<u>EXT_35</u>	46	Dilution:	1		
Batch:	<u>1C30011</u> Seque	tence: <u>1D09303</u>	1	Calibration:	1032006	Instrument:	MS-BNA1	Rew
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	Que
83-32-9	Acenaphthene				29.7	378	U	n
208-96-8	Acenaphthylene				22.9	378	U	
120-12-7	Anthracene				30.9	378	U	
56-55-3	Benzo(a)anthracenc				41.2	378	U	
50-32-8	Benzo(a)pyrene				26.3	378	U	
205-99-2	Benzo(b)fluoranthene				36.6	378	Q, X, U	
191-24-2	Benzo(g,h,i)perylene				80.1	378	U	
207-08-9	Benzo(k)fluoranthene				44.6	378	U	
218-01-9	Chrysene				35.5	378	U	
53-70-3	Dibenz(a,h)anthracene				68.6	378	U	•
206-44-0	Fluoranthene				61.8	378	U	
86-73-7	Fluorene				29.7	378	U	
193-39-5	Indeno(1.2,3-cd)pyrene				52.6	378	U	
90-12-0	1-Methylnaphthalene				114	378	U	
91-57-6	2-Methylnaphthalene				40.0	378	U	
91-20-3	Naphthalene				36.6	378	U	
85-01-8	Phenanthrene				26.3	378	U	
129-00-0	Pyrene		1		45.8	378	U	K3
	NITORING COMPOUND	ADDED (u	ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	1
2-Fluorobipheny	ıyl	381	14	2436	63.9	45 - 105		
Nitrobenzene-da			14	2380	62.4	35 - 100		
Terphenyl-d14		381	14	3664	96.1	30 - 125		

SB-06-01

aboratory:	Empirical Laboratories, LL	<u>_C</u>	S	DG:	1103247			
lient:	SES, Inc. (S750)		P	roject:	FTS UST 2008	<u>-2010</u>		
latrix:	Soil	Laboratory ID:	1103247-1	13	File ID:	0324713.D		
			03/30/11		Analyzed:	04/01/11 03:2 <u>0</u>		
ampled:	03/29/11 13:40	Prepared:	0			V2		
olids:	91.00	Preparation:	EXT_354	<u>+6</u>	Dilution:	1		0.
Batch:	1C30011 Sequenc	ce: <u>1D09108</u>	С	Calibration:	1032006	Instrument:	MS-BNA1	Real
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	
83-32-9	Acenaphthene				28.0	356	U	u
208-96-8	Acenaphthylene				21.5	3 <u>56</u>	U	_
120-12-7	Anthracene				29.1	356	U	_
56-55-3	Benzo(a)anthracene				38.8	356	U	
50-32-8	Benzo(a)pyrene			201.2	24.8	356	U	
205-99-2	Benzo(b)fluoranthene				34.5	356	Q, U	
191-24-2	Benzo(g,h,i)perylene				75,4	356	U	
207-08-9	Benzo(k)fluoranthene				42.0	356	U	
218-01-9	Chrysene				33.4	356	U	
53-70-3	Dibenz(a,h)anthracene				64.6	356	U	
206-44-0	Fluoranthene				58.2	356	U	
86-73-7	Fluorene				28.0	356	U	
193-39-5	Indeno(1,2,3-cd)pyrene	17 			49.6	356	U	
90-12-0	1-Methylnaphthalene		1111		108	356	U	
91-57-6	2-Methylnaphthalene				37.7	356	U	
91-20-3	Naphthalene		105		34.5	356	U	
85-01-8	Phenanthrene				24.8	356	U	↓
129-00-0	Pyrene				43.1	356	X. U	us
	ONITORING COMPOUND	ADDED ((ug/Kg dry)	CONC (ug/Kg dry)) % REC	QC LIMITS	Q	
			91	1854	51.6	45 - 105		
	Vitrobenzene-d5 35		91	2307	64,2	35 - 100		
Terphenyl-d14	HIODENZENE 45			2707	75.4	30 - 125	X	

SB-06-02

Laboratory:	Empirical Laboratorie	s. LLC		SDG:	<u>1103247</u>				
Client:	SES, Inc. (S750)		1	Project:	<u>FTS UST 2008</u>	-2010			
Matrix:	Soil	Laboratory 1D:	1103247	-14	File ID:	0324714.D			
Sampled:	03/29/11 13:45	Prepared:	03/30/1	1 16:15	Analyzed:	04/01/11 03:49			
Solids:	81.70	Preparation:	EXT 35	346	Dilution:	1			
Batch:		uence: 1D09108		Calibration:	1032006	Instrument:	MS-BNA1	Re	لر
CAS NO.	COMPOUND		CON	VC. (ug/Kg dry)	MDL	MRL	0	Tà	net
83-32-9	Acenaphthene		- con	(using us)	31.2	396	U	u	
208-96-8	Acenaphthylene	in the second			24.0	396	U	- 1	
120-12-7	Anthracene	ilinge the second second			32.4	396	U		
56-55-3	Benzo(a)anthracene				43.2	396	U		
50-32-8	Benzo(a)pyrene				27.6	396	U		
205-99-2	Benzo(b)fluoranthene				38.4	396	Q. U		
191-24-2	Benzo(g,h,i)perylene				84.0	396	U		
207-08-9	Benzo(k)fluoranthene				46.8	396	U		
218-01-9	Chrysene			10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	37.2	396	U		
53-70-3	Dibenz(a,h)anthracene				72.0	396	U		
206-44-0	Fluoranthene				64.8	396	U		
86-73-7	Fluorene				31.2	396	U		
193-39-5	Indeno(1,2,3-cd)pyrene				55.2	396	U		
90-12-0	1-Methylnaphthalene				120	396	U		
91-57-6	2-Methylnaphthalene				42.0	396	U		
91-20-3	Naphthalene				38.4	396	U		
85-01-8	Phenanthrene				27.6	396	U	4	
129-00-0	Pyrene				48.0	396	X, U	LJ	56
SYSTEM MO	NITORING COMPOUND	ADDED (ig/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q		
2-Fluorobiphen	nyl	400	00	3140	78.5	45 - 105			
Nitrobenzene-d	15	400	00	3461	86.5	35 - 100			
Terphenyl-d14		400	00	4538	113	30 - 125	X		

SB-07-01

aboratory:	Empirical Laboratories, LL	<u>C</u>	S	DG:	<u>1103247</u>			
lient:	SES, Inc. (\$750)		P	roject:	FTS UST 2008	-2010		
Aatrix:	Soil	Laboratory ID:	110324 <u>7-1</u>	15	File ID:	0324715.D		
		Prepared:	03/30/11	16:15	Analyzed:	04/01/11 04:17		
ampled:	03/29/11_14:05	Prepared:			73			
folids:	<u>77.91</u>	Preparation:	EXT_354	<u>16</u>	Dilution:	<u>1</u>		` .
Batch:	1C30011 Sequenc	e: <u>1D09108</u>	C	alibration:	1032006	Instrument:	MS-BNA1	Rev
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	2m
83-32-9	Acenaphthene				32,1	407	U	- 4
208-96-8	Acenaphthylene				24.7	407	U	_1
120-12-7	Anthracene				33.3	407	U	
56-55-3	Benzo(a)anthracene	10,000			44.4	407	U	_
50-32-8	Benzo(a)pyrene				28.4	407	U	
205-99-2	Benzo(b)fluoranthene				39.5	407	Q, U	
191-24-2	Benzo(g,h,i)perylene		1		86.4	407	U	
207-08-9	Benzo(k)fluoranthene				48.1	407	U	
218-01-9	Chrysene				38.3	407	U	
53-70-3	Dibenz(a,h)anthracene		1.		74,1	407	U	_
206-44-0	Fluoranthene				66.6	407	U	
86-73-7	Fluorene				32.1	407	U	
193-39-5	Indeno(1,2,3-cd)pyrenc				56.8	407	U	
90-12-0	1-Methylnaphthalene				123	407	U	
91-57-6	2-Methylnaphthalene				43.2	407	U	
91-20-3	Naphthalene				39.5	407	U	
85-01-8	Phenanthrene				28.4	407	U	_ V
129-00-0	Pvrene				49.4	407	X, U	NJ
The second se	INITORING COMPOUND	ADDED	(ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
	2-Fluorobiphenyl 41		14	2322	56.4	45 - 105		
	Vitrobenzene-d5 411		14	2175	52.9	35 - 100		_
Terphenyl-dl4	nuovenzene-do			3068	74.6	30 - 125	X	

SB-07-02

aboratory:	Empirical Laboratories, LL	<u>C</u>	S	DG:	<u>1103247</u>			
'lient:	SES, Inc. (S750)		P	roject:	FTS UST 2008-	2010		
latrix:	Soil	Laboratory ID:	<u>1103247-1</u>	<u>16</u>	File ID:	0324716.D		
ampled:	03/29/11 14:10	Prepared:	03/30/11	16:15	Analyzed:	<u>04/01/11 15:37</u>		
olids:	84.91	Preparation:	EXT 354	46	Dilution:	1		
3 35			1	alibration:	1032006	Instrument:	MS-BNA1	Rev
Batch:	<u>1C30011</u> Sequence	e: <u>1107.004</u>	1			MRL	Q	Row
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL			- 9
83-32-9	Acenaphthene				29.4	374	U	- i
208-96-8	Acenaphthylene				22.6	374	U	
120-12-7	Anthracene			14	30,6	374	U	
56-55-3	Benzo(a)anthracene				40.8	374	U	
50-32-8	Benzo(a)pyrene				26.0	374	U	_
205-99-2	Benzo(b)fluoranthene				36.2	374	Q. U	
191-24-2	Benzo(g,h,i)perylene				79.3	374	U	_
207-08-9	Benzo(k)fluoranthene				44.2	374	U	
218-01-9	Chrysene	16			35.1	374	U	
53-70-3	Dibenz(a.h)anthracene				67.9	374	U	
206-44-0	Fluoranthene			nii	61.1	374	U	
86-73-7	Fluorene	10511			29.4	374	U	
193-39-5	Indeno(1,2,3-cd)pyrene	100004000000000000000000000000000			52.1	374	U	
90-12-0	1-Methylnaphthalene				113	374	U	
91-57-6	2-Methylnaphthalene				39.6	374	U	
91-20-3	Naphthalene				36.2	374	U	
85-01-8	Phenanthrene				26.0	374	U	1
129-00-0	Pyrene				45.3	374	U	les
Louis and the second seco	NITORING COMPOUND	ADDED ((ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	0
2-Fluorobipher			75	3340	88.5	45 - 105		
Nitrobenzene-o			75	3333	88.3	35 - 100		
Terphenyl-d14		37		4257	113	30 - 125		

SB-08-01

Laboratory:	Empirical Laboratori	ies, LLC		SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laboratory ID:	1103247	-17	File ID:	0324717.D		
Sampled:	03/29/11 14:35	Prepared:	03/30/1	1 16:15	Analyzed:	04/01/11 05:14		
Solids:	83.78	Preparation:	EXT 3	546	Dilution:	1		
Batch:	<u>1C30011</u> Se	equence: <u>1D0910</u>	3	Calibration:	1032006	Instrument:	MS-BNA1	Rev
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	Zna
83-32-9	Acenaphthene				29.7	376	U	u
208-96-8	Acenaphthylene				22.8	376	U	1
120-12-7	Anthracene				30.8	376	U	
56-55-3	Benzo(a)anthracene				41.1	376	U	
50-32-8	Benzo(a)pyrene				26.2	376	U	
205-99-2	Benzo(b)fluoranthene				36.5	376	0. U	
191-24-2	Benzo(g,h,i)perylene				79.8	376	U	
207-08-9	Benzo(k)fluoranthene				44.5	376	U	
218-01-9	Chrysene				35.4	376	U	
53-70-3	Dibenz(a,h)anthracene				68.4	376	U	
206-44-0	Fluoranthene				61.6	376	U	
86-73-7	Fluorene				29.7	376	U	
193-39-5	Indeno(1,2,3-cd)pyrene				52.5	376	U	
90-12-0	1-Methylnaphthalone				114	376	U	
91-57-6	2-Methylnaphthalene				39.9	376	U	
91-20-3	Naphthalene				36.5	376	U	
85-01-8	Phenanthrene				26.2	376	υ	
129-00-0	Pyrenc				45.6	376	X, U	WJ 51
SYSTEM MON	NITORING COMPOUN	D ADDED	(ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	yl	31	301	2863	75.3	45 - 105		
Nitrobenzenc-d	itrobenzenc-d5 3801		301	2721	71.6	35 - 100		
Terphenyl-d14		31	301	3680	96.8	30 - 125	X	

SB-08-02

Laboratory:	Empirical Laborator	ies, LLC	1	SDG:	1103247			
Client:	SES, Inc. (S750)		1	Project:	FTS UST 2008-	2010		
Matrix:	Soil	Laboratory ID:	1103247-	-18	File ID:	0324718.D		Let .
Sampled:	03/29/11 14:45	Prepared:	03/30/11	1 16:15	Analyzed:	04/01/11 05:42		1
Solids:	84.52	Preparation:	EXT 35	346	Dilution:	1		X
Batch:		equence: <u>1D09108</u>		Calibration:	1032006	Instrument:	MS-BNA1	Rev.
CAS NO.	COMPOUND	in the second	CON	NC. (ug/Kg dry)	MDL	MRL	Q	Igna
83-32-9	Acenaphthene			12	30.0	380	U	Le
208-96-8	Acenaphthylene				23.0	380	U	
120-12-7	Anthracene				31.1	380	U	
56-55-3	Benzo(a)anthracene				41.5	380	U	
50-32-8	Benzo(a)pyrene				26.5	380	U	
205-99-2	Benzo(b)fluoranthene				36.9	380	Q. U	
191-24-2	Benzo(g,h,i)perylene				80.7	380	U	
207-08-9	Benzo(k)fluoranthene				44.9	380	U	
218-01-9	Chrysene				35.7	380	U	
53-70-3	Dibenz(a,h)anthracene				69.1	380	U	
206-44-0	Fluoranthene				62.2	380	U	
86-73-7	Fluorene				30.0	380	U	
193-39-5	Indeno(1,2,3-cd)pyrene	:			53.0	380	U	
90-12-0	1-Methylnaphthalene				115	380	U	
91-57-6	2-Methylnaphthalene				40.3	380	U	
91-20-3	Naphthalene				36.9	380	U	
85-01-8	Phenanthrene				26.5	380	U	
129-00-0	Pyrene				46.1	380	X, U	UJ 56
SYSTEM MON	NITORING COMPOUN	D ADDED ((ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	.Q	
2-Fluorobipheny	yl	38	41	3557	92.6	45 - 105		
Nitrobenzene-di	5	38	341	3157	82.2	35 - 100		
Terphenyl-d14		38	41	4524	118	30 - 125	X	

SB-09-01

aboratory:	Empirical Laboratories, LLC		S	DG:	1103247			
lient:	SES, Inc. (S750)		Р	roject:	FTS UST 2008	-2010		
Aatrix:	Soil Lab	oratory ID:	1103247-1	19	File ID:	03247 <u>19.D</u>		
ampled:		bared:	03/30/11	16:15	Analyzed:	04/01/11 06:10		
			EXT 354	16	Dilution:	1		
solids:	<u>91.32</u> Prep	paration:	10					2
Batch:	IC30011 Sequence:	<u>1D09108</u>	C	`alibration:	1032006	Instrument:	MS-BNA1	Red
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	2 que
83-32-9	Acenaphthene				28.1	357	U	u
208-96-8	Acenaphthylene				21.6	357	U	_
120-12-7	Anthracene				29.2	357	U	-+
56-55-3	Benzo(a)anthracene			107	38.9	357	J	J
50-32-8	Benzo(a)pyrene			102	24.9	357	J	J
205-99-2	Benzo(b)fluoranthene			207	34.6	357	Q. J	51
191-24-2	Benzo(g,h,i)perylene				75.6	357	U	u
207-08-9	Benzo(k)fluoranthene			80.1	42.1	357	J	T
218-01-9	Chrysene			128	33.5	357	J	J
53-70-3	Dibenz(a,h)anthracene		1		64.8	357	U	u
206-44-0	Fluoranthene			113	58.4	357	J	J
86-73-7	Fluorene	20 - 10			28.1	357	U	u
193-39-5	Indeno(1,2,3-cd)pyrene		1		49.7	357	U	
90-12-0	1-Methylnaphthalene				108	357	U	
91-57-6	2-Methylnaphthalene				37.8	357	U	
91-20-3	Naphthalene				34.6	357	U	
85-01-8	Phenanthrene				24.9	357	U	4
129-00-0	Pyrene			297	43.2	357	X, J	J
and the second se	NITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobipher	ענ <u>ו</u>	36	02	2523	70.0	45 - 105		
Nitrobenzene-o		36	02	2359	65.5	35 - 100		
Terphenyl-d14		36	02	3598	99.9	30 - 125	X	

SB-09-02

aboratory:	Empirical Laboratories, LLC	• -	S	DG:	1103247			
lient:	SES, Inc. (S750)		P	roject:	FTS UST 2008-	2010		
fatrix:		Laboratory ID:	1103247-2	20	File ID:	0324720.D		
			03/30/11	16:15	Analyzed:	04/01/11 06:38		
ampled:		Prepared:			3 	550		
olids:	80.66	Preparation:	<u>EXT_354</u>	<u>16</u>	Dilution:	1		2
Batch:	1C30011 Sequence:	: <u>1D09108</u>	C	alibration:	1032006	Instrument:	MS-BNA1	Rew
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	
83-32-9	Acenaphthene				30.8	391	U	- u
208-96-8	Acenaphthylene				23.7	391	U	
120-12-7	Anthracene				32.0	391	U	
56-55-3	Benzo(a)anthracene		_		42.6	391	U	
50-32-8	Benzo(a)pyrene				27.2	391	U	
205-99-2	Benzo(b)fluoranthene				37.9	391	Q. U	
191-24-2	Benzo(g,h,i)perylene				82.9	391	U	
207-08-9	Benzo(k)fluoranthene				46.2	391	U	_
218-01-9	Chrysene				36.7	391	U	
53-70-3	Dibenz(a,h)anthracene				71.1	391	U	
206-44-0	Fluoranthene				64.0	391	U	
the second state of the	Fluorene				30.8	391	U	
86-73-7 193-39 - 5	Indeno(1,2,3-cd)pyrene				54.5	391	U	
	1-Methylnaphthalene				118	391	U	
90-12-0	2-Methylnaphthalenc				41.5	391	U	
91-57-6	Naphthalene				37.9	391	U	
91-20-3	Phenanthrene				27.2	391	U	
85-01-8	Pyrene	A A MARKET CONTRACT			47.4	391	X, U	NJ
129-00-0)NITORING COMPOUND	ADDED ((ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphe		39	49	3271	82.8	45 - 105		
2-Fluorobiphe Nitrobenzene-			49	3302	83.6	35 - 100		
Terphenyl-d14			049	3953	100	30 - 125	X	

SB-10-01

aboratory:	Empirical Laboratories, LLC	- -	SI)G:	1103247			
lient:	SES, Inc. (S750)		Pı	oject:	FTS UST 2008-	-2010		
latrix:	Soil	Laboratory ID:	1103247-2	<u>1</u>	File 1D:	0324721D.D		
ampled:	03/29/11 15:40	Prepared:	03/30/11	15:30	Analyzed:	03/30/11 18:04		
olids:	68.32	Preparation:	<u>EXT_354</u>	<u>.6</u>	Dilution:	5		2
atch:	<u>1C30020</u> Sequence	: <u>1C08909</u>	С	alibration:	1032006	Instrument:	MS-BNA1	R
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	
83-32-9	Acenaphthene				25900	329000	Q. U	- 4
208-96-8	Acenaphthylene				20000	329000	Q, U	
120-12-7	Anthracene				26900	329000	Q, U	_
56-55-3	Benzo(a)anthracene				35900	329000	Q, U	_
50-32-8	Benzo(a)pyrene				23000	329000	U	
205-99-2	Benzo(b)fluoranthene				31900	329000	U	
191-24-2	Benzo(g,h,i)perylene		i manar-		69900	329000	U	_
207-08-9	Benzo(k)fluoranthene				38900	329000	U	
218-01-9	Chrysene				30900	329000	Q, U	
53-70-3	Dibenz(a,h)anthracene		1		59900	329000	U	
206-44-0	Fluoranthene				53900	329000	U	
86-73-7	Fluorenc				25900	329000	Q. U	
193-39-5	Indeno(1,2,3-cd)pyrene				45900	329000	U	-
90-12-0	1-Methylnaphthalene				99800	329000	Q, U	
<u>90-12-0</u> 91-57-6	2-Methylnaphthalene				34900	329000	Q. U	
91-20-3	Naphthalene				31900	329000	0, U	
85-01-8	Phenanthrene	in distant			23000	329000	<u>Q, U</u>	
129-00-0	Pyrene				39900	329000	U	0
and the second se	NITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobipher		6653	3000	6035000	90.7	45 - 105		
Nitrobenzene-		6653		6759000	102	35 - 100	*	
Terphenyl-d14		665		6546000	98.4	30 - 125		

SB-10-02

.aboratory:	Empirical Laborator	ies. LLC		SDG:	1103247			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	-2010		
Aatrix:	Soil	Laboratory ID:	1103247	-22	File ID:	0324722.D		
Sampled:	03/29/11 15:45	Prepared:	03/30/1	1 16:15	Analyzed:	04/01/11 16:05		
olids:	81.50	Preparation:	EXT_35	546	Dilution:	1		
latch:	<u>1C30013</u> Se	equence: <u>1D09</u>	302	Calibration:	1032006	Instrument:	MS-BNA1	R
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	9
83-32-9	Acenaphthene				31.7	402	U	u
208-96-8	Acenaphthylene				24.4	402	U	
120-12-7	Anthracene				32.9	402	U	
56-55-3	Benzo(a)anthracene				43.9	402	U	
50-32-8	Benzo(a)pyrene				28.0	402	U	
205-99-2	Benzo(b)fluoranthene				39.0	402	U	
191-24-2	Benzo(g,h,i)perylene				85.3	402	U	
207-08-9	Benzo(k)fluoranthene				47.5	402	U	
218-01-9	Chrysene				37.8	402	U	
53-70-3	Dibenz(a,h)anthracene				73.1	402	U	
206-44-0	Fluoranthene				65.8	402	U	
86-73-7	Fluorene				31.7	402	U	
193-39-5	Indeno(1.2,3-cd)pyrene				56.1	402	U	
90-12-0	1-Methylnaphthalene				122	402	U	
91-57-6	2-Methylnaphthalene				42.7	402	Q. U	
91-20-3	Naphthalene				39.0	402	U	
85-01-8	Phenanthrene			No. of Concession, Name	28.0	402	U	
129-00-0	Pyrene				48.8	402	U	¥
SYSTEM MON	NITORING COMPOUN	D ADD	ED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	yl		4063	3425	84.3	45 - 105		
Nitrobenzene-d	5		4063	3469	85.4	35 - 100		
Terphenyl-d14			4063	4466	110	30 - 125		

SB-11-01

_aboratory:	Empirical Laboratories	s, LLC	5	SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)		1	Project:	FTS UST 2008	3-2010		
		Laboratory ID:	1103247-		File ID:	0324723.D		
Matrix:	Soil	10000000000000000000000000000000000000	1105247	-23				
Sampled:	03/29/11 16:10	Prepared:	03/30/11	1 16:15	Analyzed:	04/01/11 16:34		
Solids:	88.60	Preparation:	EXT_35	546	Dilution:	1		
Batch:	<u>1C30013</u> Seq	uence: <u>1D09302</u>		Calibration:	1032006	Instrument:	MS-BNAL	Rev
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	240
83-32-9	Acenaphthene				27.7	351	U	ų
208-96-8	Acenaphthylene				21.3	351	U	
120-12-7	Anthracene				28.7	351	U	*
56-55-3	Benzo(a)anthracene			107	38.3	351	J	7
50-32-8	Benzo(a)pyrene			71.1	24.5	351	J	
205-99-2	Benzo(b)fluoranthene			133	34.1	351	J	1
191-24-2	Benzo(g,h,i)perylene				74.5	351	U	u
207-08-9	Benzo(k)fluoranthene			49.5	41.5	351	J	7
218-01-9	Chrysene			104	33.0	351	J	J
53-70-3	Dibenz(a,h)anthracene				63.9	351	U	u
206-44-0	Fluoranthene			108	57.5	351	J	3
86-73-7	Fluorene				27.7	351	U	u
193-39-5	Indeno(1,2,3-cd)pyrene				49.0	351	U	le
90-12-0	1-Methylnaphthalene			210	106	351	J	T
91-57-6	2-Methylnaphthalene			304	37.3	351	0. J	1
91-20-3	Naphthalene			71.6	34.1	351	J	1
85-01-8	Phenanthrene				24.5	351	U	u
129-00-0	Pyrenc			314	42.6	351	J	J
SYSTEM MON	NITORING COMPOUND	ADDED	ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	yl	35	49	2634	74.2	45 - 105		
Nitrobenzene-d	5	35	49	3249	91.5	35 - 100		
Terphenyl-d14		35	49	3750	106	30 - 125		

SB-11-02

aboratory:	Empirical Laboratories, LL	<u>C</u>	S	DG:	<u>1103247</u>			
lient:	SES. Inc. (S750)		Р	roject:	FTS UST 2008-	-2010		
latrix:	Soil	Laboratory ID:	1103247-2	24	File ID:	<u>0324724.D</u>		
ampled:	03/29/11 16:15	Prepared:	03/30/11	16:15	Analyzed:	04/01/11 17:03		
olids:	83.17	Preparation:	EXT 354	16	Dilution:	1		
		NAMES OF THE OFFICE AND ADDRESS OF THE OWNER		alibration:	1032006	- Instrument:	MS-BNA1	0
latch:	<u>1C30013</u> Sequence	e: <u>1D09302</u>					1	٦Î
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	
83-32-9	Acenaphthene				30.9	392	U	_
208-96-8	Acenaphthylene				23.7	392	U	_
120-12-7	Anthracene			-	32.0	392	U.	
56-55-3	Benzo(a)anthracene			0.000	42.7	392	U	_
50-32-8	Benzo(a)pyrene	- 0.1990			27.3	392	U	_
205-99-2	Benzo(b)fluoranthene				38.0	392	U	
191-24-2	Benzo(g,h,i)perylene				83.1	392	U	-
207-08-9	Benzo(k)fluoranthene				46.3	392	U	
218-01-9	Chrysene				36.8	392	U	
53-70-3	Dibenz(a,h)anthracene				71.2	392	U	
206-44-0	Fluoranthene				64.1	392	U	
86-73-7	Fluorene				30.9	392	U	
193-39-5	Indeno(1,2,3-cd)pyrene	a construction of the second sec			54.6	392	U	
90-12-0	1-Methylnaphthalene	(1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000			119	392	U	
90-12-0	2-Methylnaphthalene				41.5	392	Q. U	
1. Contraction and the second	Naphthalene		-		38.0	392	U	
91-20-3	Phenanthrene			10-2-10-2-10	27.3	392	U	
85-01-8				and a standard starting of	47.5	392	U	
129-00-0	Pyrene NITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	1	QC LIMITS	Q	1
2-Fluorobipher	Contraction of the local data			2966	75.0	45 - 105		
2-Fluorobipne		39		3542	89.5	35 - 100		
Terphenyl-d14		39		3587	90.7	30 - 125		

SB-12-01

aboratory:	Empirical Laboratories, L	<u>.LC</u>	S	SDG:	1103247			
lient:	SES, Inc. (\$750)		P	roject:	FTS UST 2008	-2010		
4atrix:	Soil	Laboratory ID:	<u>1103247-</u>	25	File ID:	0324725.D		
ampled:	03/29/11 16:40	Prepared:	03/30/11	16:15	Analyzed:	04/01/11 17:31		
50 		Processie - 0.0 (2009) - 202	EXT 35	Sectors and	Dilution:	1		
olids:	80.60	Preparation:	10					_
Batch:	<u>1C30013</u> Seque	nce: <u>1D09302</u>	(Calibration:	1032006	Instrument:	MS-BNA1	Re
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	2
83-32-9	Acenaphthene				32.0	407	U	li
208-96-8	Acenaphthylene			64.1	24.6	407	J	3
120-12-7	Anthracene				33.3	407	U	u
56-55-3	Benzo(a)anthracene			175	44.4	407	J	_ 7
50-32-8	Benzo(a)pyrene	la-hi		216	28.3	407	J	
205-99-2	Benzo(b)fluoranthene			333	39.4	407	J	*
191-24-2	Benzo(g,h,i)perylene	V.81.52015.01-			86.3	407	U	L
207-08-9	Benzo(k)fluoranthene			161	48.1	407	J	-
218-01-9	Chrysene			245	38.2	407	J	J
53-70-3	Dibenz(a,h)anthracene				73.9	407	U	u
206-44-0	Fluoranthene			207	66.6	407	J	J
86-73-7	Fluorene				32.0	407	U	4
193-39-5	Indeno(1,2,3-cd)pyrene				56.7	407	U	_ [
90-12-0	1-Methylnaphthalene				123	407	U	
91-57-6	2-Methylnaphthalene				43.1	407	Q, U	
91-20-3	Naphthalene				39.4	407	U	*
85-01-8	Phenanthrene			77.9	28.3	407	J	7
129-00-0	Pyrene			510	49.3	407		-
	NITORING COMPOUND	ADDED	(ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	ıyl	41	08	3227	78.5	45 - 105		
Nitrobenzene-d		41	08	3716	90.5	35 - 100		
Terphenyl-d14		41	08	4088	99.5	30 - 125		

SB-12-02

Laboratory:	Empirical Laboratories	<u>s, LLC</u>	1	SDG:	1103247			
Client:	SES, Inc. (S750)		Į.	Project:	FTS UST 2008-	<u>1-2010</u>		
Matrix:	Soil	Laboratory ID:	1103247-	-26	File ID:	0324726.D		
Sampled:	03/29/11 16:50	Prepared:	03/30/11	1 16:15	Analyzed:	04/01/11 17:59		
Solids:	90.89	Preparation:	<u>EXT_35</u>	<u>546</u>	Dilution:	1		
Batch:	<u>1C30013</u> Sequ	uence: <u>1D09302</u>	1	Calibration:	1032006	Instrument:	MS-BNA1	Rw
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	Jaud
83-32-9	Acenaphthene				28.0	356	U	u
208-96-8	Acenaphthylene			66.5	21.6	356	J	3
120-12-7	Anthracene				29.1	356	U	u
56-55-3	Benzo(a)anthracene			208	38.8	356	J	3
50-32-8	Benzo(a)pyrene			269	24.8	356	J	J
205-99-2	Benzo(b)fluoranthene			427	34.5	356		
191-24-2	Benzo(g,h,i)perylene			161	75.5	356	J	7
207-08-9	Benzo(k)fluoranthene			120	42.1	356	J	1
218-01-9	Chrysene			289	33.4	356	J	1
53-70-3	Dibenz(a,h)anthracene				64.7	356	U	u
206-44-0	Fluoranthene			180	58.2	356	J	3
86-73-7	Fluorene				28.0	356	U	ü
193-39-5	Indeno(1,2,3-cd)pyrene			122	49.6	356	J	3
90-12-0	I-Methylnaphthalene				108	356	U	u
91-57-6	2-Methylnaphthalene			50.3	37.8	356	Q. J	7
91-20-3	Naphthalene			35.8	34.5	356	J	
85-01-8	Phenanthrene			61.7	24.8	356	J	1
129-00-0	Pyrene			517	43.1	356		
SYSTEM MON	NITORING COMPOUND	ADDED (u	ig/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	7
2-Fluorobipheny	yl	359	16	3001	83.5	45 - 105		
Nitrobenzene-d5	5	359	/6	3111	86.5	35 - 100		
Terphenyl-d14		359)6	3454	96.1	30 - 125		

			IDATION WO	GANICS				
Reviewer:	Kitchings			Date:	+ 20			
2010-000-000-000-000-000-000-000-000-000	FTC 419	SDG:1[0]	3247	Date: Matrix/No. Sam	ples: S~2	25		
I.	Technical Holding Tin	nes						
	A. Sample Prese	rvation, Handling a	und Transport					11 58 - 1
	1. Have all sa	mples been preserved	d correctly?			Yes	No	N/A
	2. Have sample	le temperatures been	kept at 4° C (+	or - 2 °)?		Yes	No	N/A
	3. Were all sa	mples received in pro	oper condition?			ves	No	N/A
	4. Were any q	ualifications required	d based on this i	nformation?		Yes	Ng	N/A
	Coolers @ 1.7,	1.9 °C.						
	B. Chain of Cus	tody						
	1. Were all sa	mples properly recor	rded on COCs?			Ye	No	N/A
	2. Were corre	et analyses performe	d on samples?			Ves	No	N/A
	C. Holding Time	28						
	1. Were samp	les extracted and ana	alyzed within ac	ceptable holding time	es?	Yes	No	N/A
	2. Were any q	qualifications required	d based on this i	nformation?		Yes	(No)	N/A
	SAMPLED		PREPP	ED		ANALYZ	ED	
	3/29		330		6	3/31		
	5/21		1		L	4/1		
					(4/2		
II.	GC/MS Instrument P	erformance Check						
	1. Were instrument per	rformance check sam	ples run for eac	h analysis period?		(Yes)	No	N/A
	2. Were ion abundance	e criteria met for DTI	FPP analysis?	A company of the design of the second se		(Yes)	No	N/A
	3. Do laboratory forms	match raw data?				Yes	No	(N/A)
	4. Were any qualificati	ons required based c	on this information	on?		Yes	(No)	N/A
Commo	ents/Qualifications: 1/26 198 605	-3/30 SP 8909	510-61	3/31 9168	47	/1 07. 10. 10.	-02 -02 - 12 -1	02.
	1/26 198 buse all criteria not.		0	01-01 thra 07-0 09-01 0861)))))) ())	7 938	3	
L				0861	~ SB-050	2 19 12 19 Gll	s bre onteri	ia vot

Reviewer:	Kitchings Date: 4 20									
Project:	FIC 419 SDG: 1103247 Matrix/No. Samples: 5-2	5								
III.	Initial Calibration									
	1. Were correct concentrations of standards used for initial calibration? Were samples analyzed within 12 hours of associated instrument performance check?	Kes	No	N/A						
	2. Were initial calibration RRFs for all volatile target compounds and system monitoring compounds $>$ or = 0.05? Do recalculations for RRFs agree with reported values?	Ye	No	N/A						
	3. Were $RSDs < or = 30\%$ for all volatile target compounds? Do recalculations for RSDs agree with reported values?	Yes	No	N/A						
	4. Were any qualifications required based on this information?	Yes	(No)	N/A						
	Comments/Qualifications: 1.116° $= .963$ 02341 Naphthalem 1.068 1163 Naphthalem 1.068 1163 RRFS 70.4 $.918$ 7.703 221 RSPs < 14161	∵ , Z	79 = 1 963	3.3						
IV.	Continuing Calibration	1								
	1. Were continuing calibration samples run at the required frequency, and compared to the correct initial calibration?	Ves	No	N/A						
	2. Did calculations from raw data agree with laboratory reported values for RRF and %D?	Yes	No	(N/A						
	3. Were continuing calibration RRFs for volatile organic compounds and system monitoring compounds (surrogates) > or = 0.05 ?	Yes	No	N/A						
	4. Were %D between initial calibration RRF and the continuing calibration RRFs within + or - 25%?	Yes	No	N/A						
	5. Were any qualifications required based on this information?	(Yes)	No	N/A						
<	Comments/Qualifications: 8969 1626 $b(a)$ with $1.139 - 1.037 = 0.2261.139$	9 302 (1624 Chryse								
		Chrys		1071						
	9108	-	1.123							
pt.	prene @ 28.3 \$1.171 - 1.147 1.147 = 2.1261 1.142 1.142			= 9.12						
7		9303	V							
	2 2	12								
oject:_			-							
-------------	---	--	--	----------------	----------------	--	--	--	--	--
-	FTC 419 SDG:	1103247 Matrix/No. Samples: 5-2	5							
٧.	Blanks									
	 Were any target or non-target blanks? 	compounds reported in laboratory prep or calibration	Yes	(Nò)	N/A					
	2. Were method blank analyses perfo used to analyze samples for each type	Ves	No	N/A						
	3. Were any qualifications required b	Yes	(No)	N/A						
	Comments/Qualifications: Soo(1- BLK	3007 3007 10-0	20							
	μ ⁽ s.	10-02,11-01 11-02,12-01 12-62- US.	us.							
VI.	System Monitoring Compounds (Surrogate Spikes)									
	1. Were laboratory surrogate recover	(Yes)	No	N/.						
	2. Were surrogate recoveries within	T	No	N/						
	3. Were any qualifications required l	Yes	No	N/						
nni	1 1		0.8-							
tery	ob - heigh. in 10-01 - no dete oberny 1 - high i 03-02- no de	ets 95.7 \$9.8	118							
tin VII.	No - harsh. in 10-01 - no dete olieny 1 - high i 03-02 - no de Matrix Spikes/Matrix Spike Dupli	eets 95.7 898 ferts, 91.5	118							
	Matrix Spikes/Matrix Spike Dupl	eets 95.7 898 ferts, 91.5	118 (Ye)	No						
	Matrix Spikes/Matrix Spike Dupl	terts. 95.7 898 91.5 icates d at required frequency for each ample matrix?	118	No						
	Matrix Spikes/Matrix Spike Dupli 1. Were MS/MSD samples analyzed	icates d at required frequency for each ample matrix? ery and RPD within advisory limits?	118 (Ye)		N					
	Matrix Spikes/Matrix Spike Dupli 1. Were MS/MSD samples analyzed 2. Were MS/MSD results for recover	ects 95.7 \$98 feets. icates d at required frequency for each ample matrix? ery and RPD within advisory limits? D field blanks?	II 8 (Yes) (Yes)	No	N/ N/					
	Matrix Spikes/Matrix Spike Dupli 1. Were MS/MSD samples analyzed 2. Were MS/MSD results for recove 3. Were Samples used for MS/MSD 4. Were laboratory reported results of	ects 95.7 \$98 feets. icates d at required frequency for each ample matrix? ery and RPD within advisory limits? D field blanks?	Il & (Ye) (Yes) Yes Yes Yes	No No	N/ N/					
	Matrix Spikes/Matrix Spike Dupli 1. Were MS/MSD samples analyzed 2. Were MS/MSD results for recove 3. Were Samples used for MS/MSD 4. Were laboratory reported results of 5. Were any qualifications require	ects 95.7 \$985 feats 91.5 icates 4 at required frequency for each ample matrix? ery and RPD within advisory limits? 0 D field blanks? 0 correctly calculated from raw data? 0 ed, based on results of MS/MSD samples in conjunction	Il & Yes Yes Yes Yes	No No No	N/ N/					
	Matrix Spikes/Matrix Spike Dupli 1. Were MS/MSD samples analyzed 2. Were MS/MSD results for recove 3. Were Samples used for MS/MSD 4. Were laboratory reported results of 5. Were any qualifications require with other QC information? Comments/Qualifications: 5. MST SST	95.7 $$9.87$ 91.5 icates d at required frequency for each ample matrix? ery and RPD within advisory limits? D field blanks? correctly calculated from raw data? ed, based on results of MS/MSD samples in conjunction $3-106$	Il & Yes Yes Yes Yes	No No No	N/ N/					
	Matrix Spikes/Matrix Spike Dupli 1. Were MS/MSD samples analyzed 2. Were MS/MSD results for recove 3. Were Samples used for MS/MSD 4. Were laboratory reported results of 5. Were any qualifications require with other QC information? Comments/Qualifications: SB-04-01 MS- SS.7 4. Were 14.	ects fects. 95.7 $39591.5icatesd at required frequency for each ample matrix?ery and RPD within advisory limits?D field blanks?correctly calculated from raw data?ed, based on results of MS/MSD samples in conjunction3-106$ $Z110$ $/3624 = 58.21-962$ Clibers. 1763 (3149) = 102	Il & Yes Yes Yes Yes	No No No	N/ N/ N/					
	Matrix Spikes/Matrix Spike Dupli 1. Were MS/MSD samples analyzed 2. Were MS/MSD results for recove 3. Were Samples used for MS/MSD 4. Were laboratory reported results of 5. Were any qualifications require with other QC information? Comments/Qualifications: 5. MST SST	ects fects. 95.7 $39591.5icatesd at required frequency for each ample matrix?ery and RPD within advisory limits?D field blanks?correctly calculated from raw data?ed, based on results of MS/MSD samples in conjunction3-106$ $Z110$ $/3624 = 58.21-962$ Clibers. 1763 (3149) = 102	Il & Yes Yes Yes Yes	No No No	N/ N/					

	,			
Project:	FTC 419 SDG: 1103247 Matrix/No. Samples: S-25	Ś		
VIII.	Laboratory Control Sample (LCS)			
	1. Were LCS samples run at correct frequency for each matrix samples?	(Ye)	No	N/A
	2. Were LCS calculations performed correctly, and did laboratory reported values match raw data? Were recoveries within laboratory QC limits?	Yes	No	N/A
	4. Were any qualifications required based on LCS data in conjunction with other QC information?	Yes	No	N/A
, 3	s. B(b)f. @ 116 milli / pyrene 3252 3333	- 1(6.1 -	2-	
	Internal Standards SB50 01 - 10-2, 11-01, 11-02 4.46 (31.7) Internal Standards 0000 - 12-01, 12-02 40 540		20 0-01	
	1. Were standard area counts within a factor of two (-50% to +100%) from associated calibration standard?	Ye	No	N/A
	2. Were retention times of internal standard within + or - 30 seconds of retention time of associated calibration check?	Yes	No	N/A
	3. Were any qualifications required based on internal standard results?	Yes	(No)	N/A
alla	Comments/Qualifications: -18-01 ISI $485730 = 88.326$ 5.46			
	-04-02 ISY 1259146 = 92.32 10.76 1363032 10.781			
	-11-02 IS 6 711732 = 83.12 15.598 V			
X.	Target Compound Identification			
	1. Are relative retention times (RRTs) within + or - 0.06 RRT units of standard RRT?	Yes	No	(N/A)
	2. Do sample compound spectra meet specified criteria in relation to laboratory standard spectra?	Yes	No	NIA
	3. Were all compounds accounted for on chromatogram?	Yes	No	N/A
	Comments/Qualifications: NG raw deba - 1 welt			k

.

Reviewer:	Kitchings

I.	Compound Quantitation and Reported Contract Required Quantitation Limits (CRQLs	s)		
	1. Were sample results correctly calculated and reported by laboratory?	Yes	No	NY
	2. Were correct internal standard quantitation ion and RRF used to quantify all compounds for all samples?	Yes	No	N
	3. Were CRQLs adjusted to reflect sample dilutions and dry weight factors not accounted for by the method?	Yes	No	N
	4. Were any laboratory QA/QC sample results calculated from peaks derived using manual integration?	Yes	No	N
	5. Were any qualifications required based on this information?	Yes	No	N
П.	Field OC			
П.	Field QC 1. Were any Field Duplicates associated with this SDG?	(Yes)	No	N/.
<u>.</u>			No No	
.11.	1. Were any Field Duplicates associated with this SDG?	Yes Yes Yes		N/.
.11.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? 	Yes	No	N/. N/.
<u>(II.</u>	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? 	Yes Yes	No No	N// N// N// N//
XII.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? 	Yes Yes Yes	No No No	N/2 N/2 N/2
	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? b. Were any qualifications required based on this information? Comments/Qualifications: ED 03-01 	Yes Yes Yes	No No No	N/. N/. N/.

SDG: 1103258	5	P	Project: FTC Bldg 419				
Method: <u>Semivol</u>	ntiles - DRO	8015M N	/atrix/No. Sam	ples: Soil-	17		
Validation Samples:	SB-14-01	SB-15-02	SB-17-01	SB-18-02	5B-20-01		
SB-13-01	SB-14-02	SB-16-01	SB-17-02	SB-19-01	SB-20-019		
SB-13-02	SB-15-01	SB-16-02	SB-18-01	SB-19-02	SB-20-02		

Data Validation Report Summary

		Status Code	Comments
1.	Sample Preservation, Handling, and Transport	Α	
2.	Chain of Custody	A	
3.	Holding Times	A	
4.	GC/MS Tune/Inst Perf	N/A	
5.	Calibrations	Α	an a
6.	Blanks	A	
7.	Blank Spike/LCS	<u>A</u>	
8.	Matrix Spike	A	see comment #1
9.	Surrogates	<u>A</u>	
10.	Internal Standards	D1A	·······
11.	Compound Identification	2	
12.	System Performance	A	
13.	Field QC Samples	A	
14.	Overall Assessment	<u> </u>	Nala da canalitatum nanarana manarana a sa

Status Codes:

A = AcceptableR = Data Rejected

X = Data acceptable but qualified due to problems

SDG: 110 3258

Qualifications:

Significant Findings/Recommendations:

HI. The DROMS recovery was below the QC limit but the MSD was acceptable as was the LCS - no quals required Overall Data Quality: Acceptelle as reported,

Trumos Kite lines ____ Date: ___4/19/2011 Validator's Signature: +.

SB-13-01

Laboratory:	Empirical Laboratories, I	LC	1	SDG:	1103258			
Client:	SES, Inc. (S750)		1	Project:	FTS UST 2008-2010			
Matrix:	<u>Solid</u>	Laboratory ID:	<u>1103258</u>	-02	File ID:	006F0601.D		
Sampled:	03/30/11 08:55	Prepared:	<u>03/31/1</u>	15:20	Analyzed:	04/01/11 12:40		
Solids:	91.51 Preparation:		EXT_3546 Dilution:		Dilution:	1		
Batch:	<u>1C31014</u> Seque	nce: <u>1D09301</u>		Calibration:	<u>1080001</u>	Instrument:	GL-GCFID2	Rev
CAS NO.	COMPOUND		CON	C. (mg/Kg dry)	MDL	MRL	Q	and
11-84-7	Diesel Range Organics (C10-C28)			53.0	7.13	7.13	N	-
SYSTEM MON	SYSTEM MONITORING COMPOUND ADD			CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	- AMARAN CONTRACTOR OF A CONTRACTOR OF			1.368	96.4	35 - 140		

SB-13-02

Laboratory:	Empirical Labor	atories, LLC		5	SDG:	<u>1103258</u>			
Client:	<u>SES. Inc. (S750)</u>			Project: <u>FTS UST 2008-2010</u>					
Matrix:	Soil Laboratory ID:		1103258-03RE1		File ID:	011F1101.D			
Sampled:			03/31/11	15:20	Analyzed:	04/04/11 15:07			
Solids:	80.24	Prepar	ation:	EXT_3546		Dilution:	<u>50</u>		
Batch:	<u>1C31014</u>	Sequence:	<u>1D09505</u>		Calibration:	<u>1095001</u>	Instrument:	GL-GCFID2	Rev
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	Quel
11-84-7	Diesel Range Orga	Diesel Range Organics (C10-C28)			13900	399	399	D	-
				ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphonyl			1.58	38	0.000		35 - 140	DU	

SB-14-01

Laboratory:	Empirical Labora	atories, LLC		S	SDG:	1103258			
Client:	SES, Inc. (S750)			F	Project:	FTS UST 2008-2010			
Matrix:	Soil Laboratory		atory ID:	1103258-04		File ID:	010F1001.D		
Sampled:			<u>03/31/11 15:20</u> An		Analyzed:	04/01/11 14:54			
Solids:	90.80	Prepa	Preparation:		46	Dilution:	1		
Batch:	<u>1C31014</u>	Sequence:	<u>1D09301</u>	(Calibration:	<u>1080001</u>	Instrument:	GL-GCFID2	Requel
CAS NO.	COMPOUND			CONC. (mg/Kg dry)		MDL	MRL	Q	que
11-84-7	Diesel Range Orga	nies (C10-C28)		39.0		7.19	7.19		
SYSTEM MON				ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl				30	1.167	81.6	35 - 140		

Laboratory:	Empirical Laboratories, LLC				SDG:	<u>1103258</u>			
Client:	<u>SES, Inc. (S750)</u>			1	Project:	FTS UST 2008	-2010		
Matrix:	Soil Laboratory ID:		atory ID:	1103258-05		File ID:	<u>011F1101.D</u>		
Sampled:			03/31/11	15:20	Analyzed:	04/01/11 15:28			
Solids:	38.08	Preparation:		EXT_35	<u>46</u>	Dilution:	<u>1</u>		
Batch:	<u>1C31014</u>	Sequence:	<u>1D09301</u>	(Calibration:	1080001	Instrument:	GL-GCFID2	Rel
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	gud
11-84-7	Diesel Range Organics (C10-C28)				47.9	17.1	17.1		
SYSTEM MON				ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	and a second			10	1.918	56.2	35 - 140		

Laboratory:	Empirical Labor	atories, LLC		S	SDG:	1103258				
Client:	<u>SES, Inc. (S750)</u>			ŀ	Project:	FTS UST 2008-2010				
Matrix:	Soil Laboratory ID: <u>1</u>		1103258-	<u>-06</u>	File ID: <u>012F1201.D</u>					
Sampled:			03/31/11	15:20	Analyzed:	Analyzed: <u>04/01/11 16:01</u>				
Solids:	83.55	Prepa	ration:	EXT_3546		Dilution:	<u>1</u>		2	
Batch:	<u>1C31014</u>	Sequence:	1D09301	(Calibration:	<u>1080001</u>	Instrument:	GL-GCFID2	Rev	
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	Quel	
11-84-7	Diesel Range Organics (C10-C28)				13.7	7.81	7.81		-	
	SYSTEM MONITORING COMPOUND ADDED (r			ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q		
o-Terphenyl				54	1.067	68.7	35 - 140			

SB-15-02

Laboratory:	Empirical Laborato	ories, LLC		S	SDG:	<u>1103258</u>			
Client:	SES, Inc. (S750)			Project: <u>FTS UST 2008-2010</u>					
Matrix:	Soil Laboratory ID:		ry ID:	1103258-07		File ID:	013F1301.D		
Sampled:	03/30/11 10:15 Prepared:		<u>03/31/11</u>	15:20	Analyzed:	04/01/11 16:35			
Solids:	81.04	Preparati	on:	EXT_3546		Dilution:	1		
Batch:	<u>1C31014</u> S	Sequence:	<u>1D09301</u>	(Calibration:	<u>1080001</u>	Instrument:	GL-GCFID2	Rev.
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	Qual
11-84-7	Diesel Range Organic	Diesel Range Organics (C10-C28)			13.5	8.05	8.05		
SYSTEM MON	SYSTEM MONITORING COMPOUND ADDED			ig/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl	and the second			503 1.163		72.5	35 - 140		

SB-16-01

Laboratory:	Empirical Labor	atories, LLC			SDG:	1103258			
Client:	SES, Inc. (S750)	1			Project:	FTS UST 2008	-2010		
Matrix:	<u>Soil</u>	Laborate	ory ID:	1103258	-08RE1	File ID:	004F0401.D		
Sampled:	03/30/11 10:30	Prepared	l:	<u>03/31/1</u>	1 15:20	Analyzed:	04/05/11 10:47		
Solids:	85.95	Preparat	ion:	EXT 35	46	Dilution:	<u>50</u>		
Batch:	<u>1C31014</u>	Sequence:	<u>1D09510</u>		Calibration:	1095001	Instrument:	GL-GCFID2	Rei
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	and
11-84-7	Diesel Range Orga	nics (C10-C28)			8070	372	372	D	·
SYSTEM MON	ITORING COMPC	DUND	ADDED (m	g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl			1.48	2	0.000		35 - 140	DU	

SB-16-02

_							021		
-									
Laboratory:	Empirical Labor	ratories, LLC		3	SDG:	1103258			
Client:	SES, Inc. (S750	2		1	Project:	FTS UST 2008	-2010		
Matrix:	<u>Soil</u>	Labora	atory ID:	1103258	-09RE1	File ID:	<u>013F1301.D</u>		
Sampled:	03/30/11 10:40	Prepar	ed:	03/31/1	1 15:20	Analyzed:	04/04/11 16:15		
Solids:	76.43	Prepar	ation:	EXT 35	<u>346</u>	Dilution:	<u>20</u>		
Batch:	<u>1C31014</u>	Sequence:	1D09505		Calibration:	1095001	Instrument:	GL-GCF1D2	Rei
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	and
11-84-7	Diesel Range Orga	nics (C10-C28)			8310	171	171	D	
SYSTEM MON	ITORING COMPO	DUND	ADDED (m	g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl			1.69	9	1.796	106	35 - 140		

Laboratory:	Empirical Laboration	atories, LLC			SDG:	1103258			
Client:	SES, Inc. (S750)			1	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Labo	ratory ID:	1103258	-10RE1	File ID:	014F1401.D		
Sampled:	03/30/11_10:55	Prep	ared:	03/31/1	1 15:20	Analyzed:	04/04/11 16:49		
Solids:	77.36	Prep	aration:	EXT_35	546	Dilution:	<u>10</u>		
Batch:	1C31014	Sequence:	1D09505	1	Calibration:	<u>1095001</u>	Instrument:	GL-GCFID2	Rei
CAS NO.	COMPOUND			CON	IC. (mg/Kg dry)	MDL	MRL	Q	Que
11-84-7	Diesel Range Orga	nics (C10-C28)			3590	82.2	82.2	D	
SYSTEM MON	ITORING COMPC	UND	ADDED (m	g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl			1.63	6	1.319	80.6	35 - 140		

SB-17-02

Laboratory:	Empirical Labora	atories, LLC		5	SDG:	1103258			
Client:	SES, Inc. (S750)			1	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laborate	ory ID:	1103258	<u>·11</u>	File ID:	018F1801.D		
Sampled:	03/30/11 11:00	Prepared	i:	<u>03/31/11</u>	15:20	Analyzed:	04/01/11 19:23		
Solids:	53.04	Preparat	ion:	EXT 35	<u>46</u>	Dilution:	1		
Batch:	<u>1C31014</u>	Sequence:	1D09301	(Calibration:	<u>1080001</u>	Instrument:	GL-GCF1D2	Rea
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	quul
11-84-7	Diesel Range Organ	nics (C10-C28)			163	12.0	12.0		
SYSTEM MON	ITORING COMPO	UND	ADDED (m	g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl			2.38	7	1.514	63.4	35 - 140]

SB-18-01

Laboratory:	Empirical Labor	atories, LLC		S	SDG:	<u>1103258</u>			
Client:	SES, Inc. (S750)	L		I	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Labor	atory ID:	1103258-	12RE1	File ID:	015F1501.D		
Sampled:	03/30/11_11:15	Prepa	red:	03/31/11	15:20	Analyzed:	04/04/11 17:23		
Solids:	59.62	Prepa	ration:	<u>EXT_35</u>	<u>46</u>	Dilution:	<u>10</u>		-
Batch:	<u>1C31014</u>	Sequence:	1D09505	(Calibration:	1095001	Instrument:	GL-GCFID2	Rev
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	Such
11-84-7	Diesel Range Orga	nics (C10-C28)			3890	109	109	D	
SYSTEM MON	ITORING COMPO	UND	ADDED (m	ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl			2.17	78	1.461	67.1	35 - 140		

Laboratory:	Empirical Labor	atories, LLC		S	DG:	1103258			
Client:	SES, Inc. (S750)			F	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Labor	atory ID:	<u>1103258-</u>	13	File ID:	020F2001.D		
Sampled:	03/30/11 11:25	Prepar	red:	03/31/11	15:20	Analyzed:	04/01/11 20:29		
Solids:	80.61	Prepa	ation:	EXT 35	<u>46</u>	Dilution:	1		-
Batch:	1 <u>C31014</u>	Sequence:	<u>1D09301</u>	(Calibration:	<u>1080001</u>	Instrument:	GL-GCFID2	Rei
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	Quu
11-84-7	Diesel Range Orga	nics (C10-C28)			296	8.20	8.20		-
1 Martin Contractor Contractor	VITORING COMPO	the second s	ADDED (n	ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	_
o-Terphenyl			1.6.	32	1.556	95,3	35 - 140		

SB-19-01

Laboratory:	Empirical Labor	atories, LLC		5	SDG:	<u>1103258</u>			
Client:	SES, Inc. (S750)	P		ł	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Labora	atory ID:	1103258-	14	File ID:	021F2101.D		
Sampled:	03/30/11 14:00	Prepar	ed:	03/31/11	15:20	Analyzed:	04/01/11 21:03		
Solids:	91.10	Prepar	ation:	EXT_35	<u>46</u>	Dilution:	1		0
Batch:	<u>1C31014</u>	Sequence:	1D09301	(Calibration:	1080001	Instrument:	GL-GCFID2	Rev
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	Qual
11-84-7	Diesel Range Orga	nics (C10-C28)				7.16	7.16	U	u
SYSTEM MON	ITORING COMPC	UND	ADDED (m	ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl			1.42	26	0.8521	59.8	35 - 140		

SB-19-02

Laboratory:	Empirical Labor	atories, LLC		1	SDG:	<u>1103258</u>			
Client:	SES, Inc. (S750)	l)	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Labor	atory ID:	<u>1103258</u>	<u>-15</u>	File ID:	022F2201.D		
Sampled:	03/30/11 14:05	Prepa	red:	03/31/1	15:20	Analyzed:	04/01/11 21:36		
Solids:	83.85	Prepa	ration:	EXT_35	546	Dilution:	1		
Batch:	<u>1C31014</u>	Sequence:	1D09301		Calibration:	1080001	Instrument:	GL-GCFID2	Rei
CAS NO.	COMPOUND			CON	IC. (mg/Kg dry)	MDL	MRL	Q	and
11-84-7	Diesel Range Orga	nics (C10-C28)			20.2	7.63	7.63		
SYSTEM MON	ITORING COMPC	DUND	ADDED (m	ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl			1.51	19	0.8590	56.5	35 - 140		

SB-20-01

Laboratory:	Empirical Labor	atories, LLC		5	SDG:	<u>1103258</u>			
Client:	SES, Inc. (S750)	1		1	Project:	FTS UST 2008	-2010		
Matrix:	<u>Soil</u>	Labor	atory ID:	1103258-	-16	File ID:	023F2301.D		
Sampled:	03/30/11 14:15	Prepar	ed:	03/31/11	15:20	Analyzed:	04/01/11 22:09		
Solids:	77.08	Prepa	ation:	<u>EXT_35</u>	46	Dilution:	1		
Batch:	<u>1C31014</u>	Sequence:	1D09301	(Calibration:	1080001	Instrument:	GL-GCFID2	Rev
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	gue
11-84-7	Diesel Range Orga	nics (C10-C28)			16.6	8.41	8.41		
SYSTEM MON	ITORING COMPO	DUND	ADDED (m	g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl			1.67	4	0.8871	53.0	35 - 140		

Laboratory:	Empirical Labora	atories, LLC		S	DG:	<u>1103258</u>			
Client:	SES, Inc. (S750)			F	roject:	<u>FTS UST 2008</u>	-2010		
Matrix:	Soil	Labora	tory ID:	<u>1103258-</u>	<u>17</u>	File ID:	024F2401.D		
Sampled:	03/30/11 14:15	Prepare	ed:	<u>03/31/11</u>	15:20	Analyzed:	04/01/11 22:43		
Solids:	69.39	Prepara	ation:	<u>EXT_35</u>	<u>46</u>	Dilution:	1		
Batch:	1C31014	Sequence:	<u>1D09301</u>	(Calibration:	<u>1080001</u>	Instrument:	GL-GCFID2	Rev 1
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	Que
11-84-7	Diesel Range Orga	nics (C10-C28)			17.3	9.53	9.53		-
SYSTEM MON	ITORING COMPO	UND	ADDED (m	ng/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl			1.89	06	1.009	53.2	35 - 140		

SB-20-02

Laboratory:	Empirical Labor	atories. LLC		5	SDG:	1103258			
Client:	SES, Inc. (S750)	l.		I	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Labora	tory 1D:	1103258	<u>-18</u>	File ID:	025F2501.D		
Sampled:	03/30/11 14:20	Prepar	ed:	03/31/11	15:20	Analyzed:	04/01/11 23:16		
Solids:	77,42	Prepar	ation:	<u>EXT_35</u>	46	Dilution:	1		
Batch:	<u>1C31014</u>	Sequence:	1D09301	(Calibration:	1080001	Instrument:	GL-GCFID2	Rev
CAS NO.	COMPOUND			CON	C. (mg/Kg dry)	MDL	MRL	Q	Que
11-84-7	Diesel Range Orga	nics (C10-C28)				8.43	8.43	U	u
SYSTEM MON	ITORING COMPC	DUND	ADDED (IT	g/Kg dry)	CONC (mg/Kg dry)	% REC	QC LIMITS	Q	
o-Terphenyl			1.67	8	0.8403	50.1	35 - 140		

I.	Technical Holding Times			44
	A. Sample Preservation, Handling and Transport			
	1. Have all samples been preserved correctly?	Yes	No	N/A
	2. Have sample temperatures been kept at 4° C (+ or - 2 °)?	Yes	No	N/A
10-962120	3. Were all samples received in proper condition?	(ve)	No	N/A
	4. Were any qualifications required based on this information?	Yes	No	N/A
	Coolers @ 2.4°C		\bigcirc	
	B. Chain of Custody			
	1. Were all samples properly recorded on COCs?	Veg	No	N/A
	2. Were correct analyses performed on samples?	(es)	No	N/A
	C. Holding Times			
	1. Were samples extracted and analyzed within acceptable holding times?	Ves	No	N/A
	2. Were any qualifications required based on this information?	Yes	No)	N/A
	SAMPLED PREPPED	ANALYZ	LED	
	3/21	4/1		
	3/30	4/4	122	
		4/5	5	
11.	GC/MS Instrument Performance Check	w. 57-1 - 10-1-10-10-10-10-	un (1919) e co nstanta da filo de la constanta	<u></u>
	1. Were instrument performance check samples run for each analysis period?	Yes	No	NY2
	2. Were ion abundance criteria met for DTFPP analysis?	Yes	No	N/A
	3. Do laboratory forms match raw data?	Yes	No	N/#
	4. Were any qualifications required based on this information?	Yes	No	N/1
Comr	nents/Qualifications:	•		P

eviewer:	Kitchings Date: 4	119			
	FTC 419 SDG: 103258 Matrix/No. Samp	22	7		
Ш.	Initial Calibration				
	1. Were correct concentrations of standards used for initial calibration? Were analyzed within 12 hours of associated instrument performance check?	e samples	Yes	No	N/A
	2. Were initial calibration RRFs for all volatile target compounds and system mor compounds $>$ or $= 0.05$? Do recalculations for RRFs agree with reported values?	nitoring	Reg	No	N/A
	3. Were %RSDs < or = 30% for all volatile target compounds? Do recalcula RSDs agree with reported values?	ations for	Ves	No	N/A
	4. Were any qualifications required based on this information?		Yes	Ng	N/A
	Comments/Qualifications: 3/18C 21:13ff, 3222 2326 / 15695 2500 / 15695 2541 / 10:35ff. 2541 / 10:35ff. 2541 / 10:35ff.	366025 6889 13689 5776 42849 84681	5	19909	322.5 = l 617
IV.	Continuing Calibration		$ \rightarrow $		
	1. Were continuing calibration samples run at the required frequency, and compa correct initial calibration?	ared to the	Yes	No	N/A
	2. Did calculations from raw data agree with laboratory reported values for RRF	and %D?	Yes		N/A
	3. Were continuing calibration RRFs for volatile organic compounds an monitoring compounds (surrogates) > or = 0.05 ?	nd system	Yes	No	N/A
	4. Were %D between initial calibration RRF and the continuing calibration within + or - 25%?	RRFs	es	No	N/A
	5. Were any qualifications required based on this information?		Yes	No	N/A
ч	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$, \		
	8.8 1801				
	= 1222				

eviewer:	Kitchings Date: 4/19	_		
	Frc-419 SDG: 1103258 Matrix/No. Samples: 5-	17		
v.	Blanks			
	1. Were any target or non-target compounds reported in laboratory prep or calibration blanks?	Yes	No	N/A
	2. Were method blank analyses performed at required frequency, and for each GC/MS system used to analyze samples for each type of analysis (i.e., matrix)?	Yes	No	N/A
	3. Were any qualifications required based on this information?	Yes	(No)	N/A
	Comments/Qualifications:		-	
	(014-BLK) 4/1 U's.			
VI.	System Monitoring Compounds (Surrogate Spikes)		<u> </u>	
	 Were laboratory surrogate recoveries calculated and reported correctly? 	Ves	No	N/A
52200	2. Were surrogate recoveries within acceptable limits?	Yes	No	N/A
	3. Were any qualifications required based on surrogate spike QC information?	Yes	(No)	N/A
	Comments/Qualifications: QC.fr. 35-140 50.1-106 13-02- UM1 all 6k 16-01- J-dilude RE	edouth		
VII.	Matrix Spikes/Matrix Spike Duplicates		1	
	1. Were MS/MSD samples analyzed at required frequency for each ample matrix?	(Yes)	No	N/A
	2. Were MS/MSD results for recovery and RPD within advisory limits?	Yes	No	N/2
	3. Were Samples used for MS/MSD field blanks?	Yes	No	N/.
	4. Were laboratory reported results correctly calculated from raw data?	Yes	No	N/
	5. Were any qualifications required, based on results of MS/MSD samples in conjunction with other QC information?	Yes		N/.
1-1	Comments/Qualifications: 10^{1} 31014 - ms/ms. $13.01 - 53.00/71.42 = 28.0%101.9 - 53.00/70.96 = 68.9.26$			
1-6	0, ps 50-150 psp <50			

eviewer	: <u>Kitchings</u> Date: <u>4 [19</u>	-3		
oject:_	<u> - 「- 「 - 419 SDG: 1103258</u> Matrix/No. Samples: S-1"	1		
VIII.	Laboratory Control Sample (LCS)			
	1. Were LCS samples run at correct frequency for each matrix samples?	Yes	No	N/A
	2. Were LCS calculations performed correctly, and did laboratory reported values match raw data? Were recoveries within laboratory QC limits?	Yes	No	N/A
	4. Were any qualifications required based on LCS data in conjunction with other QC information?	Yes	Ng	N/A
	Comments/Qualifications:			
	Comments/Qualifications: $1014-BS1 = \frac{51.06}{66.67}$ = 76.626			
IX.	Internal Standards	- Co-Osto ana-		
	1. Were standard area counts within a factor of two (-50% to \pm 100%) from associated calibration standard?	Yes	No	Q
	2. Were retention times of internal standard within + or - 30 seconds of retention time of associated calibration check?	Yes	No	N/A
	3. Were any qualifications required based on internal standard results?	Yes	No	NA
	Comments/Qualifications:			
х.	Target Compound Identification		1	
	1. Are relative retention times (RRTs) within + or - 0.06 RRT units of standard RRT?	Yes	No	
	2. Do sample compound spectra meet specified criteria in relation to laboratory standard spectra?	Yes	No	NA
	3. Were all compounds accounted for on chromatogram?	Yes	No	N/A
	Comments/Qualifications: Level III - No row Oata			

eviewer	r: Date: Date: Date:			
roject:_	FTC-419 SDG: 1103258 Matrix/No. Samples: S-1	17	_	
XI.	Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL	.s)		
	1. Were sample results correctly calculated and reported by laboratory?	Yes	No	N/
	2. Were correct internal standard quantitation ion and RRF used to quantify all compounds for all samples?	Yes	No	(A)
	3. Were CRQLs adjusted to reflect sample dilutions and dry weight factors not accounted for by the method?	Yes	No	N
	4. Were any laboratory QA/QC sample results calculated from peaks derived using manual integration?	Yes	No	N/
	5. Were any qualifications required based on this information?	Yes	No	b/
XII.	Field QC			
XII.	1. Were any Field Duplicates associated with this SDG?	Yes	No	
XII.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? 	Yes	No	N
хн.	1. Were any Field Duplicates associated with this SDG?			N
хн.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? 	Yes	No	N. N.
хн.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? b. Were any qualifications required based on this information? 	Yes Yes	No Ng	N/ N/
XII.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? 	Yes Yes Yes	No No	N/ N/ N/ N/
XII.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? b. Were any qualifications required based on this information? Comments/Qualifications: 	Yes Yes Yes	No No	N/ N/
XII.	 Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? b. Were any qualifications required based on this information? Comments/Qualifications: <u>FP</u> ZO - 01 ZO - 019 	Yes Yes Yes	No No	N N N
	1. Were any Field Duplicates associated with this SDG? a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? 2. Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? b. Were any qualifications required based on this information? Comments/Qualifications: Image: Product	Yes Yes Yes	No No	N N N

SDG: 110325	8		Project: FTC	Bldg 419	Automatica ela contra da la contra da
Method:Semivol:	atiles PAH	s 8270C	Matrix/No. Samp	les: Soil-17	
Validation Samples:	SB-14-01	SB-15-02	SB - 17-01	SB-18-02	513-20-01
SB-13-01	SB-14-02		5B- 17-02	SB-19-01	SB-20-019
53-13-02	SB-15-01	SB-16-02	58-18-01	58-19-02	SB-20-02

Data Validation Report Summary

		Status Code	Comments
1.	Sample Preservation, Handling, and Transport	A	
2.	Chain of Custody	<u>A</u>	
3.	Holding Times	<u> </u>	()
4.	GC/MS Tune/Inst Perf	<u> </u>	
5.	Calibrations	A	
6.	Blanks	<u> </u>	
7.	Blank Spike/LCS	X	
8.	Matrix Spike	X	2 2
9.	Surrogates	X	
10.	Internal Standards	X	
11.	Compound Identification	<u> </u>	
12.	System Performance	<u>A</u>	
13.	Field QC Samples	Α	
14.	Overall Assessment	X	

Status Codes:

A = Acceptable

R = Data RejectedX = Data acceptable but qualified due to problems

Page 2

Qualifications:

10 • High recoveries for the nitrobenzere-d's surveyate in Samples SB-13-02; SB-16-01 & SB-16-02 resulted in "J" qualifiers for all detects in those samples. Ma. High vecousies in the LCS resulted in "J" qualifiers for the following: Othe Accurage Anthracuse Binzo (b) fluorene Acemphthene 13-01, 14-01 14-01 13-01,14-01 16-01 16-02 15-02. 17-01 17-62 Sa benzo(b)... had high ms/msp recoveries & was qualified as "5" in 13-01, 14-01\$ 15-02. 18-0Z Significant Findings/Recommendations: 10 a Low recoveries for IS-penylene-diz for samples SB-13-02, BB-14-01, SB-14-02, SB-16-01 & SB-17-01 resulted in "UJ/J" gualifiers for the associated comporteds.

Overall Data Quality:

Acceptable as qualified. humas tibd Per Date: 4 19 2011 Validator's Signature:

SB-13-01

Laboratory:	Empirical Laborator	ies, LLC	1	SDG:	1103258			
Client:	SES, Inc. (S750)		Ţ	Project:	FTS UST 2008	-2010		
Matrix:	Solid	Laboratory ID:	1103258-	<u>-02</u>	File ID:	0325802.D		
Sampled:	03/30/11 08:55	Prepared:	03/31/11	1 12:30	Analyzed:	04/01/11 19:24		
Solids:	91.51	Preparation:	EXT_35	<u>i46</u>	Dilution:	1		
Batch:	<u>1C31013</u> Se	equence: <u>1D09302</u>	1	Calibration:	1032006	Instrument:	MS-BNA1	Rev
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	qual
83-32-9	Acenaphthene				27.3	347	Q. U	ů
208-96-8	Acenaphthylene			210	21.0	347	J	J
120-12-7	Anthracene			56.8	28.4	347	Q, J	J 11
56-55-3	Benzo(a)anthracene			918	37.8	347		
50-32-8	Benzo(a)pyrene			1010	24.2	347		
205-99-2	Benzo(b)fluoranthene			1590	33.6	347	N, Q	J 1
191-24-2	Benzo(g,h,i)perylene			490	73.6	347	N	
207-08-9	Benzo(k)fluoranthene			567	41.0	347		
218-01-9	Chrysene			1020	32.6	347		
53-70-3	Dibenz(a,h)anthracene			127	63.0	347	J	4
206-44-0	Fluoranthene			981	56.7	347		
86-73-7	Fluorene				27.3	347	Q, U	ų
193-39-5	Indeno(1,2,3-cd)pyrcne	÷		359	48.3	347	N	
90-12-0	I-Methylnaphthalene				105	347	U	N
91-57-6	2-Methylnaphthalene			49.0	36.8	347	J	J
91-20-3	Naphthalene			46.9	33.6	347	J	
85-01-8	Phenanthrene			128	24.2	347	J	4
129-00-0	Pyrene			2690	42.0	347		
SYSTEM MON	NITORING COMPOUN	ID ADDED (I	ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	ıyl	350)2	2903	82.9	45 - 105		
Nitrobenzene-d	15	350)2	3322	94.8	35 - 100		
Terphenyl-d14		350)2	3759	107	30 - 125		

SB-13-02

Laboratory:	Empirical Laboratori	ries, LLC	ļ	SDG:	<u>1103258</u>				
Client:	SES, Inc. (S750)		Ť	Project:	FTS UST 2008	<u>8-2010</u>			
Matrix:	Soil	Laboratory ID:	1103258-	-03	File 1D:	0325803D.D			
Sampled:	03/30/11 09:05	Prepared:	03/31/11	1 12:30	Analyzed:	04/02/11 22:21			
Solids:	80.24	Preparation:	EXT 35		Dilution:	5			
Batch:	· · · · · · · · · · · · · · · · · · ·	Sequence: <u>1D09303</u>		Calibration:	1032006	Instrument:	MS-BNA1	Rev	ual
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	191	rel
83-32-9	Acenaphthene				154	1950	Q, U	u	
208-96-8	Acenaphthylene				118	1950	U	11	
120-12-7	Anthracene			-	160	1950	Q, U	1	
56-55-3	Benzo(a)anthracene				213	1950	U		
50-32-8	Benzo(a)pyrene				136	1950	S. U	us	5 10
205-99-2	Benzo(b)fluoranthene				189	1950	X, Q. S. U	us	- 18
191-24-2	Benzo(g,h,i)perylene				414	1950	S. U]	1
207-08-9	Benzo(k)fluoranthene				231	1950	S, U]	1
218-01-9	Chrysene				183	1950	U	u	
53-70-3	Dibenz(a,h)anthracene				355	1950	S, U	UJ	F [
206-44-0	Fluoranthene				319	1950	U	n	i i
86-73-7	Fluorene				154	1950	Q, U	u	
193-39-5	Indeno(1,2,3-cd)pyrene	e			272	1950	S, U	45	5 10
90-12-0	1-Methylnaphthalene			5460	592	1950	D	J	74
91-57-6	2-Methylnaphthalene			8400	207	1950	D	3	70
91-20-3	Naphthalene			2690	189	1950	D	ч	7
85-01-8	Phenanthrene			1640	136	1950	J, D	J	74
129-00-0	Pyrene			838	237	1950	J, D	J	7
SYSTEM MON	NITORING COMPOUN	ND ADDED (u	ig/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q]	
2-Fluorobipheny	yl	394	44	3581	90.8	45 - 105]	
Nitrobenzene-d5		394	44	7463	189	35 - 100	*]	
Terphenyl-d14		394	44	4784	121	30 - 125			

SB-14-01

aboratory:	Empirical Laboratories, LL	<u>_C</u>	S	DG:	<u>1103258</u>			
lient:	SES, Inc. (S750)		Р	roject:	FTS UST 2008-	2010		
Aatrix:	Soil Laboratory ID: 1		<u>1103258-(</u>	<u>)4</u>	File ID:	<u>0325804.D</u>		
ampled:	03/30/11 09:30	Prepared:	03/31/11	12:30	Analyzed:	04/02/11 22:50		
olids:	90.80	Preparation:	<u>EXT_354</u>	<u>16</u>	Dilution:	1		<u> </u>
atch:	<u>1C31013</u> Sequence	ce: <u>1D09303</u>	C	alibration:	<u>1032006</u>	Instrument:	MS-BNA1	Red Qui
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	900
83-32-9	Acenaphthene				28.1	356	Q, U	u
208-96-8	Acenaphthylene			560	21.6	356		3
120-12-7	Anthracene	82.007		139	29.2	356	Q, J	3
56-55-3	Benzo(a)anthracene			2890	38.9	356		_
50-32-8	Benzo(a)pyrene			3100	24.8	356	S	J (
205-99-2	Benzo(b)fluoranthene			3560	34.6	356	Q. S. X	τ
191-24-2	Benzo(g,h,i)perylene	in the second	5 - 2 - 3	1730	75.6	356	S	3
207-08-9	Benzo(k)fluoranthene			1640	42.1	356	S	-
218-01-9	Chrysene			2880	33.5	356		_
53-70-3	Dibenz(a,h)anthracene			495	64.8	356	S	J
206-44-0	Fluoranthene			1590	58.3	356		
86-73-7	Fluorene			113	28.1	356	Q, J	ፓ
193-39-5	Indeno(1,2,3-cd)pyrene			1430	49.7	356	S	J
90-12-0	1-Methylnaphthalene				108	356	U	u
91-57-6	2-Methylnaphthalene			149	37.8	356	J	5
91-20-3	Naphthalene			175	34.6	356	J	
85-01-8	Phenanthrone			271	24.8	356	J	- *
129-00-0	Pyrene			5850	43.2	356		
	NITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphe	nyl	359	99	2867	79.7	45 - 105		
	Nitrobenzene-d5 359		99	3144	87.3	35 - 100		
Terphenyl-d14	A MARKET CONTRACT AND A MARKET	355	99	4893	136	30 - 125	*	

SB-14-02

Laboratory:	Empirical Laborator	ies. LLC	1	SDG:	1103258			
Client:	SES, Inc. (\$750)		i	Project:	FTS UST 2008-	2010		
Matrix:	Soil	Laboratory ID:	1103258		File ID:	0325805.D		
	03/30/11 09:40	Prepared:	03/31/11		Analyzed:	04/01/11 20:50		
Sampled:	05/30/11 09:40					04/01/11/20/20		
Solids:	38.08	Preparation:	EXT_35	46	Dilution:	1		Des
Batch:	<u>1C31013</u> S	equence: <u>1D09302</u>		Calibration:	1032006	Instrument:	MS-BNA1	Rev
CAS NO.	COMPOUND		CON	IC. (ug/Kg dry)	MDL	MRL	Q	Qual
83-32-9	Acenaphthene				67.4	855	Q. U	n
208-96-8	Acenaphthylene				51.8	855	U	u
120-12-7	Anthracene				70.0	855	Q, U	u
56-55-3	Benzo(a)anthracene				93.3	855	U	u
50-32-8	Benzo(a)pyrene				59.6	855	S, U	UJIOA
205-99-2	Benzo(b)fluoranthene				82.9	855	Q, S, U	
191-24-2	Benzo(g,h,i)perylene				181	855	S, U	
207-08-9	Benzo(k)fluoranthene				101	855	S.U	
218-01-9	Chrysene				80.3	855	U	u
53-70-3	Dibenz(a,h)anthracene				155	855	S.U	45 104
206-44-0	Fluoranthene				140	855	U	и
86-73-7	Fluorene				67.4	855	Q, U	u
193-39-5	Indeno(1,2,3-cd)pyrene	2			119	855	S.U	UJ 10A
90-12-0	I-Methylnaphthalene				259	855	U	u
91-57-6	2-Methylnaphthalene				90.7	855	U	
91-20-3	Naphthalene				82.9	855	U	
85-01-8	Phenanthrene				59.6	855	U	1
129-00-0	Pyrene			197	104	855	J	5
SYSTEM MON	ITORING COMPOUN	ADDED (U	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	yl	863	8	6739	78.0	45 - 105		
Nitrobenzene-d	5	863	8	7491	86.7	35 - 100		
Terphenyl-d14		863	8	9521	110	30 - 125		

SB-15-01

aboratory:	Empirical Laboratories	s <u>, LLC</u>	S	DG:	<u>1103258</u>			
lient:	SES, Inc. (S750)		P	roject:	FTS UST 2008	-2010		
fatrix:	Soil	Laboratory ID:	1103258-	<u>06</u>	File ID:	0325806.D		
ampled:	03/30/11 10:10	Prepared:	03/31/11	12:30	Analyzed:	04/02/11 23:48		
olids:	83.55	Preparation:	EXT 35-	<u>46</u>	Dilution:	<u>1</u>		0.
Batch:		uence: <u>1D09303</u>		alibration:	1032006	Instrument:	MS-BNA1	Rev Qn
1000	COMPOUND			C. (ug/Kg dry)	MDL	MRL	Q	du
CAS NO.				(-889)	29.7	377	0. U	u
83-32-9	Acenaphthene Acenaphthylene				22.9	377	U	1
208-96-8	Acenaphthylene		-		30.9	377	Q, U	
120-12-7	Benzo(a)anthracene				41.2	377	U	
56-55-3	Benzo(a)pyrene				26.3	377	U	
50-32-8	Benzo(b)fluoranthene				36.6	377	0. X. U	
205-99-2	Benzo(g,h,i)perylene				80.0	377	U	
191-24-2	Benzo(g,n,1)perytene Benzo(k)fluoranthene				44.6	377	U	
207-08-9	Chrysene				35.4	377	U	
218-01-9	Dibenz(a,h)anthracene				68.6	377	U	
53-70-3	Fluoranthene		0 - 01 - 00 - 00 - 00 - 00 - 00 - 00 -		61.7	377	U	
206-44-0	Fluorene				29.7	377	Q. U	
86-73-7	Indeno(1,2,3-cd)pyrene			and the second sec	52.6	377	U	
193-39-5	1-Methylnaphthalene		6		114	377	U	
90-12-0	2-Methylnaphthalene				40.0	377	U	
91-57-6					36.6	377	U	
91-20-3	Naphthalene Phenanthrene				26.3	377	U	
85-01-8					45,7	377	U	
129-00-0	Pyrene NITORING COMPOUNE	ADDED	(ug/Kg dry)	CONC (ug/Kg dry)		QC LIMITS	Q	
	1000 A		312	3652	95.8	45 - 105		
2-Fluorobipher			312	3654	95.9	35 - 100		
Nitrobenzene- Terphenyl-d14		and the second s	812	4127	108	30 - 125		

SB-15-02

aboratory:	Empirical Laboratories,	<u>, LLC</u>	SD	G:	1103258			
lient:	SES, Inc. (S750)		Pro	oject:	FTS UST 2008-2	2010		
	New York Control of Co	Laboratory ID:	1103258-07	7	File ID:	0325807.D		
atrix:	Soil		03/31/11 1		Analyzed:	04/03/11_00:17		
ampled:	03/30/11 10:15	Prepared:						
olids:	81.04	Preparation:	EXT_3546	<u>2</u>	Dilution:	1	MS-BNA1	Rev
atch:	1C31013 Sequ	uence: <u>1D09303</u>	Ca	alibration:	<u>1032006</u>	Instrument:	O NS-BNAI	quel
CAS NO.	COMPOUND		CONC	C. (ug/Kg dry)	MDL	MRL	Q 0, U	u
83-32-9	Acenaphthene				31.2	397	0,0	J
208-96-8	Acenaphthylene			47.2	24.0	397	Q, U	k
120-12-7	Anthracene				32.5	397	<u> </u>	J
56-55-3	Benzo(a)anthracene			332	43.3	397	J	T
50-32-8	Benzo(a)pyrene			223	27.6	397	Q. X. J	14
205-99-2	Benzo(b)fluoranthene			337	38.5	397	<u> </u>	J
191-24-2	Benzo(g,h,i)perylene			118	84.1	397	J	- 1
207-08-9	Benzo(k)fluoranthene			143	46.9	397	J	-11
218-01-9	Chrysene			336	37.3	397	U	u
53-70-3	Dibenz(a,h)anthracene				72.1	397	J	J
206-44-0	Fluoranthene			397	64.9	397	Q.U	4
86-73-7	Fluorene				31.2	397	U	-1
193-39-5	Indeno(1.2,3-cd)pyrene				55.3	397	U	
90-12-0	1-Methylnaphthalene		_		120	397	U	-11
91-57-6	2-Methylnaphthalene				42.1	397	U	
91-20-3	Naphthalene				38.5	397	J	5
85-01-8	Phenanthrenc			139	27.6	397		6X
129-00-0	Pyrene			640	48.1	OC LIMITS	Q	\neg
	ONITORING COMPOUNI	D ADDED	D (ug/Kg dry)	CONC (ug/Kg dry)		45 - 105		
			4006	3494	87.2	35 - 100		
Nitrobenzene-d5 44		4006	3131	78.1	the second se		-	
Terphenyl-dl	WARS IN THE REPORT OF THE PARTY OF	4	4006	3889	97.1	30 - 125		

SB-16-01

Laboratory:	ry: Empirical Laboratories. LLC		SDG:		1103258				
Client:	SES. Inc. (\$750)	SES. Inc. (\$750)			FTS UST 200	FTS UST 2008-2010			
Matrix:	Soil	Laboratory ID:	1103258-	-08	File ID:	0325808D.D			
Sampled:	03/30/11 10:30	Prepared:	03/31/11 12:30		Analyzed:	04/03/11 00:45			
Solids:	85.95	Preparation:	EXT_3546		Dilution:	<u>5</u>			
Batch:	<u>1C31013</u> Sequence: <u>1D09303</u>		Calibration:		1032006	Instrument:	MS-BNA1	Re	D.
CAS NO.	COMPOUND		CONC. (ug/Kg dry)		MDL	MRL	Q	12	na
83-32-9	Acenaphthene	Acenaphthene			149	1890	Q, U	u	
208-96-8	Acenaphthylene				115	1890	Ŭ		
120-12-7	Anthracene			155	1890	0. U			
56-55-3	Benzo(a)anthracene	Benzo(a)anthracene			207	1890	U	1	
50-32-8	Benzo(a)pyrene	Benzo(a)pyrene			132	1890	S, U	u5	T 100
205-99-2	Benzo(b)fluoranthene				184	1890	Q. S. X. U		1
191-24-2	Benzo(g,h,i)perylene	Benzo(g,h,i)perylene			402	1890	S, U		
207-08-9	Benzo(k)fluoranthene				224	1890	S, U	1	4
218-01-9	Chrysene			178	1890	U	u		
53-70-3	Dibenz(a,h)anthracene	Dibenz(a,h)anthracene			344	1890	S, U	uJ	F 100
206-44-0	Fluoranthene			310	1890	U	u		
86-73-7	Fluorene			1620	149	1890	Q, J, D	J	19
193-39-5	Indeno(1,2,3-cd)pyrene				264	1890	S, U	NJ	10
90-12-0	1-Methylnaphthalene			9880	574	1890	D	Э	74
91-57-6	2-Methylnaphthalene			15500	201	1890	D	11	1
91-20-3	Naphthalene			4910	184	1890	D		
85-01-8	Phenanthrene			4120	132	1890	D]]	
129-00-0	Pyrene			1020	230	1890	J. D	4	1
SYSTEM MON	SYSTEM MONITORING COMPOUND ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q]	
2-Fluorobipheny	yl	382	17	3857	101	45 - 105			
Nitrobenzene-d5 38		382	17	5102	133	35 - 100	*		
Terphenyl-d14	Terphenyl-d14 38		17	4699	123	30 - 125		7	
SB-16-02

aboratory:	Empirical Laboratories, I	LLC	S	SDG:	<u>1103258</u>				
lient:	SES, Inc. (S750)		Р	Project:	FTS UST 2008	-2010			
1atrix:	Soil	Laboratory ID:	<u>1103258-(</u>	<u>09</u>	File ID:	0325809D.D			
ampled:	03/30/11 10:40	Prepared:	03/31/11	12:30	Analyzed:	04/03/11 01:14			
olids:	76.43	Preparation:	<u>EXT_354</u>	<u>46</u>	Dilution:	5			
atch:	<u>1C31013</u> Seque	ence: <u>1D09303</u>	. (Calibration:	1032006	Instrument:	MS-BNA1	Res	
CAS NO.	COMPOUND		CON	iC. (ug/Kg dry)	MDL	MRL	Q	Que	a
83-32-9	Acenaphthene				169	2140	Q, U	u	
208-96-8	Acenaphthylene				130	2140	U		
120-12-7	Anthracene				175	2140	Q, U		
56-55-3	Benzo(a)anthracene				234	2140	U		
50-32-8	Benzo(a)pyrene				149	2140	U		
205-99-2	Benzo(b)fluoranthene				208	2140	0. X. U		
191-24-2	Benzo(g,h,i)perylene				455	2140	U		
207-08-9	Benzo(k)fluoranthene				253	2140	U		
218-01-9	Chrysene	2014). 	1000		201	2140	U		
53-70-3	Dibenz(a.h)anthracene				390	2140	U		
206-44-0	Fluoranthene				351	2140	U	- +	
86-73-7	Fluorene			1650	169	2140	Q. J. D		
193-39-5	Indeno(1,2,3-cd)pyrene				299	2140	U	u	
90-12-0	1-Methylnaphthalene			9240	650	2140	D	5	
90-12-0	2-Methylnaphthalene			14600	227	2140	D		
91-20-3	Naphthalene		and the second strategy of the	4160	208	2140	D		
85-01-8	Phenanthrenc			3880	149	2140	D		
129-00-0	Pvrene			877	260	2140	J, D		
	NITORING COMPOUND	ADDED	(ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q		
2-Fluorobipher	The second se		332	4379	101	45 - 105			
Nitrobenzene-o		4	332	4802	111	35 - 100	*		
Terphenyl-d14			332	4848	112	30 - 125			

SB-17-01

Laboratory:	Empirical Laborator	ries, LLC	1	SDG:	<u>1103258</u>			
Client:	SES, Inc. (S750)		J	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laboratory ID:	1103258-	-10	File ID:	0325810D.D		
Sampled:	03/30/11 10:55	Prepared:	03/31/11	12:30	Analyzed:	04/03/11 01:43		
Solids:	_77.36	Preparation:	<u>EXT_35</u>	<u></u>	Dilution:	5		
Batch:	<u>1C31013</u> S	equence: <u>1D09303</u>	1	Calibration:	1032006	Instrument:	MS-BNA1	Red 1
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	quel
83-32-9	Acenaphthene				160	2020	Q. U	u
208-96-8	Acenaphthylene				123	2020	U	
120-12-7	Anthracene				166	2020	Q. U	
56-55-3	Benzo(a)anthracene				221	2020	U	1
50-32-8	Benzo(a)pyrene				141	2020	S, U	45 10
205-99-2	Benzo(b)fluoranthene				196	2020	Q, S, X, U	11
191-24-2	Benzo(g,h,i)perylene				430	2020	S. U	
207-08-9	Benzo(k)fluoranthene				239	2020	S.U	1 1
218-01-9	Chrysene				190	2020	U	ĸ
53-70 - 3	Dibenz(a,h)anthracenc				368	2020	S, U	45 10
206-44-0	Fluoranthene				331	2020	U	u
86-73-7	Fluorene			759	160	2020	Q. J. D	5 110
193-39-5	Indeno(1,2,3-cd)pyrene	e			282	2020	S, U	45 10.
90-12-0	l-Methylnaphthalene			2130	614	2020	D	
91-57-6	2-Methylnaphthalene			3030	215	2020	D	
91-20-3	Naphthalene			928	196	2020	J, D	3
85-01-8	Phenanthrene			876	141	2020	J, D	J
129-00-0	Pyrenc			874	245	2020	J. D	J
SYSTEM MON	ITORING COMPOUN	ND ADDED (u	.ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobipheny	yl	409	90	3256	79.6	45 - 105		
Nitrobenzene-d:	5	409) 0	3605	88.1	35 - 100		
Terphenyl-d14		409	90	4803	117	30 - 125		

SB-17-02

aboratory:	Empirical Laboratories	<u>, LLC</u>	S	DG:	<u>1103258</u>			
lient:	SES, Inc. (S750)		Р	roject:	FTS UST 2008	-2010		
fatrix:	Soil	Laboratory ID:	1103258-		File ID:	0325811.D		
ampled:	03/30/11 11:00	Prepared:	03/31/11	12:30	Analyzed:	04/03/11 18:37		
olids:	53.04	Preparation:	EXT 354	<u>16</u>	Dilution:	1		
atch:		ience: <u>1D09304</u>		alibration:	1032006	Instrument:	MS-BNA1	Rev
		<u>1009001</u>		C. (ug/Kg dry)	MDL	MRL	Q	Qu
CAS NO.	COMPOUND		CON	C. (ug/Kg uly)	48,1	610	Q.U	ü
83-32-9	Acenaphthene				37.0	610	U	1
208-96-8	Acenaphthylene				49.9	610	Q, U	
120-12-7	Anthracene				66.5	610	U	
56-55-3	Benzo(a)anthracene				42.5	610	U	
50-32-8	Benzo(a)pyrene				59.2	610	0.U	
205-99-2	Benzo(b)fluoranthene				129	610	U	
191-24-2	Benzo(g,h,i)perylene					610	U	- 1
207-08-9	Benzo(k)fluoranthene				72.1		U U	- 1
218-01-9	Chrysene		1000		57.3	610		
53-70-3	Dibenz(a,h)anthracene					610	U	
206-44-0	Fluoranthene		-		99.8	610	U	5
86-73-7	Fluorene			169	48.1	610	Q, J	-
193-39-5	Indeno(1,2,3-cd)pyrene				85.0	610	U	u
90-12-0	1-Methylnaphthalene			1430	185	610		2
91-57-6	2-Methylnaphthalene	di.		2420	64.7	610		
91-20-3	Naphthalene			1030	59.2	610	1	_
85-01-8	Phenanthrene			231	42.5	610	J	
129-00-0	Pyrene				73.9	610	U	u
	NITORING COMPOUND	ADDED	(ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	_
2-Fluorobipher	l	6	162	4845	78,6	45 - 105		
Nitrobenzene-c	Charles and Charle	6	162	5080	82.5	35 - 100		
Terphenyl-d14	and the second	6	162	5691	92.4	30 - 125		

SB-18-01

Laboratory:	Empirical Laboratorie	<u>s. LLC</u>		SDG:	<u>1103258</u>			
Client:	SES, Inc. (\$750)			Project:	FTS UST 2008	3-2010		
Matrix:	<u>Soil</u>	Laboratory ID:	<u>1103258</u>	-12	File ID:	0325812.D		
Sampled:	03/30/11 11:15	Prepared:	03/31/1	1 12:30	Analyzed:	04/03/11_18:08		
Solids:	59.62	Preparation:	EXT_3	546	Dilution:	5		ο.
Batch:	1C31013 Seq	uence: <u>1D09304</u>	<u>i</u>	Calibration:	1032006	Instrument:	MS-BNA1	Rev 72~
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	2~
83-32-9	Acenaphthene				210	2660	Q, U	u
208-96-8	Acenaphthylene				161	2660	U	
120-12-7	Anthracene				218	2660	0. U	
56-55-3	Benzo(a)anthracene				290	2660	U	
50-32-8	Benzo(a)pyrene				185	2660	U	
205-99-2	Benzo(b)fluoranthene				258	2660	Q, U	
191-24-2	Benzo(g,h,i)perylene				565	2660	U	
207-08-9	Benzo(k)fluoranthene				315	2660	U	
218-01-9	Chrysene				250	2660	U	
53-70-3	Dibenz(a,h)anthracene				484	2660	U	
206-44-0	Fluoranthene				435	2660	U	
86-73-7	Fluorene				210	2660	0, U	
193-39-5	Indeno(1,2,3-cd)pyrene				371	2660	U	1
90-12-0	1-Methylnaphthalene			2680	806	2660	D	
91-57-6	2-Methylnaphthalene			3970	282	2660	D	÷
91-20-3	Naphthalene			2110	258	2660	J. D	5
85-01-8	Phenanthrene			738	185	2660	J, D	J
129-00-0	Pyrene			484	323	2660	J, D	J
SYSTEM MON	NITORING COMPOUND) ADDED	(ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	yl	53	76	3470	64.5	45 - 105		
Nitrobenzene-d		53	376	4366	81.2	35 - 100		
Terphenyl-d14		53	76	3938	73.2	30 - 125		

SB-18-02

Laboratory:	Empirical Laborator	ries, LLC	2	SDG:	1103258				
Client:	SES, Inc. (S750)		ý	Project:	FTS UST 200	08-20	110		
Matrix:	Soil	Laboratory ID:	1103258	<u>-13</u>	File ID:		0325813.D		
Sampled:	03/30/11 11:25	Prepared:	03/31/11	1 12:30	Analyzed:		04/02/11 19:02		
Solids:	80.61	Preparation:	EXT_35	<u>546</u>	Dilution:	1	<u></u>		
Batch:	<u>1C31013</u> So	equence: <u>1D09303</u>		Calibration:	1032006		Instrument:	MS-BNA1	Rea
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL		MRL	Q	Quel
83-32-9	Acenaphthene				31.8		404	Q. U	u
208-96-8	Acenaphthylene				24.5		404	U	
120-12-7	Anthracene				33.1		404	0. U	
56-55-3	Benzo(a)anthracene				44,1		404	U	
50-32-8	Benzo(a)pyrene				28.2		404	U	
205-99-2	Benzo(b)fluoranthene				39.2		404	Q. X. U	
191-24-2	Benzo(g,h,i)perylene				85.7		404	U	
207-08-9	Benzo(k)fluoranthene				47.7		404	U	
218-01-9	Chrysene				37.9		404	U	
53-70-3	Dibenz(a,h)anthracene				73.5		404	U	
206-44-0	Fluoranthene				66.1		404	U	1
86-73-7	Fluorene			80.1	31.8		404	Q. J	J 110
193-39-5	Indeno(1,2,3-cd)pyrene	e			56.3		404	U	ie
90-12-0	1-Methylnaphthalene			406	122		404		
91-57-6	2-Methylnaphthalene			655	42.8		404		
91-20-3	Naphthalene			254	39.2		404	J	J
85-01-8	Phenanthrene			155	28.2		404	J	J
129-00-0	Pyrene				49.0		404	U	u
SYSTEM MON	NITORING COMPOUN	ND ADDED (u	ug/Kg dry)	CONC (ug/Kg dry)	% REC		QC LIMITS	Q	
2-Fluorobipheny	yl	408	31	3464	84.9		45 - 105		
Nitrobenzene-d:		408	31	4002	98.1		35 - 100		
Terphenyl-d14		408	31	4041	99.0		30 - 125		

SB-19-01

Laboratory:	Empirical Labora	tories, LLC		3	SDG:	1103258				
Client:	SES, Inc. (S750)			1	Project:	FTS UST 2	008-20	010		
Matrix:	Soil	Laboratory	y ID:	1103258	<u>-14</u>	File ID:		0325814.D		
Sampled:	03/30/11 14:00	Prepared:		03/31/1	12:30	Analyzed:		04/02/11 19:30		
Solids:	91.10	Preparatio	n:	EXT_35	46	Dilution:	Ĺ			
Batch:	<u>1C31013</u>	Sequence:	1D09303		Calibration:	1032006		Instrument:	MS-BNA1	Rev
CAS NO.	COMPOUND			CON	C. (ug/Kg dry)	MDL		MRL	Q	Que
83-32-9	Acenaphthene					27.8		353	Q.U	u
208-96-8	Acenaphthylene					21.4		353	U	1
120-12-7	Anthracene					28.9	_	353	Q. U	
56-55-3	Benzo(a)anthracene					38.5		353	U	
50-32-8	Benzo(a)pyrene					24.6		353	U	
205-99-2	Benzo(b)fluoranther	ne				34.2		353	Q. X. U	
191-24-2	Benzo(g,h,i)perylen	e				74.8		353	U	
207-08-9	Benzo(k)fluoranther	ne				41.7		353	U	
218-01-9	Chrysene					33.1		353	U	
53-70-3	Dibenz(a,h)anthrace	ne				64.2		353	U	
206-44-0	Fluoranthene					57.7		353	U	
86-73-7	Fluorene					27.8		353	Q, U	
193-39-5	Indeno(1,2,3-cd)pyr	ene				49.2		353	U	
90-12-0	1-Methylnaphthalen	e				107		353	U	
91-57-6	2-Methylnaphthalen	iê.				37.4		353	U	
91-20-3	Naphthalene					34.2		353	U	
85-01-8	Phenanthrene					24.6		353	U	
129-00-0	Pyrene					42.8		353	U	*
SYSTEM MON	VITORING COMPO	UND	ADDED (ug	g/Kg dry)	CONC (ug/Kg dry)	% REC	:	QC LIMITS	Q	
2-Fluorobiphen	yl		3564	1	3473	97.4		45 - 105		
Nitrobenzene-d	5		3564	1	3634	102		35 - 100	*	
Terphenyl-d14			3564	1	4151	116		30 - 125		

SB-19-02

Laboratory:	Empirical Labora	atories, LLC		SDG:	1103258		
Client:	SES, Inc. (\$750)			Project:	FTS UST 2008	-2010	
Matrix:	Soil	Laboratory	ID: <u>1103</u>	3258-15	File ID:	0325815.D	
Sampled:	03/30/11 14:05	Prepared:	03/	31/11 12:30	Analyzed:	04/03/11 20:03	
Solids:	83.85	Preparation	n: EX	Т 3546	Dilution:	1	
Batch:	1C31013	Sequence: <u>1</u>	D09304	Calibration:	1032006	Instrument:	MS-BNA1
CAS NO.	COMPOUND			CONC. (ug/Kg dry)	MDL	MRL	Q
83-32-9	Accnaphthene				29.8	378	Q, U
208-96-8	Acenaphthylene				22.9	378	U
120-12-7	Anthracene				31.0	378	Q. U
56-55-3	Benzo(a)anthracene				41.3	378	U
50-32-8	Benzo(a)pyrene				26.4	378	U
205-99-2	Benzo(b)fluoranther	ne			36.7	378	Q, U
191-24-2	Benzo(g,h,i)perylen	ie			80.3	378	U
207-08-9	Benzo(k)fluoranthe	ne			44.7	378	U
218-01-9	Chrysene				35.5	378	U
53-70-3	Dibenz(a,h)anthrace	ene			68,8	378	U
206-44-0	Fluoranthene				61.9	378	U
86-73-7	Fluorene	1.000			29.8	378	Q, U
193-39-5	Indeno(1,2,3-cd)pyr	rene			52.7	378	U
90-12-0	1-Methylnaphthalen	ıe			115	378	U
91-57-6	2-Methylnaphthalen	10			40.1	378	U
91-20-3	Naphthalene				36.7	378	U
85-01-8	Phenanthrene				26.4	378	U
129-00-0	Pyrene			53.0	45.9	378	J
SYSTEM MON	NITORING COMPO	UND	ADDED (ug/Kg d	ry) CONC (ug/Kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphen	yl		3822	3196	83.6	45 - 105	
Nitrobenzene-d	5		3822	3394	88.8	35 - 100	
Terphenyl-d14			3822	4196	110	30 - 125	

SB-20-01

aboratory:	Empirical Laboratories,	LLC	S	DG:	<u>1103258</u>			
lient:	SES, Inc. (S750)		Р	roject:	FTS UST 2008-	2010		
latrix:	Soil	Laboratory ID:	1103258-	6	File ID:	0325816.D		
ampled:	03/30/11 14:15	Prepared:	03/31/11	12:30	Analyzed:	04/03/11 21:01		
olids:	77.08	Preparation:	EXT 354	16	Dilution:	<u>1</u>		2
42) 	alibration:	1032006	Instrument:	MS-BNA1	Rei
atch:	<u>1C31013</u> Seque	ence: <u>11009304</u>	1			MRL	Q	79
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL			- u
83-32-9	Acenaphthene				32.9	417	Q, U	- 1
208-96-8	Acenaphthylene				25.3	417	U	-
120-12-7	Anthracene				34.1	417	Q, U	
56-55-3	Benzo(a)anthracene				45.5	417	U	- 1
50-32-8	Benzo(a)pyrene				29.1	417	U	-
205-99-2	Benzo(b)fluoranthene				40.4	417	0.U	_
191-24-2	Benzo(g,h,i)perylene				88.5	417	U	_
207-08-9	Benzo(k)fluoranthene				49.3	417	U	_
218-01-9	Chrysene				39.2	417	U	_
53-70-3	Dibenz(a,h)anthracene				75.8	417	U	_
206-44-0	Fluoranthene				68.2	417	U	_
86-73-7	Fluorene				32.9	417	Q. U	_
193-39-5	Indeno(1,2,3-cd)pyrene			23.547	58.1	417	U	_
90-12-0	1-Methylnaphthalenc				126	417	U	
90-12-0 91-57-6	2-Methylnaphthalene				44.2	417	U	
	Naphthalene			1.500 C	40.4	417	U	
<u>91-20-3</u> 85-01-8	Phenanthrene				29,1	417	U	
129-00-0	Pyrene				50.5	417	U	
	NITORING COMPOUND	ADDED	(ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphe	and the second se	42	12	3509	83.3	45 - 105		_
Nitrobenzene-		42	12	3656	86.8	35 - 100		
Terphenyl-dl-			12	4937	117	30 - 125		

SB-20-019

aboratory:	Empirical Laborator	ies, LLC	1	SDG:	1103258			
lient:	SES, Inc. (S750)			Project:	FTS UST 2008	-2010		
Aatrix:	Soil	Laboratory ID:	1103258	-17	File ID:	0325817.D		
ampled:	03/30/11 14:15	Prepared:	03/31/1	12:30	Analyzed:	04/03/11 20:32		
olids:	69.39	Preparation:	EXT_35	46	Dilution:	1		
atch:	1C31013 Se	equence: 1D09304		Calibration:	1032006	Instrument:	MS-BNA1	Re
CAS NO.	COMPOUND	and the second second	CON	IC. (ug/Kg dry)	MDL	MRL	Q	721
83-32-9	Acenaphthene				35.6	451	0. U	u
208-96-8	Acenaphthylene				27.4	451	U	
120-12-7	Anthracene				36.9	451	Q. U	
56-55-3	Benzo(a)anthracene				49.3	451	U	
50-32-8	Benzo(a)pyrene				31.5	451	U	
205-99-2	Benzo(b)fluoranthene		-		43.8	451	Q. U	
191-24-2	Benzo(g,h,i)perylene				95.8	451	U	
207-08-9	Benzo(k)fluoranthene				53.4	451	U	
218-01-9	Chrysene				42.4	451	U	
53-70-3	Dibenz(a,h)anthracene				82.1	451	U	
206-44-0	Fluoranthene				73.9	451	U	
86-73-7	Fluorene				35.6	451	0. U	
193-39-5	Indeno(1,2,3-cd)pyrene				62.9	451	U	
90-12-0	1-Methylnaphthalene				137	451	U	
91-57-6	2-Methylnaphthalene				47.9	451	U	1
91-20-3	Naphthalene			115	43.8	451	J	7
85-01-8	Phenanthrene			74.9	31.5	451	J	J
129-00-0	Pyrene				54.7	451	U	U
SYSTEM MON	NITORING COMPOUN	D ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	yl	45	60	3832	84.0	45 - 105		
Nitrobenzene-d		45	60	4281	93.9	35 - 100		
Terphenyl-d14		45	60	4624	101	30 - 125		

SB-20-02

.aboratory:	Empirical Laboratorie	s, LL <u>C</u>		SDG:	1103258			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laboratory ID:	1103258	-18REI	File ID:	0325818.D		
Sampled:	03/30/11 14:20	Prepared:	04/01/1	111:45	Analyzed:	04/03/11 17:39		
		24 20			Dilution:	100 C		
Solids:	77.42	Preparation:	EXT_35			<u>1</u>		2.
Batch:	<u>1C31013</u> Seq	uence: <u>1D09304</u>		Calibration:	1032006	Instrument:	MS-BNA1	Rev
CAS NO.	COMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	P
83-32-9	Acenaphthene				32,3	410	Q, U	u
208-96-8	Acenaphthylene				24.8	410	U	1
120-12-7	Anthracene				33.5	410	Q, U	
56-55-3	Benzo(a)anthracene				44.7	410	U	
50-32-8	Benzo(a)pyrene				28.6	410	U	
205-99-2	Benzo(b)fluoranthene				39.7	410	Q. U	
191-24-2	Benzo(g,h,i)perylene				86.9	410	U	
207-08-9	Benzo(k)fluoranthene				48.4	410	U	
218-01-9	Chrysene				38.5	410	U	
53-70-3	Dibenz(a,h)anthracene				74.5	410	U	
206-44-0	Fluoranthene		_	and an	67.1	410	U	
86-73-7	Fluorene				32.3	410	Q, U	
193-39-5	Indeno(1,2,3-cd)pyrene				57.1	410	U	
90-12-0	1-Methylnaphthalene				124	410	U	
91-57-6	2-Methylnaphthalene			11 ²	43.5	410	U	
91-20-3	Naphthalene				39.7	410	U	
85-01-8	Phenanthrene				28.6	410	U	
129-00-0	Pyrene		in the second second		49.7	410	U	J
SYSTEM MON	NITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
2-Fluorobiphen	yl	414	40	2171	52.4	45 - 105		
Nitrobenzene-d	5	414	40	2088	50.4	35 - 100		
Terphenyl-d14	and the second	414	10	1975	47.7	30 - 125		

ject:	FTC-419 SDG:	1103258 Matrix/No. Samples:	5-17	-	
	Technical Holding Times				
	A. Sample Preservation, H	andling and Transport			
	1. Have all samples been	preserved correctly?	Yes	No	N/A
	2. Have sample temperat	ures been kept at 4° C (+ or - 2 °)?	Ves	No	N/A
	3. Were all samples rece	ived in proper condition?	(e)	No	N/A
	4. Were any qualification	ns required based on this information?	Yes	No	N/A
	Coolers @ 2.4°C.				
	B. Chain of Custody				
	1. Were all samples prop	erly recorded on COCs?	Yes	No	N/A
	2. Were correct analyses	performed on samples?	Yes	No	N/A
	C. Holding Times				
	1. Were samples extracte	ed and analyzed within acceptable holding times?	Yes	No	N/A
	2. Were any qualification	ns required based on this information?	Yes	No	N/A
	SAMPLED	PREPPED	ANALYZ	LED	
	3/20	3/31	4/1		4
	GC/MS Instrument Performance	e Check			
	1. Were instrument performance c	heck samples run for each analysis period?	Yes	No	N/A
	2. Were ion abundance criteria me	et for DTFPP analysis?	Yes	No	N/A
	3. Do laboratory forms match raw	data?	Yes	No	N/A
	4. Were any qualifications require	d based on this information?	Yes	No	N/A
omme	ents/Qualifications: 1/26, 198 base all criteria mo	4/1 13-01,14-02 18-02.	4/2.	20-2 ot	;

eviewer	: Kitchings Date: 4 19	-		
oject:_	FTC-419 SDG: 1103258 Matrix/No. Samples: 5-	17		
111.	Initial Calibration			
	1. Were correct concentrations of standards used for initial calibration? Were samples analyzed within 12 hours of associated instrument performance check?	Yes	No	N/A
	2. Were initial calibration RRFs for all volatile target compounds and system monitoring compounds $>$ or = 0.05? Do recalculations for RRFs agree with reported values?	Yes	No	N/A
	3. Were %RSDs $<$ or = 30% for all volatile target compounds? Do recalculations for RSDs agree with reported values?	Yes	No	N/A
	4. Were any qualifications required based on this information?	Yes	No	N/A
	1103258	73 48 16		= 4.
	$\frac{1.194}{1.086} = \frac{1.194}{9.108} = 1.086$	26 .0 23 81 48	7	0563 1.13 c
IV.	Continuing Calibration			
	1. Were continuing calibration samples run at the required frequency, and compared to the correct initial calibration?	(Yes)	No	N/A
	2. Did calculations from raw data agree with laboratory reported values for RRF and %D?	Yes	No	N/A
	3. Were continuing calibration RRFs for volatile organic compounds and system monitoring compounds (surrogates) > or = 0.05 ?	Yes	No	N/A
1999 - San Carlos	4. Were %D between initial calibration RRF and the continuing calibration RRFs within $+$ or -25% ?	Yes	No	N/A
	5. Were any qualifications required based on this information?	Yes	No	N/A
	Comments/Qualifications: 4/2 4/2 4/2 4/2 1.123 - 1.021 1.123 = 9.1% 21% 21%	1 - [,100 .100	5 - 1 = 21/6	`
	4/3 <172 b(a) pyrone <u>1.244-0.980</u> -	6.12 1		

ample	S-	17		
ampie	les:		-	
or cal	alibration	Yes	No	N/A
each	GC/MS	Ves	No	N/A
		Yes	NO	N/A
			\bigcirc	
)			
	11g			
		Yes	No	N/.
		Yes	No	N/.
?		Yes	No	N/.
	-nave effected			
ıtrix?	?	Ves	No	N/.
		Yes	No	N/.
		Yes	(No)	N/.
		Yes	No	N
n con	onjunctior	n Ves	No	N/
9 9.9	/36 /85	18 = 9 48 = °	19.6%	
9 9.9 9.42	36 35 25	18 48		= 99.6 % = 91.520

leviewer:	Kitchings			Date: 4 (19			
roject:	FTC-419	SDG:S	-58 M	atrix/No. Samples:	-17	-	
VIII.	Laboratory Control	Sample (LCS)	and the statement of the statement				
	1. Were LCS samples	run at correct frequency	for each matrix san	nples?	Yes	No	N/A
		tions performed correctly veries within laboratory Q		ry reported values match	Yes	No	N/A
	4. Were any qualifi information?	cations required based o	n LCS data in co	njunction with other QC	e ves	No	N/A
LC: 14-4	Comments/Qualifica \$ 10 (3-B5 A T A T A F	tions: enaphth:-hich. nth hich ews:(b) - hich. lusree - hich.	b(a)anth. Naplith.	3433 = 103. 3333 = 103. 3337/ = 10	020		
IX.	Internal Standards		And a state of the				
	1. Were standard ar calibration standard?	ea counts within a factor	of two (-50% to	+100%) from associated	i Yes	No	N/A
	2. Were retention tin associated calibration	nes of internal standard w check?	vithin + or - 30 sec	onds of retention time o	f Yes	No	N/A
	3. Were any qualifica	tions required based on in	nternal standard res	ults?	(Yes)	No	N/A
14-1 13- 14- 16	Comments/Qualifica 02 - peuglesse - 02 - 1, - 01 -01 - 11 -01 - 11 11 - 01 - 11	low .b(b)f.	L)	Naphth. 185 200 Chrys. 730 950	<u>7989</u> 3854 5811 5317		
X.	Target Compound Id	lentification					
	1. Are relative retenti	on times (RRTs) within	+ or - 0.06 RRT ur	its of standard RRT?	Yes	No	MA
	2. Do sample compo spectra?	und spectra meet specifie	ed criteria in relation	on to laboratory standard	l Yes	No	NA
	3. Were all compound	is accounted for on chron	natogram?		Yes	No	NA
	Comments/Qualifica	tions: No ra	ri data - le	vel II			

Reviewer				
Project:_	<u>1-7-419</u> SDG: 1103258 Matrix/No. Samples: 5-17	[
XI.	Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL	s)		
	1. Were sample results correctly calculated and reported by laboratory?	Yes	No	NA
	2. Were correct internal standard quantitation ion and RRF used to quantify all compounds for all samples?	Yes	No	NA
	3. Were CRQLs adjusted to reflect sample dilutions and dry weight factors not accounted for by the method?	Yes	No	N/A
	4. Were any laboratory QA/QC sample results calculated from peaks derived using manual integration?	Yes	No	N/A
	5. Were any qualifications required based on this information?	Yes	No	NA
	Comments/Qualifications: /earl IM - In row data			

XII. Field QC			
1. Were any Field Duplicates associated with this SDG?	Yes	No	N/A
a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil san	nples)? Yes	No	N/A
2. Were any field blanks or equipment rinsates associated with this SDG?	Yes	No	N/A
a. If yes, were any compounds reported in samples >IDL?	Yes	No	N/A
b. Were any qualifications required based on this information?	Yes	No	N/A
Comments/Qualifications: <u>FP</u> ZO-01 <u>20:019</u> U's out U Phene. 74.9 U Naphth. 115			
XIII. Overall Assessment of Data			
1. Are there any specific concerns or limitations regarding the data in this SDG?	Yes	(No)	N/A
Comments/Qualifications:			

SDG	110 3247	P	roject: FTC	Bldg 4	19	
Meth	od: Volatiles - BTEX	8260 B N	fatrix/No. San	nples: Svil	- 25	
SB.	ation Samples: <u>5B-02-02</u> -01-01 <u>5B-04-01</u> -01-02 <u>5B-04-02</u> -02-01 <u>5B-03-01</u>	5B-03-019 5B-03-02 5B-05-02 5B-05-02	5B-06-01 5B-06-02 SB-07-01 5B-07-02	5808-01 5808-02 58-09-01 58-09-02	and a second	5B-12-01 5B-12-02
	D	ata Validation R	eport Summar	ТУ		
		Status Cod	e	Cor	nments	
1.	Sample Preservation, Handling, and Transport	A				
2.	Chain of Custody	A				
3.	Holding Times	A				
4.	GC/MS Tune/Inst Perf	A				
5.	Calibrations	Α				
6.	Blanks	A				
7.	Blank Spike/LCS	A	S	ee comm	ent #1	
8.	Matrix Spike	N(A				
9.	Surrogates	X				
10.	Internal Standards	×		ree Com	ment # 2	
11.	Compound Identification	4				
12.	System Performance	Ą				
13.	Field QC Samples	A				
14.	Overall Assessment	N/A				
	Status Codes:					

Status Codes:

A = Acceptable R = Data Rejected X = Data acceptable but qualified due to problems

Qualifications:

70. 56-04-01 and 513-07-01 had low bib surrogate recording, a Is outside the QC limits - somple SB-04-01 KE ad sample. SB-07-01 Were gualified as "UJ". 10 - Low IS veroveries resulted in "J" qualifier for benzere in Sample SB-10-01:

Significant Findings/Recommendations:

1 - LCS 31010 had a high recovery for toluene, both effected samples were non-detects - no quies required. #2-The 1,4-deb-d+ had low reconstres for 04-01RE, 07-01 RE, no cpds were effected no quals. · 5B-04-01 had low verneries for all 3 IS's. This sample was rejected in favor of the RE - no grads.

Overall Data Quality:

Acceptable às qualified. Thimas Kitchize Date: 4/20/2011 Validator's Signature: <u>\</u>

EMPIRICAL LABORATORIES, LLC - CHAIN OF CUSTODY RECORD SHIP TO: 621 Mainstream Drive, Suite 270 + Nashville, TN 37228 + 615-345-1115 + (fax) 615-846-5426

Send Results to:		Send Invoi	ce to:				Analysis	Requir	remen	its:			Lab	Use On	iy:		
Name <u>Doug-Hawk</u> Company SES Address 1006 Flour City <u>OAK RUDGE</u> State, Zip <u>TN</u> Phone (BES) 481-7 Fax E-mail <u>DAtture</u> (DEC) Project No./Name: BLDE 419	<u>837</u>	Name Company Address City State, Zip Phone Fax E-mail Sampler's (Si			BTER CHLY (NOC B260)	PALLEZTC, DEU BOIS						Field Fi Correct Discrep Cust. S	Containers ancies eals Intact ers Intact	38		NA NA NA	6
Lab Use Only Lab #	Date/Time Sampled		Description	Sample Matrix									mments	No. of Bottles	Lab (Contai	Jse Only ners/Pres.	
1103247-6	03124/11 0950	58-01-01	•	SOL	x	x						BTER	only	4	Mr	30	
-02	LASPREPARE	TEXP		LATER	X							AB PR	OVIDED NUDCSAMO	2	27	1PU	
_03	03/29/11	SB-01-0:		SOIL	x	×				. Junk		BIEX	ONLY	4	In	130	
-04	035	58-02-01		1	x	×						1					
_05	03/29/11	58-02-02			x	x						-+					
-66	03/20/11	58-04-01			ĸ	x								-			
-07	03/24/11 1105	SB-04-02			x	x				\downarrow \downarrow \downarrow	_						
-08	03127/4	58-03-01			K	×											
-09	11/120	58-03-0	9 '		ĸ	x								+			
-10	03129/11	58-03-03			×	X											
-11	1135	SB-05-01	(ii.)	V	x	×						1	A VIDE CAM	ar V		1	1
-12	1330	SB-05-0	2	SOIL	K	×						BUEX	AVDL SAM	4	N	/	2
Sample Kit Prep'd by: (Sign		Date/Time	Received By: (S	ignature)			REMAR	RKS: HLL DO	ne +f	awn u	POH	RECE	Tel	Page _	Detail	s: f3	
Relinquished by: (Signature))	Date/Time	Received By: (S	ignature)		98-555 (Color								Cooler	No.	_of_ユ	
Indra M.Mal	1177Y	1700					4							Date	hinned	03/29/11_	
Relinquished by: (Signature)		Date/Time	Received By: (S	iignature)											ed By Fr		47
Received for Laboratory by:	(Signatura)	Date/Time	Temperature	- 0			-							100000000000000000000000000000000000000	100-00-00-00-00-00-00-00-00-00-00-00-00-		1103247
Received to Laboratory by.	(orginature)	Date/Time 7-30-11 108:30	1. 1	75			** 48	3 Hour	SAT S	**7				Turnai	round <u>4</u>	SHOUR	110

Distribution: Original and yellow copies accompany sample shipment to laboratory; Pink retained by samplers.

14208

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14209

1103247

		Send Invoid	n to:		1			Anal	ysis F	legui	reme	ents:			Lab U	lse Onl	y :	
Send Results to: Name DOUG HAULI Company SES Address 1006 FLQ1 City OAN RIDGE State, Zip TN Phone (PK5) 481-78 Fax E-mail Project No./Name: BI DG 419	37	Send Involu Name Company Address City State, Zip Phone Fax E-mail Sampler's (Si	gnature);			vac eses - Brex anly	PAN BITO . DECEOS								VOA Headspace Field Filtered Correct Containers Discrepancies Cust. Seals Intact Containers Intact Airbill #:			NA NA NA NA
Lab Use Only Lab #	Date/Time Sampled		Description		mple atrix										Comments	of Bottles	Contair	ners/Pres.
11/247-13	9/29/11	SB-06-0	1 1	6		x	x								BTEX ONLY ON ETHLOR	4	Imp	30
-14	03/29/11 1345	58-06-0			h	×	×								BTEX ON NOL SAPHE	1		
	03/29/4	58-07-0				x	×								1	_		
-16	03129/11	58-07-0				×	x											
-17	14:00	SB-08-	-			×	×											
-16	03/29/11	56-08-0				x	X											
- 16	03/29/11	SB-09-0				×	X											
-70	1500	SB-09-0				×	x											
11-21	1510	SB-10-01				x	x							_				
1075 77 75	1540 0312411 1545	SB 10-02				×	X									11		
-73	03129/11	SB-11-01				x	×								1	V-		
- 24	1610		and a state of the second second	S.	¥	x	x								BTER ONLY SAMALE	4		V
Sample Kit Prep'd by: (Sign		SB-11-0 Date/Time	Received By:		ALC: NOTE: N	1		RE	MARI	(S: Pou	G t	RWI	w	FOIJ	RECEIPT	Page	Detail えo	
Relinquished by: (Signature))	Date/Time 03(25)/ 11	Received By:	(Signati	ure)	20040411	12.055									Cooler	No. <u>\</u>	of <u>2</u>
hen Milled	and the second se	1700		101				-								Date S	hipped_	03/21/11
Relinquished by: (Signature)	Date/Time	Received By:	(Signati	ure)												ed By F	
Received for Laboratory by:	(Signature)	J-Jate Ting	Temperature	70	C			*	* 49	<u>3 Hc</u>	UR	AT	T*	¥				18 Haur

Distribution: Original and yellow copies accompany sample shipment to laboratory; Pink retained by samplers.

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14210

Send Results to:		Send Invo	ice to:				Ar	alysis	Requ	irem	ents:		Lab	Use On	ly:	
Name Doug Holds Company 100 Fig Address SES City OAK PLOFE State, Zip TN Phone (665)481-7 Fax E-mail DHow O SEC Project No./Name: BLOG 419	20001188 837	City State, Zip Phone Fax E-mail Sampler's (3			YOU BLUE BREX CNILY	8170							VOA Headspace Field Filtered Correct Container Discrepancies Cust. Seals Intact Containers Intact Airbill #:	s G	ZZZZZZ	
Lab Use Only Lab #	Date/Time Sampled		Description	Sample Matrix				1					Comments	No. of Bottles	Lab Use Container	
1103247-25	03/29/11 1640	SB-12-01	() 	SOIL	x	x							Btex arey	4	Int:	30
-26	03129/11 1650	SB-12-0	r .	SOIL	x	×		_			++	++	BTEX OWLY	4	ZJH	
		S-TRIP BLAR			×									2		
			11 - 1		-											
Sample Kit Prep'd by: (Signa Relinquished by: (Signature)		Date/Time Date/Time ບໍລິໄຂາ/ ເ1 ເງັດເວ Date/Time	Received By: (Si Received By: (Si Received By: (Si	gnature)			R	EMAR		e th	qwh u	PON R	BCEIPT	Cooler Date S	Details:	r <u>2</u> DEX
Received for Laboratory by:	(Signature)	Date/Time/ 3-30-11 11K-30	Temperature	E			*	48	na+ ≠	K					ound <u>481</u>	

Distribution: Original and yellow copies accompany sample shipment to laboratory; Pink retained by samplers.

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SB-01-01

Laboratory:	Empirical Laboratories	s <u>, LLC</u>			SDG:	1103247			
Client:	SES, Inc. (S750)				Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laborate	ory ID:	<u>1103247</u>	-01	File ID:	0324701.D		
Sampled:	03/29/11 09:50	Prepared	1:	03/31/1	<u>1 00:00</u>	Analyzed:	03/31/11 08:54		
Solids:	89.59	Preparat	ion:	<u>5035</u>		Dilution:	<u>1</u>		
Batch:	<u>1D04001</u> Seq	uence:	1D09401		Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	Qual
71-43-2	Benzene					0.490	5.22	U	ie
100-41-4	Ethylbenzene					0.782	5.22	U	
108-88-3	Toluene					0.897	5.22	U	
1330-20-7	Xylenes (total)					0.730	5.22	U	*
SYSTEM MOI	NITORING COMPOUND		ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		31.3	0	32.14	103	85 - 120		
Dibromofluoro	methane		31.3	0	32.40	104	80 - 125		
1,2-Dichloroeth	nane-d4		31.3	0	32.98	105	75 - 140		
Toluene-d8			31.3	50	31.92	102	85 - 115		

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SB-01-02

Laboratory:	Empirical Laboratories, L	LC		SDG:	1103247			
Client:	SES, Inc, (S750)			Project:	FTS UST 2008	-2010		
Matrix:	Solid	Laboratory ID:	1103247	-03	File ID:	0324703.D		
Sampled:	03/29/11 09:55	Prepared:	03/31/1	00:00	Analyzed:	03/31/11 09:18		
Solids:	85.52	Preparation:	<u>5035</u>		Dilution:	1		
Batch:	1D04001 Sequen	ice: <u>1D09401</u>	10	Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND		CON	IC. (ug/Kg dry)	MDL	MRL	Q	Qua
71-43-2	Benzene				0.467	4.97	U	ü
100-41-4	Ethylbenzene				0.746	4.97	U	
108-88-3	Toluene				0.855	4.97	U	
1330-20-7	Xylenes (total)				0.696	4.97	U	1
SYSTEM MON	NITORING COMPOUND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene	29.8	3	29.81	99.9	85 - 120		
Dibromofluoro	methane	29.8	3	29.93	100	80 - 125		
1,2-Dichloroeth	nanc-d4	29.8	3	30.19	101	75 - 140		
Toluene-d8		29.8	3	31.24	105	85 - 115		

SB-02-01

Laboratory:	Empirical Laboratori	es, LLC			SDG:	1103247			
Client:	SES, Inc. (\$750)				Project:	FTS UST 2008	8-2010		
Matrix:	Soil	Laborate	ory ID:	<u>1103247</u>	-04	File ID:	0324704.D		
Sampled:	03/29/11 10:35	Preparec	i:	03/31/1	00:00	Analyzed:	03/31/11 09:42		
Solids:	94.48	Preparat	ion:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D04001</u> Se	equence:	1D09401		Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	Qua
71-43-2	Benzene					0.514	5.47	U	ù
100-41-4	Ethylbenzene					0.820	5.47	U	
108-88-3	Toluene					0.940	5.47	U	
1330-20-7	Xylenes (total)					0.765	5.47	U	*
SYSTEM MON	NITORING COMPOUN	D	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		32.8	0	32.12	97.9	85 - 120		
Dibromofluoro	methane		32.8	0	34.20	104	80 - 125		
1,2-Dichloroeth	ane-d4		32.8	0	33.43	102	75 - 140		
Toluene-d8			32.8	0	33.95	104	85 - 115		

SB-02-02

_aboratory:	Empirical Labo	oratories, LLC		:	SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750))			Project:	FTS UST 2008	-2010		
Matrix:	Soil	Labo	ratory ID:	1103247	05	File ID:	0324705.D		
Sampled:	03/29/11 10;40	Prep	ared:	03/31/11	00:00	Analyzed:	03/31/11 10:06		
Solids:	72.28	Prep	aration:	<u>5035</u>		Dilution:	1		
Batch:	1D04001	Sequence:	1D09401		Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Ren
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	2L
71-43-2	Benzene					0.576	6.13	U	i i
100-41-4	Ethylbenzene					0.920	6,13	U	
108-88-3	Toluene					1.05	6.13	U	
1330-20-7	Xylenes (total)					0.859	6.13	U	V
SYSTEM MO	NITORING COMP	OUND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	enzene		36.8	0	36.99	101	85 - 120		
Dibromofluoro	methane		36.8	0	37.29	101	80 - 125		
1,2-Dichloroet	hane-d4		36.8	0	37.98	103	75 - 140		
Toluene-d8			36.8	0	37.36	102	85 - 115		

SB-04-01

_aboratory:	Empirical Labora	atories, LLC		S	SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)			F	Project:	FTS UST 2008	3-2010		
Matrix:	<u>Soil</u>	Laborat	ory ID:	<u>1103247</u> .	<u>06</u>	File ID:	0324706.D		
Sampled:	03/29/11 11:00	Prepare	d:	<u>03/31/11</u>	00:00	Analyzed:	03/31/11 10:30		
Solids:	88.11	Prepara	tion:	<u>5035</u>		Dilution:	1		
Batch:	1D04001	Sequence:	<u>1D09401</u>	(Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	Qui
71-43-2	Benzene					0.482	5.13	S, U	- <u>Put !</u>
100-41-4	Ethylbenzene					0.770	5.13	S, U	
108-88-3	Toluene					0.882	5.13	S, U	
1330-20-7	Xylenes (total)					0.718	5.13	<u>S, U</u>	_
	NITORING COMPC	DUND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe		Company of	30.7	78	25.76	83.7	85 - 120	*S	
Dibromofluoro		20			33.43	109	80 - 125	S	
1.2-Dichloroet	10 KSW				34.64	113	75 - 140	S	
Toluene-d8			30.1	78	35.29	115	85 - 115	Ś	

SB-04-01

Laboratory:	Empirical Laboratories	i, LL <u>C</u>	5	SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)		Ι	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laboratory ID:	<u>1103247-</u>	06RE1	File ID:	0324706R.D		
Sampled:	03/29/11 11:00	Prepared:	<u>04/01/11</u>	00:00	Analyzed:	04/01/11 10:06		
Solids:	88.11	Preparation:	<u>5035</u>		Dilution:	1		
Batch:		uence: <u>1D09201</u>	(Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND		CON	IC. (ug/Kg dry)	MDL	MRL	Q	gnd
71-43-2	Benzene				0.481	5.12	U	Rus?
100-41-4	Ethylbenzene				0.768	5.12	U	
108-88-3	Toluene				0.881	5.12	U	
1330-20-7	Xylenes (total)				0.717	5.12	U	
SYSTEM MON	NITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	and the second se	30.	.73	24.34	79.2	85 - 120	*X	
Dibromofluoro				31.98	104	80 - 125		
1,2-Dichloroeth				29.87	97.2	75 - 140		
Toluene-d8		30.	.73	37.95	123	85 - 115	*	

SB-04-02

Laboratory:	Empirical Laboratorie	s, LLC		5	SDG:	<u>1103247</u>			
Client:	SES. Inc. (\$750)			1	Project:	FTS UST 200	8-2010		
Matrix:	Soil	Laborator	y ID:	1103247	-07	File ID:	0324707.D		
Sampled:	03/29/11 11:05	Prepared:		03/31/11	00:00	Analyzed;	03/31/11 10:55		
Solids:	84.70	Preparatio	on:	<u>5035</u>		Dilution:	1		
Batch:	1D04001 Seq	uence:	1D09401		Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	Que
71-43-2	Benzene					0.558	5.94	U	u
100-41-4	Ethylbenzene					0.891	5.94	U	
108-88-3	Toluene					1.02	5.94	U	
1330-20-7	Xylenes (total)					0.831	5.94	U	V
SYSTEM MON	NITORING COMPOUND		ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		35.6	3	35.85	101	85 - 120		
Dibromofluoro	methane		35.6	3	36.66	103	80 - 125		
1,2-Dichloroeth	nane-d4		35.6	3	34.50	96.8	75 - 140		
Toluene-d8			35.6	3	35.77	100	85 - 115		

SB-03-01

Laboratory:	Empirical Laboratories,	LLC		SDG:	1103247			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laboratory ID:	<u>1103247</u>	-08	File ID:	0324708.D		
Sampled:	03/29/11 11:20	Prepared:	03/31/1	1 00:00	Analyzed:	03/31/11 11:19		
Solids:	86.20	Preparation:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D04001</u> Seque	ence: <u>1D0940</u>		Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND	ND		CONC. (ug/Kg dry)		MRL	Q	Qua
71-43-2	Benzene				0.461	4.91	U	u
100-41-4	Ethylbenzene				0.736	4.91	U	
108-88-3	Toluene				0.844	4.91	U	
1330-20-7	Xylenes (total)				0.687	4.91	U	×
SYSTEM MO	NITORING COMPOUND	ADDED	(ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	enzene	29	.45	29.30	99.5	85 - 120		
Dibromofluoro	methane	29	.45	29.90	102	80 - 125		
1,2-Dichloroeth	hane-d4	29	.45	30.34	103	75 - 140		
Toluene-d8		29	.45	30.72	104	85 - 115		

SB-03-019

	C				enc.	1102247			
Laboratory:	Empirical Laborator	ies, LLC			SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)			Project:		FTS UST 2008-2010			
Matrix:	Soil	Labora	ory ID:	1103247	-09	File ID:	0324709.D		
Sampled:	03/29/11 11:20	Prepare	d:	03/31/1	00:00	Analyzed:	03/31/11 11:43		
Solids:	85.54	Prepara	tion:	<u>5035</u>		Dilution:	1		
Batch:	1D04001 Se	equence:	1D09401		Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND	١D			IC. (ug/Kg dry)	MDL	MRL	Q	Qu
71-43-2	Benzene					0.537	5.71	U	4
100-41-4	Ethylbenzene					0,856	5.71	U	
108-88-3	Toluene					0.982	5.71	U	
1330-20-7	Xylenes (total)					0.799	5.71	U	V
SYSTEM MO	NITORING COMPOUN	D	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		34.2	.5	34.03	99.3	85 - 120		
Dibromofluoro	methane			.5	34.73	101	80 - 125		
1,2-Dichloroeth	hane-d4	ane-d4 34			35.93	105	75 - 140		
Toluene-d8			34.2	.5	34.52	101	85 - 115		

SB-03-02

.aboratory:	Empirical Laboratorie	s, LL <u>C</u>		:	SDG:	1103247			
Client:	SES, Inc. (S750)			1	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laborato	ry ID:	1103247	<u>10</u>	File 1D:	0324710.D		
Sampled:	03/29/11 11:35	Prepared		03/31/11	00:00	Analyzed:	03/31/11 12:07		
Solids:	85.04	Preparati	on:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D04001</u> Seq	uence:	1D09401		Calibration:	1081001	Instrument:	MS-VOA6	R
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	6
71-43-2	Benzene					0.492	5.23	U	L
100-41-4	Ethylbenzene					0.785	5.23	U	
108-88-3	Toluene					0.900	5.23	U .	
1330-20-7	Xylenes (total)					0.732	5.23	U	1
SYSTEM MON	NITORING COMPOUND)	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		31.3	9	31.42	100	85 - 120		
Dibromofluoro	methane		31.3	9	32.18	103	80 - 125		
1.2-Dichloroeth	nane-d4	oluene (ylenes (total) ORING COMPOUND Al e ane		9	31.96	102	75 - 140		
Toluene-d8		DMPOUND nzene nylbenzene luene lenes (total) RING COMPOUND Al			32.81	105	85 - 115		

SB-05-01

.aboratory:	Empirical Laboratories, LLC		5	SDG:	1103247			
lient:	SES, Inc. (S750)		Project:		FTS UST 2008	-2010		
Matrix:	Soil	Laboratory ID:	1103247	<u>.11</u>	File ID:	0324711.D		
Sampled:	03/29/11 13:15	Prepared:	03/31/11	00:00	Analyzed:	03/31/11 12:31		
Solids:	91.08	Preparation:	<u>5035</u>		Dilution:	1		
Batch:	1D04001 Sequence:	<u>1D09401</u>	(Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	R
CAS NO.	COMPOUND		CON	IC. (ug/Kg dry)	MDL	MRL	Q	0
71-43-2	Benzene				0.485	5.16	U	ü
100-41-4	Ethylbenzene				0,774	5.16	U	
108-88-3	Toluene				0.887	5.16	U	
1330-20-7	Xylenes (total)				0.722	5.16	U	¥
SYSTEM MO	NITORING COMPOUND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	enzene	30.9	6	30.20	97.6	85 - 120		
Dibromofluoro	methane	30.9	6	34.50	111	80 - 125		
1,2-Dichloroet	hane-d4	30.9	6	34.26	111	75 - 140		
Toluenc-d8		30.9	6	32.73	106	85 - 115		

SB-05-02

_aboratory:	Empirical Laborat	ories. LLC			SDG:	1103247			
Client:	SES, Inc. (S750)			Project:		FTS UST 2008	3-2010		
Matrix:	Soil	Labora	itory ID:	1103247		File ID:	0324712.D		
Sampled:	03/29/11 13:20	Prepar	ed:	03/31/1	00:00	Analyzed:	03/31/11 12:55		
Solids:	83.51	Prepar	ation:	5035		Dilution:	1		
Batch:	1D04001	Sequence:	1D09401	,	Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND	COMPOUND			C. (ug/Kg dry)	MDL	MRL	Q	-Si
71-43-2	Benzene					0.569	6.05	υ	li
100-41-4	Ethylbenzene					0.907	6.05	U	
108-88-3	Toluene					1.04	6.05	U	
1330-20-7	Xylenes (total)					0.847	6.05	U	J.
SYSTEM MO	NITORING COMPOU	JND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobo	enzene		36.2	9	35.66	98.3	85 - 120		
Dibromofluoro	omethane				36.47	101	80 - 125		
1.2-Dichloroet	hane-d4		36.2	9	37.96	105	75 - 140		
Toluene-d8			36.2	9	38.17	105	85 - 115		

SB-06-01

Laboratory:	Empirical Labor	atories, LLC		3	SDG:	<u>1103247</u>			
Client:	SES, Inc. (S750)				Project:	FTS UST 2008	8-2010		
Matrix:	Soil	Labor	atory ID:	1103247	-13	File ID:	0324713.D		
Sampled:	03/29/11 13:40	Prepa	red:	03/31/1	00:00	Analyzed:	03/31/11_13:20		
Solids:	91.00	Prepa	ation:	<u>5035</u>		Dilution:	1		
Batch:	1D04001	Sequence:	1D09401		Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	Qu
71-43-2	Benzene					0,534	5.68	U	li
100-41-4	Ethylbenzene					0.851	5.68	U	
108-88-3	Toluene					0.976	5.68	U	
1330-20-7	Xylenes (total)					0.795	5.68	U	V
SYSTEM MO	NITORING COMPC	DUND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	enzene		34.0	16	33.48	98.3	85 - 120		
Dibromofluoro	methane	ethane 34		16	34.42	101	80 - 125		
1,2-Dichloroet	hane-d4		34.0	16	36.27	107	75 - 140		
Toluene-d8			34.0	16	34.56	101	85 - 115		

SB-06-02

Laboratory:	Empirical Laboratorie	s, LLC			SDG:	<u>1103247</u>			
Client:	SES, Inc. (\$750)			Project:		FTS UST 2008	-2010		
Matrix:	Soil	Laborator	y ID:	1103247	-14	File ID:	0324714.D		
Sampled:	03/29/11 13:45	Prepared:		03/31/1	00:00	Analyzed:	03/31/11 13:45		
Solids:	81.70	Preparatio	on:	5035		Dilution:	1		
Batch:	<u>1D04001</u> Seq	uence:	1D09401		Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CONC. (ug/Kg dry)		MDL	MRL	Q	Suc
71-43-2	Benzene					0.499	5.31	U	° u
100-41-4	Ethylbenzene					0.797	5.31	U	
108-88-3	Toluene					0.914	5.31	U	
1330-20-7	Xylencs (total)					0.744	5.31	U	1
SYSTEM MO	NITORING COMPOUND		ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		31.8	8	29.46	92.4	85 - 120		
Dibromofluoro	methane			8	32.54	102	80 - 125		
1,2-Dichloroeth	nane-d4				33.15	104	75 - 140		
Toluene-d8			31.8	8	34.01	107	85 - 115		

SB-07-01

Laboratory:	Empirical Laboratoric	es, LLC		8	SDG:	1103247			
Client:	SES. Inc. (S750)			Project:		FTS UST 2008	3-2010		
Matrix:	Soil	Laborator	y ID:	<u>1103247</u>	-15	File ID:	0324715.D		
Sampled:	03/29/11 14:05	Prepared:		03/31/1	00:00	Analyzed:	03/31/11 14:09		
Solids:	77,91	Preparatio)n:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D04001</u> Sec	quence:	<u>1D09401</u>		Calibration:	1081001	Instrument:	MS-VOA6	5
CAS NO.	COMPOUND	UND		CONC. (ug/Kg dry)		MDL	MRL	Q	Such
71-43-2	Benzene					0.689	7.33	U	u3 7a
100-41-4	Ethylbenzene					1.10	7.33	U	
108-88-3	Toluene					1.26	7.33	U	
1330-20-7	Xylenes (total)				14 C C C C C C C C C C C C C C C C C C C	1.03	7.33	U	*
SYSTEM MON	NITORING COMPOUND)	ADDED (up	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		43.9	6	35.50	80.8	85 - 120	*	
Dibromofluoro	methane			6	45.43	103	80 - 125		
1,2-Dichloroeth	nane-d4		43.9	6	44.95	102	75 - 140		
Toluene-d8			43.9	6	52.90	120	85 - 115	*	

SB-07-01

Laboratory:	Empirical Laboratories	110		SDG:	1103247			
957) 00070 - 41		<u>, LLC</u>				1121207-21		
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laboratory ID:	1103247	-15RE1	File ID:	0324715R.D		
Sampled:	03/29/11 14:05	Prepared:	04/01/1	1 00:00	Analyzed:	04/01/11_10:30		
Solids:	<u>77.91</u>	Preparation:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D01016</u> Sequ	ence: <u>1D09201</u>		Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND	CONC. (ug/Kg dry)		MDL	MRL	Q	Que	
71-43-2	Benzene				0.657	6.99	U	RI
100-41-4	Ethylbenzene				1.05	6.99	U	
108-88-3	Tolucne				1.20	6.99	U	
1330-20-7	Xylenes (total)				0.979	6.99	U	
SYSTEM MO	NITORING COMPOUND	ADDED	ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobo	enzene	41	.95	35.42	84.4	85 - 120	*X	
Dibromofluoro	methane	Difference in the second			107	80 - 125		
1,2-Dichloroet	hane-d4	41	.95	46.25	110	75 - 140		
Toluene-d8		41	.95	50.17	120	85 - 115	*	
SB-07-02

Laboratory:	Empirical Laboratories	Empirical Laboratories, LLC			<u>1103247</u>			
Client:	SES, Inc. (S750)	SES, Inc. (S750)			FTS UST 2008	-2010		
Matrix:	Soil Laboratory ID:		<u>1103247</u>	-16	File ID:	0324716.D		
Sampled:	03/29/11 14:10	03/29/11 14:10 Prepared:		1 00:00	Analyzed:	03/31/11 14:34		
Solids:	84.91	Preparation:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D04001</u> Sequ	ience: <u>1D09401</u>		Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND	MPOUND		NC. (ug/Kg dry)	MDL	MRL	Q	QV
71-43-2	Benzene				0.469	4.99	U	h
100-41-4	Ethylbenzene				0.749	4.99	U	1
108-88-3	Toluene				0.858	4.99	U	
1330-20-7	Xylenes (total)				0.699	4.99	U	4
SYSTEM MOI	NITORING COMPOUND	ADDED	ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromoiluorobe	enzene	29	.94	30.29	101	85 - 120		
Dibromofluoro	methane 29.9		.94	31.36	105	80 - 125		
1,2-Dichloroet	hane-d4 29.9		.94	30.72	103	75 - 140		
Toluene-d8		.94	32.22	108	85 - 115			

SB-08-01

Laboratory:	Empirical Laborator	Empirical Laboratories, LLC			SDG:	1103247			
Client:	SES, Inc. (S750)			Project:		FTS UST 200	8-2010		
Matrix:	Soil	Labora	tory ID:	1103247-17		File ID:	0324717.D		
Sampled:	03/29/11 14:35 Prepared:		ed:	03/31/11 00:00		Analyzed:	03/31/11 14:58		
Solids:	83.78	Prepara	ition:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D04001</u> S	equence:	1D09401		Calibration:	1081001	Instrument:	MS-VOA6	2
CAS NO.	COMPOUND	POUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	Bud
71-43-2	Benzene					0.479	5.09	U	Th
100-41-4	Ethylbenzene					0.764	5.09	U	
108-88-3	Tolucne					0.876	5.09	U	
1330-20-7	Xylenes (total)					0.713	5.09	U	. 🗸
SYSTEM MO	NITORING COMPOUN	١D	ADDED (u)	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	luorobenzene 30.5		5	27.28	89.3	85 - 120			
Dibromofluoro	omethane 30.5		5	31.29	102	80 - 125			
1,2-Dichloroet	thane-d4 30.5			5	31.68	104	75 - 140		
Toluene-d8		30.3			33.24	109	85 - 115		

SB-08-02

Laboratory:	Empirical Laboratories, LLC				SDG:	1103247			
Client:	SES, Inc. (S750)			Project:		FTS UST 2008-	-2010		
Matrix:	Soil	Laborato	ry ID:	1103247	-18	File ID:	0324718.D		
Sampled:	03/29/11 14:45	Prepared		03/31/1	00:00	Analyzed:	03/31/11 15:22		
Solids:	84.52	Preparati	on:	<u>5035</u>		Dilution:	1		
Batch:	1D04001	Sequence:	1D09401		Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	Que
71-43-2	Benzene					0.473	5.03	U	u
100-41-4	Ethylbenzene					0.755	5.03	U	
108-88-3	Toluene					0.865	5.03	U	
1330-20-7	Xylenes (total)					0.704	5.03	U	1
SYSTEM MO	NITORING COMPOU	ND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	obenzene 30.1		8	30.61	101	85 - 120			
Dibromofluoro	omethane 30.1		8	30.62	101	80 - 125			
1,2-Dichloroeth	nane-d4 30.1			8	29.88	99.0	75 - 140		
Toluene-d8		30.1			31.20	103	85 - 115		

SB-09-01

Laboratory:	Empirical Laborat	ories, LLC			SDG:	1103247			
Client:	SES, Inc. (S750)			Project:		FTS UST 2008	8-2010		
Matrix:	Soil Laboratory ID:		1103247	-19	File ID:	0324719.D			
Sampled:	03/29/11 15:00	03/29/11 15:00 Prepared:		03/31/1	00:00	Analyzed:	03/31/11_15:46		
Solids:	91.32	Prepa	ration:	<u>5035</u>		Dilution:	<u>1</u>		
Batch:	1D04001	Sequence:	<u>11009401</u>		Calibration:	1081001	Instrument:	MS-VOA6	Rei
CAS NO.	COMPOUND				NC. (ug/Kg dry)	MDL	MRL	Q	Re
71-43-2	Benzene					0.497	5.29	U	u
100-41-4	Ethylbenzene					0.793	5.29	U	u
108-88-3	Tolucne			2.66		0.909	5.29	J	J
1330-20-7	Xylenes (total)					0.740	5.29	U	h
SYSTEM MON	NITORING COMPOU	JND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	probenzene 31.7		1	30.07	94.8	85 - 120			
Dibromofluoro	methane 31.7		1	31.91	101	80 - 125			
1,2-Dichloroeth	hane-d4 31.7		1	32.62	103	75 - 140			
Toluene-d8	31.7		1	33.86	107	85 - 115			

SB-09-02

		Equivipal Laboratories 11C			eDC-				
Laboratory:	Empirical Laboratories	<u>, LLC</u>		SDG:		1103247			
Client:	SES, Inc. (S750)	SES. Inc. (S750)			Project:	FTS UST 2008	-2010		
Matrix:	Soil Laboratory ID:		1103247	-20	File ID:	0324720.D			
Sampled:	03/29/11 15:10	Prepared:		03/31/11	00:00	Analyzed:	03/31/11 16:10		
Solids:	80.66	Preparatio	on:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D04001</u> Sequ	ience:	1D09401		Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Re
CAS NO.	COMPOUND	OMPOUND		CON	C. (ug/Kg dry)	MDL	MRL	Q	que
71-43-2	Benzene					0.543	5.77	U	U
100-41-4	Ethylbenzene					0.866	5.77	U	
108-88-3	Toluene					0.993	5.77	U	
1330-20-7	Xylenes (total)					0.808	5.77	U	1
SYSTEM MO	NITORING COMPOUND		ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	penzene 34.		34.6	3	35.09	101	85 - 120		
Dibromofluoro	methane 34.6		3	34.64	100	80 - 125			
1,2-Dichloroet	nane-d4 34.0			3	32.92	95.0	75 - 140		
Toluene-d8		34.0			35,87	104	85 - 115		

SB-10-01

Laboratory:	Empirical Laborator	Empirical Laboratories, LLC			SDG:	1103247			
Client:	SES, Inc. (S750)			Project:		FTS UST 2008-2010			
Matrix:	Soil	Soil Laboratory ID:		1103247	-21	File ID:	0324721D.D		
Sampled:	03/29/11 15:40	03/29/11 15:40 Prepared:		03/31/11	1 00;00	Analyzed:	03/31/11 19:03		
Solids:	68.32	Preparat	ion:	<u>5035</u>		Dilution:	<u>500</u>		
Batch:	<u>1C31010</u> Sc	equence:	1D09103		Calibration:	1084002	Instrument:	MS-VOA3	Rev
CAS NO.	COMPOUND	COMPOUND		CON	IC. (ug/Kg dry)	MDL	MRL	Q	Que
71-43-2	Benzene				504	341	3630	S, J, D	J 100
100-41-4	Ethylbenzene				3780	545	3630	D	
108-88-3	Tolucne					624	3630	0. U	u
1330-20-7	Xylenes (total)				23400	508	3630	D	
SYSTEM MO	NITORING COMPOUN	D	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	uorobenzene 43.5		6	47.06	108	85 - 120			
Dibromofluoro	omethane 43.5		6	46.02	106	80 - 125	S		
1,2-Dichloroet	hane-d4 43.:			6	42.75	98.1	75 - 140	S	
Toluene-d8		43.:			41.04	94.2	85 - 115		

Laboratory:	Empirical Labor	Empirical Laboratories, LLC			SDG:	1103247			
Client:	SES, Inc. (\$750)	SES, Inc. (\$750)			Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laborat	ory ID:	<u>1103247</u>	-22	File ID:	0324722.D		
Sampled:	03/29/11 15:45	Prepare	d:	03/31/1	1 00:00	Analyzed:	03/31/11 16:34		
Solids:	81,50	Prepara	tion:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D04001</u>	Sequence:	1D09401		Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND	D		CON	VC. (ug/Kg dry)	MDL	MRL	Q	Que
71-43-2	Benzene					0.522	5.56	U	u
100-41-4	Ethylbenzene			1		0.834	5.56	U	1
108-88-3	Toluene					0.956	5.56	U	
1330-20-7	Xylenes (total)					0.778	5.56	U	V
SYSTEM MON	A MONITORING COMPOUND ADD		ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	uorobenzene 33.3		33.3	4	33.93	102	85 - 120		
Dibromofluoro	omethane 33.3		4	33.64	101	80 - 125			
1,2-Dichloroeth	nane-d4 33.3			4	34.06	102	75 - 140		
Toluene-d8			33.3	4	34.68	104	85 - 115		

SB-11-01

Laboratory:	Empirical Laboratorie	Empirical Laboratories, LLC			SDG:	1103247			
Client:	SES, Inc. (S750)			Project:		FTS UST 2008			
Matrix:	Soil Laboratory ID:		1103247-	-23	File ID:	0324723D.D			
Sampled:	03/29/11 16:10	Prepared	8	03/31/11	00:00	Analyzed:	03/31/11 19:27		
Solids:	88.60	Preparat	ion:	<u>5035</u>		Dilution:	<u>50</u>		
Batch:	<u>1C31010</u> Sec	quence:	1D09103	(Calibration:	1084002	Instrument:	MS-VOA3	Re
CAS NO.	COMPOUND		CON	IC. (ug/Kg dry)	MDL	MRL	Q	1a	
71-43-2	Benzene					21.6	230	U	u
100-41-4	Ethylbenzene				147	34.5	230	J, D	J
108-88-3	Toluene					39.5	230	0. U	L
1330-20-7	Xylenes (total)				758	32.2	230	D	-
SYSTEM MO	NITORING COMPOUNE)	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	enzene		27.5	7	27.42	99.4	85 - 120		
Dibromofluoro	methane 27.5		7	25.32	91.8	80 - 125			
1,2-Dichloroet	nane-d4 27.:			7	27.66	100	75 - 140		
Toluene-d8	27.			7	28.60	104	85 - 115		

SB-11-02

Laboratory:	Empirical Laborator	Empirical Laboratories, LLC			SDG:	1103247			
Client:	SES, Inc. (S750)	SES, Inc. (S750)			Project:	FTS UST 2008	-2010		
Matrix:	Soil Laboratory ID:		1103247-	-24	File ID:	0324724.D			
Sampled:	03/29/11 16:15	03/29/11 16:15 Prepared:		03/31/11	00:00	Analyzed:	03/31/11 16:59		
Solids:	83.17	Prepara	ion:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D04001</u> S	equence:	1D09401		Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND	COMPOUND		CON	IC. (ug/Kg dry)	MDL	MRL	Q	Qua
71-43-2	Benzene				6.61	0.512	5.45		
100-41-4	Ethylbenzene				2.99	0.817	5.45	J	J
108-88-3	Toluene					0.937	5.45	U	u
1330-20-7	Xylenes (total)				17.3	0.762	5,45		
SYSTEM MO	TEM MONITORING COMPOUND ADDED (ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	ofluorobenzene 32.6		7	33.00	101	85 - 120			
Dibromofluoro	omethane 32.6		7	34.06	104	80 - 125			
1,2-Dichloroetl	thane-d4 32.6			7	32.80	100	75 - 140		
Toluene-d8		32.6			33.76	103	85 - 115		

Laboratory:	Empirical Laboratories, LL	.C	1	SDG:	1103247			
Client:	SES, Inc. (\$750)		Project:		ETS UST 2008	-2010		
Matrix:	Soil	Laboratory ID:	1103247	-25RE1	File ID:	0324725R.D		
Sampled:	03/29/11 16:40	Prepared:	04/01/1	00:00	Analyzed:	04/01/11 10:54		
Solids:	80.60	Preparation:	<u>5035</u>		Dilution:	1		
Batch:	1D01016 Sequence	e: <u>1D09201</u>	73	Calibration:	1081001	Instrument:	MS-VOA6	Ren
CAS NO.	COMPOUND		CON	IC. (ug/Kg dry)	MDL	MRL	Q	Que
71-43-2	Benzene				0.534	5.68	U	ü
100-41-4	Ethylbenzene				0.852	5.68	U	1
108-88-3	Toluene				0.977	5.68	U	
1330-20-7	Xylenes (total)				0.795	5.68	U	
SYSTEM MO	NITORING COMPOUND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	-
Bromofluorobe	probenzene 34		19	34.03	99.8	85 - 120	X	
Dibromofluoro	omethane 34.0		19	35.05	103	80 - 125		
1,2-Dichloroeth	nane-d4	19	34.26	101	75 - 140			
Tolucne-d8		34.0	19	36.13	106	85 - 115		

Laboratory:	Empirical Laboratories	Empirical Laboratories, LLC			1103247			
Client:	SES, Inc. (\$750)			Project:	FTS UST 2008	FTS UST 2008-2010		
Matrix:	Soil	Laboratory ID:	<u>1103247</u>	-26RE1	File ID:	0324726R.D		
Sampled:	03/29/11 16:50	Prepared:	<u>04/01/1</u>	1 00:00	Analyzed:	04/01/11 11:19		
Solids:	90.89	Preparation:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D01016</u> Sequ	lence: <u>1D09201</u>		Calibration:	1081001	Instrument:	MS-VOA6	Rev.
CAS NO.	COMPOUND	CON	NC. (ug/Kg dry)	MDL	MRL	Q	and	
71-43-2	Benzene				0.468	4.98	U	u
100-41-4	Ethylbenzene				0.747	4.98	U	
108-88-3	Toluene				0.857	4.98	U	
1330-20-7	Xylenes (total)				0,698	4.98	U	1
SYSTEM MON	NITORING COMPOUND	ADDED	ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene	29	90	30.71	103	85 - 120	x	
Dibromofluoro	omethane 29.9		.90	30.95	104	80 - 125		
1,2-Dichloroetl	hane-d4 29.9			30.46	102	75 - 140		
Toluene-d8		29.9			102	85 - 115		

Reviewer:	Kitchings				Date:_	4	20
Project:	C 419	SDG:_	1103247	Matrix/	No. Sam	ples:_	5-25

I.	Tech	nical Holding Times			
	А.	Sample Preservation, Handling and Transport			
		1. Have all samples been preserved correctly?	Ves	No	N/A
		2. Have sample temperatures been kept at 4° C (+ or - 2 $^{\circ}$)?	Yes	No	N/A)
		3. Were all samples received in proper condition?	Yes	No	N/A
		4. Were any qualifications required based on this information?	Yes	No	N/A
	Coole	ers @ 1.7° c., 1.9° C.)	
	B.	Chain of Custody			
		1. Were all samples properly recorded on COCs?	Ye	No	N/A
		2. Were correct analyses performed on samples?	Ves	No	N/A
	c.	Holding Times			
		1. Were samples extracted and analyzed within acceptable holding times?	Yes	No	N/A
		2. Were any qualifications required based on this information?	Yes	No	N/A
		SAMPLED PREPPED	ANALYZI		
		3/29 58-1201 3/31 SB-11-01	3/31		
		5B-04-01 - 4/1	4/1		
		REST 12-01	,		
		othus 3/31	3/31		
П.	GC/N	1S Instrument Performance Check			
	1. We	ere instrument performance check samples run for each analysis period?	Yes	No	N/A
	2. We	ere ion abundance criteria met for BFB analysis?	(Yes)	No	N/A
	3. Do	laboratory forms match raw data?	Yes	No	NA
	4. We	ere any qualifications required based on this information?	Yes	No	N/A
Comr	nents/Qu	ICAL 3/17 3(3128:3 3/3101:5)	ų	/1C. 6:	ło
		95 buse -			
		all criteria met.			

ect: FTC 4 (9 SDG: 1103247 Matrix/No. Samples: 5-25			
I. Initial Calibration		1	
 Were correct concentrations of standards used for initial calibration? Were samples analyzed within 12 hours of associated instrument performance check? 	Tres	No	N/A
2. Were initial calibration RRFs for all volatile target compounds and system monitoring compounds $>$ or = 0.05? Do recalculations for RRFs agree with reported values?	Ye	No	N/A
3. Were %RSDs < or = 30% for all volatile target compounds? Do recalculations for RSDs agree with reported values?	Yes	No	N/A
4. Were any qualifications required based on this information?	Yes	No)	N/A
Comments/Qualifications: 1.596° $.00270^{\circ}$ 1.594° 26° 1.594° 26° 1.757° 1.544° 1.757° 1.544° 1.493° 55° RRFs 71.0 1.568° 12.351° 1.568° 1.384° 256° 1.399° 8° 7.351°	3	= .1190 1.540	1=7.8 F
7. Continuing Calibration			
1. Were continuing calibration samples run at the required frequency, and compared to the correct initial calibration?	Yes	No	N/A
2. Did calculations from raw data agree with laboratory reported values for RRF and %D?	Yes	No	(N/A)
3. Were continuing calibration RRFs for volatile organic compounds and system monitoring compounds (surrogates) > or = 0.05 ?	Yes	No	N/A
4. Were %D between initial calibration RRF and the continuing calibration RRFs within + or - 25%?	Yes	No	N/A
5. Were any qualifications required based on this information?	Yes	No	N/A
$\begin{array}{c} \text{Comments/Qualifications:} & 4/1 & 3/31 \\ 3/31 & 4/1 & 3/31 \\ \text{SB-10-01} & \text{SB-04-01} & 1001 & 1001 \\ \text{SB-11-01} & 4002 & RES & 12-01 & 011 \\ \text{SB-11-01} & 4002 & RES & 12-01 & 011 \\ \hline & & & & & & & & & & & \\ \hline & & & & &$	479 - 3 1.890 - 1. 1.744 3.26	.208 744	

ject: ITC 419 SDG: 110 3247 Matrix/No. Samples: 5-25			
V. Blanks			
1. Were any target or non-target compounds reported in laboratory prep or calibration blanks?	Yes	N	N/A
2. Were method blank analyses performed at required frequency, and for each GC/MS system used to analyze samples for each type of analysis (i.e., matrix)?	(Ye)	No	N/A
3. Were any qualifications required based on this information?	Yes	No	N/A
Comments/Qualifications: 1016 400 1010 - 3/31 - 4/1 - 4/1 - 5/16 -	31 US-		
VI. System Monitoring Compounds (Surrogate Spikes)			1
1. Were laboratory surrogate recoveries calculated and reported correctly?	Yes	No	N/A
2. Were surrogate recoveries within acceptable limits?	Yes	No	N/A
3. Were any qualifications required based on surrogate spike QC information?	Yes	No	N/A
Comments/Qualifications:	RE 04- RE 07-	01 d8 01- hish. 01- hish. 01- hish	94.2-
VII. Matrix Spikes/Matrix Spike Duplicates			
1. Were MS/MSD samples analyzed at required frequency for each ample matrix?	Yes	No	(N/A)
2. Were MS/MSD results for recovery and RPD within advisory limits?	Yes	No	MA
3. Were Samples used for MS/MSD field blanks?	Yes	No	N/A
4. Were laboratory reported results correctly calculated from raw data?	Yes	No	N/A
5. Were any qualifications required, based on results of MS/MSD samples in conjunction with other QC information?	Yes	No	N/A
Comments/Qualifications: None.pesformed			

eviewer: Kitchings Date: 4 Zo			
roject: FTC 419 SDG: 110 3247 Matrix/No. Samples: 5-25			
VIII. Laboratory Control Sample (LCS)			
1. Were LCS samples run at correct frequency for each matrix samples?	Yes	No	N/A
2. Were LCS calculations performed correctly, and did laboratory reported values match raw data? Were recoveries within laboratory QC limits?	Yes	No	N/A
4. Were any qualifications required based on LCS data in conjunction with other QC information?	Yes	No	N/A
bill Comments/Qualifications: NS. LCS 31070 -105-11. high toluene ->@12670 Benzene 55.87/5	0.00	10. 21	1016 2-01,0 112 115
4001-BSI Ethylb, 71.43 /50.00 -077 1000	886-98 73.8-10 2005-1	1.00	•
IX. Internal Standards IX. IX. <thix.< th=""> <thix.< th=""> IX.<td>Yes</td><td>No</td><td>N/A</td></thix.<></thix.<>	Yes	No	N/A
2. Were retention times of internal standard within + or - 30 seconds of retention time of associated calibration check?	Yes	No	N/A
3. Were any qualifications required based on internal standard results?	(Yes)	No	N/A
Comments/Qualifications: $04 \le 17.00$ SB-10-01 -1000 fb - benzene que as " J " $07-01.760$ $T52 \rightarrow 2.74660$ 57.32 $T52 \rightarrow 2.74660$ 54.32 $505856_1 = 54.32$ 10.796 $505856_1 = 54.32$ 10.796			10
X. Target Compound Identification			
1. Are relative retention times (RRTs) within + or - 0.06 RRT units of standard RRT?	Yes	No	NA
2. Do sample compound spectra meet specified criteria in relation to laboratory standard spectra?	Yes	No	N/A
3. Were all compounds accounted for on chromatogram?	Yes	No	NA
Comments/Qualifications: Level III - no row Oats.			V

Reviewer:				
Project:	FTC 419 SDG: 1103247 Matrix/No. Samples: 5-25			
XI.	Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL	s)		
	1. Were sample results correctly calculated and reported by laboratory?	Yes	No	NA NA
	2. Were correct internal standard quantitation ion and RRF used to quantify all compounds for all samples?	Yes	No	ALA
	3. Were CRQLs adjusted to reflect sample dilutions and dry weight factors not accounted for by the method?	Yes	No	NA
	4. Were any laboratory QA/QC sample results calculated from peaks derived using manual integration?	Yes	No	NA
	5. Were any qualifications required based on this information?	Yes	No	MA
	Comments/Qualifications: No row Qata - levelth			
ХП.	Field QC			
	1. Were any Field Duplicates associated with this SDG?	Tes	No	N/A
	a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)?	(e)	No	N/A

a. If Yes, were RPD:	s acceptable (50% f	for water samples, 100% for soil samples	s)? (Ve)	No	N/A
2. Were any field blanks or eq	uipment rinsates as	ssociated with this SDG?	Yes	No	N/A
a. If yes, were any co	mpounds reported	in samples >IDL?	Yes	No	N/A
b. Were any qualifier	ations required base	ed on this information?	Yes	No	N/A
Comments/Qualifications:	518-03-01	513-03-019	TB-3/3		
	58-03-01 U.S	SB-03-019	all	ns.	
		2	TB-3/3 all Trip 3/3 U's	1	
			u's,	i.	
XIII. Overall Assessment of Data					
1. Are there any specific conce	erns or limitations r	egarding the data in this SDG?	Yes	(No)	N/A
Comments/Qualifications:				0	

SDG:103=	158	P	roject: FTC F	31dg 419	Children and a state of the
Method: <u>Volati</u>	es BTEX 1	3260B M	fatrix/No. Sample	es: Soil - 1	7
Validation Sample	S: 5B-14-01	56-15-02	SB-17-01	515-18-02	513-20-01
SB-13-01	53-14-02	5B-16-01	SB-17-02	SB-19-01	5B-20-019
SB-13-02	53.15-01	SB-16-02	SB- 18-01	SB-19-02	SB-20.02

Data Validation Report Summary

		Status Code	Comments
1.	Sample Preservation, Handling, and Transport	A	
2.	Chain of Custody	A	
3.	Holding Times	A	
4.	GC/MS Tune/Inst Perf	Α	
5.	Calibrations	A	
6.	Blanks	A	
7.	Blank Spike/LCS	A	
8.	Matrix Spike	A	see comment # 2
9.	Surrogates	X	
10.	Internal Standards	Ą	see comment # 1
11.	Compound Identification	X	
12.	System Performance	A	
13.	Field QC Samples	A	
14.	Overall Assessment	X	
	Status Codes:		

A = Acceptable R = Data Rejected X = Data acceptable but qualified due to problems

SDG: 1263258

Method: Volatiles

Page 2

Qualifications:

16 · Ethylbenzene i xylence vesnits exceeded the ICL in sample SB-16-01. A dilution was an aluzed with the results within the limits - the orig. results were rejected in favor of the dilution,

74 Low surveyate recoveries in samples SB-14-02; SB-16-01, 17-01, 19-02 16-01, 10-02, 16-01, 10-01, 10-02, 16-01, 10-01,

Significant Findings/Recommendations:

#1 The 14 dechlorobenzene day informal tond and was outside the DC limits For 14-52, 14-52 RE, 15-01, 20-0198620-019RE, No target cade were effected - no grads required. z the ms/msb Recoveries were outs ide the QL limits-alles/csb vecoveries were acceptable so no qualifiers were added.

Overall Data Quality:

Acceptable as qualificel. Validator's Signature J. Thrmas Krochings Date: 4-19-2011 1/00

THE ALL ADODATODIES LLC .	CHAIN OF CUSTODY RECORD
EMPIRICAL LABORATORIES, LLO	0117 411 0 45 0 45 4445 4 (for) 615-846-5426

SHIP TO: 621 Mainstream Drive, Suite 270 + Nashville, TN 37228 + 615-345-1115 + (fax) 615-846-5426

	0					nalysis Requirement	S'	Lab U	se Only:		
Send Results to:		Send Invoice to:		- [narysis Requirement		VOA Headspace	Y	()	NA
Name DOUG HAWN Company SES Address JOU PLAYE City OAK RIDCE State ZipTU	DEULLER	Name Company Address City State, Zip Phone		8260-BTEX ONLY	PAH BYTO, DRO BOIS			Field Filtered Correct Containers Discrepancies Cust. Seals Intact Containers Intact		z z @ z z	NA NA NA NA
Phone (PC5) 481- FaxE-mail DHAWY0.98C		Fax		12220	6 8370			Airbill #:	17		
Project No./Name: BLOG-419		Sampler's (Signature):		Vac	. Æ			Comments	No. of	Lab Use Container) Only rs/Pres.
Lab Use Only Lab #	Date/Time Sampled	Sample Description	Sample Matrix					LAB PREPARED	Bottles	ZJHU	
1103250-01		SB-13-01	WATER	XX	x			+ HS/HSD	8	Zmt	10
-00	3/30/11	SB-13-02	1	x	*				4	1ht	-10
-64	0930 - 3130111	SB-14-01 SB-14-02		X	X		┥┥┥╹		4		
-05	3130/11	SB-13-01		x	X		┥┝╎┥		4		
-07	3/30/11 1015 3/30/11	SB-15-02 SB-16-01		X	X				4		
-08 -09	1030 3130/11 1040	SB-16-01 SB-16-02		x	x		┼┝┼		4		
-10	3130/11 1055 3130/11	SB-17-01		X	X				4		
-// -/2 Sample Kit Prep'd by: (Sig	3/30/11	SB-17-02 SB-12-01 Date/Time Received By:	(Signature)	X		REMARKS:		L	Page	Details	
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Relinquished by: (Signatur	() (e)	Date/Time Received By	: (Signature)		1 <u>0</u>	-				hipped ed By <u>FE</u>	5/30/11 DEX
Received for Vaboratory b	y: (Signature)	Pale/Time/ Temperature	1C			XX-78 Hour	- TAT **		Turna	round 4	8th
1 Mas M			ipment to lab	orato	ory; Pi	nk retained by samplers.					

Distribution: Original and yellow copies accompany sample shipment to laboratory; Pink retained

EMPIRICAL LABORATORIES, LLC - CHAIN OF CUSTODY RECORD SHIP TO: 621 Mainstream Drive, Suite 270 + Nashville, TN 37228 + 615-345-1115 + (fax) 615-846-5426

	U.I.I.		(1997				A	Innie	Doc	lirom	ants.		Lab U	se Only	1:	
Send Results to:		Send Invoic	e to:			Т	Ana	lysis	requ	ureine			VOA Headspace	Y	(N)	NA
Name DOUGHAWN		Name			-	-							Field Filtered	X	N	NA
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State Zin TIN		State, Zip	12A		E	CRC							Containers Intact	A	> N	NA
Phone (865) 481-76	337	Phone			0								25	-19		
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Project No./Name:		Sampler's (Sig	gnature):	-	27	1 m								No.	Lab Use	Only
BLDG 419 Lab Use Only	Date/Time		Description	Sample Matrix									Comments	of Bottles	Containers	/Pres.
Lab#	Sampled	-			7	x			-					4	Imt:	10
110565013	1125	SB-18-02		SOIL				-			-1 1			4		
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-16	3/30/11	SB-20-01	1911 B		X			_			_		-	4		
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the second s	3/30/11	58-20-0		SOIL	X	X									m	
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Julan Mch 10	0	3/30/11						nice	-h					Date	Shipped 3	30/11_
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Received for Laboratory by	(Signature)	Date/Time/	74	2										. Girle		
1 1/a AV	/	3-71-16	C.1			-	2.41	stained	huce	molare						

Distribution: Original and yellow copies accompany sample shipment to laboratory; Pink retained by samplers.

10

1103258

14212

SB-13-01

Laboratory:	Empirical Laborator	ies, LLC			SDG:	1103258			
Client:	SES, Inc. (\$750)				Project:	FTS UST 2008	-2010		
Matrix:	Solid	Laborat	ory ID:	1103258	-02	File ID:	0325802.D		
Sampled:	03/30/11 08:55	Prepare	t:	03/31/1	1 00:00	Analyzed;	03/31/11 21:27		
Solids:	91.51	Prepara	ion:	5035		Dilution:	<u>1</u>		
Batch:	1D01001 Se	equence:	1D09107			1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CONC. (ug/Kg dry)		MDL	MRL	Q	2"
71-43-2	Benzene					0.526	5.60	N, U	ü
100-41-4	Ethylbenzene					0.840	5.60	N, U	
108-88-3	Toluene					0.963	5,60	N, U	
1330-20-7	Xylenes (total)					0.784	5.60	N, U	V
SYSTEM MO	NITORING COMPOUN	ID	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	enzene		33.5	9	30.14	89.7	85 - 120		
Dibromofluoro	omethane		33.5	9	34.19	102	80 - 125		
1,2-Dichloroet	hane-d4		33.5	9	35.06	104	75 - 140		
Toluene-d8			33.5	9	36.99	110	85 - 115		

SB-13-02

Laboratory:	Empirical Laboratories	npirical Laboratories, LLC		SDG:	1103258			
Client:	SES, Inc. (S750)		1 control of the second se	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laboratory ID:	1103258	-03RE1	File ID:	0325803D.D		
Sampled:	03/30/11 09:05	Prepared:	04/01/1	00:00	Analyzed:	04/01/11 17:01		
Solids:	80.24	Preparation:	5035		Dilution:	50		
Batch:	<u>1D01016</u> Seq	uence: <u>1D0920</u>)	Calibration:	1081001	Instrument:	MS-VOA6	- Rev o
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	and
71-43-2	Benzene			183	26.2	279	J, D	and
100-41-4	Ethylbenzene			2190	41.9	279	D	
108-88-3	Toluene				48.0	279	U	u
1330-20-7	Xylenes (total)			10500	39.1	279	D	
SYSTEM MON	NITORING COMPOUND	ADDED	(ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene	33	.50	39.26	117	85 - 120	X	
Dibromofluoro	methane			33.51	100	80 - 125		
1,2-Dichloroeth	ane-d4	33	.50	34.17	102	75 - 140		
Toluene-d8		33	.50	33.78	101	85 - 115		

SB-14-01

_aboratory:	Empirical Laborate	Empirical Laboratories, LLC			SDG:	1103258			
Client:	SES, Inc. (\$750)			1	Project:	FTS UST 200	8-2010		
Matrix:	Soil	Labor	atory ID:	1103258	-04	File ID:	0325804.D		
Sampled:	03/30/11_09:30	Prepar	ed:	03/31/1	00:00	Analyzed:	03/31/11 21:52		
Solids:	90.80	Prepar	ation:	<u>5035</u>		Dilution:	1		
Batch:	1D01001	Sequence:	1D09107		Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Re
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	2
71-43-2	Benzene					0.474	5.04	U	u
100-41-4	Ethylbenzene				1.12	0.756	5.04	J	J
108-88-3	Toluene					0.867	5.04	U	ч
1330-20-7	Xylenes (total)					0.706	5.04	U	И
SYSTEM MO	NITORING COMPOU	ND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobo	enzene		30.2	6	26.19	86.5	85 - 120		
Dibromofluoro	methane		30.2	6	31.59	104	80 - 125		
1,2-Dichloroet	hane-d4		30.2	6	30.94	102	75 - 140		
Toluene-d8			30.2	6	34.31	113	85 - 115		

SB-14-02

aboratory:	Empirical Labora	tories, LLC			SDG:	1103258			
Client:	SES, Inc. (\$750)				Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Lab	oratory ID:	1103258	-05	File ID:	0325805.D		
Sampled:	03/30/11 09:40	Prep	ared:	03/31/1	1 00:00	Analyzed:	03/31/11 22:16		
Solids:	38.08	Prep	paration:	<u>5035</u>		Dilution:	1		
Batch:	1D01001	Sequence:	<u>1D09107</u>		Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Ren
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	2
71-43-2	Benzene					1.63	17.3	U	uJ
100-41-4	Ethylbenzene					2.60	17.3	U	1
108-88-3	Toluene					2.98	17.3	U	
1330-20-7	Xylenes (total)		A LENGT		-	2.43	17.3	U	1
SYSTEM MON	NITORING COMPOU	UND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		103.	9	66.73	64.2	85 - 120	*	1
Dibromofluoro	methane		103.	9	109.1	105	80 - 125		
1,2-Dichloroeth	ane-d4		103.	9	108.5	104	75 - 140		
Toluene-d8			103.	9	150.5	145	85 - 115	*	

SB-14-02

Laboratory:	Empirical Laboratories	s <u>, LLC</u>		5	SDG:	<u>1103258</u>			
Client:	SES, Inc. (S750)			ł	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laborator	y ID:	1103258-	05RE1	File ID:	0325805R.D		
Sampled:	03/30/11 09:40	Prepared:		04/01/11	00:00	Analyzed:	04/01/11 09:41		
Solids:	38.08	Preparatio	n:	5035		Dilution:	1		
Batch:	1D01016 Seq	uence:	1D09201		Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	and
71-43-2	Benzene					1.85	19.7	υ 🦞	8-457
100-41-4	Ethylbenzene					2.95	19.7	U V	
108-88-3	Toluenc					3.38	19.7	U	
1330-20-7	Xylencs (total)					2.75	19.7	U	1 1
SYSTEM MON	NITORING COMPOUND		ADDED (ug	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		117.	9	88.74	75.2	85 - 120	*X	
Dibromofluoro	methane		117.	9	128.0	109	80 - 125		
1,2-Dichloroeth	nane-d4		117.	9	122.1	104	75 - 140		
Toluenc-d8			117.	9	151.9	129	85 - 115	*	

SB-15-01

Laboratory:	Empirical Labora	atories, LLC			SDG:	1103258			
Client:	SES, Inc. (S750)	1		J	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	La	aboratory ID:	1103258	-06	File 1D:	0325806.D		~
Sampled:	03/30/11 10:10	Pr	epared:	03/31/11	1_00:00	Analyzed:	03/31/11_22:40		\cap
Solids:	83.55	Pr	reparation:	<u>5035</u>		Dilution:	1		The
Batch:	<u>1D01001</u>	Sequence:	<u>1D09107</u>		Calibration:	1081001	Instrument:	<u>MS-VOA6</u>	Rev
CAS NO.	COMPOUND			CON	NC. (ug/Kg dry)	MDL	MRL	Q	Qualy
71-43-2	Benzene					0.478	5.08	U	RE TA
100-41-4	Ethylbenzene					0.762	5.08	U	4
108-88-3	Toluene					0.874	5.08	U	
1330-20-7	Xylenes (total)					0.711	5.08	U	V
SYSTEM MON	ITORING COMPO	UND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluoroben	izene		30.4	8	25.01	82.0	85 - 120	*	
Dibromofluorom	nethane			8	30.91	101	80 - 125		
1,2-Dichloroetha	ane-d4			-8	30.42	99.8	75 - 140		
Toluene-d8			30.4	8	35.45	116	85 - 115	*	

.aboratory:	Empirical Labor	atories, LLC		S	DG:	<u>1103258</u>			
Client:	SES, Inc. (S750)			F	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Labora	tory ID:	<u>1103258-</u>	<u>06RE2</u>	File ID:	0325806D.D		
Sampled:	 03/30/11 10: <u>10</u>	Prepar	ed:	04/02/11	00:00	Analyzed:	04/02/11 20:08		
Solids:	83.55	Prepar	ation:	5035		Dilution:	<u>50</u>		
Batch:	1D02005	Sequence:	1D09402	(Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CON	C. (ug/Kg dry)	MDL	MRL	Q	2m
71-43-2	Benzene					24.1	256	U	n.
100-41-4	Ethylbenzene			1		38.4	256	U	
108-88-3	Toluene				14	44.1	256	U	_]
1330-20-7	Xylenes (total)					35.9	256	U	4
	NITORING COMPO	DUND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	_
Bromofluorobe		Aller and a second	30.7	14	30.98	101	85 - 120		
Dibromofluoro			30.7	74	31,47	102	80 - 125		
1.2-Dichloroetl	Sec. 1		30.7	CON CONTRACTOR	28.28	92.0	75 - 140		
Toluene-d8	nanc-u-	Contract of the second s	30.		31.87	104	85 - 115		

SB-15-02

_aboratory:	Empirical Laboratori	Empirical Laboratories, LLC			SDG:	1103258			
Client:	SES, Inc. (S750)			1	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Labora	tory ID:	1103258	-07 <u>RE1</u>	File ID:	0325807R.D		
Sampled:	03/30/11 10:15	Prepare	:d:	04/01/1	1 00:00	Analyzed:	04/01/11_11:43		
Solids:	81.04	Prepara	tion:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D01016</u> Se	equence:	1D09201		Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Re
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	2
71-43-2	Benzene					0.502	5.34	U	14
100-41-4	Ethylbenzene					0.801	5.34	U	
108-88-3	Toluene					0.918	5.34	U	
1330-20-7	Xylenes (total)					0.747	5.34	U	
SYSTEM MON	NITORING COMPOUN	D	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		32.0	2	29.51	92.2	85 - 120	X	
Dibromofluoro	methane		32.0	2	33.32	104	80 - 125		
1,2-Dichloroeth	nane-d4		32.0	2	32.17	100	75 - 140		
Toluene-d8			32.0	2	34.80	109	85 - 115		

SB-16-01

Laboratory:	Empirical Labor	atories, LLC			SDG:	1103258			
Client:	SES, Inc. (S750)				Project:	FTS UST 200	8-2010		
Matrix:	Soil	Labora	atory ID:	1103258	<u>-08</u>	File ID:	0325808,D		×
Sampled:	03/30/11 10:30	Prepar	ed:	03/31/1	1 00:00	Analyzed:	03/31/11 23:29		
Solids:	85.95	Prepar	ation:	5035		Dilution:	1		
Batch:	1D01001	Sequence:	<u>1D09107</u>	1	Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CON	IC. (ug/Kg dry)	MDL	MRL	Q	Que
71-43-2	Benzene				143	0.440	4.68		57
100-41-4	Ethylbenzene				533	0.701	4.68	E	R 16
108-88-3	Tolucne				9.55	0.804	4.68		57
1330-20-7	Xylenes (total)				1660	0.655	4.68	E	RI
SYSTEM MON	NITORING COMPO	UND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		28.0	6	38.40	137	85 - 120	*	
Dibromofluoro	methane		28.0	6	32.24	115	80 - 125		
1,2-Dichloroeth	nane-d4		28.0	6	33.39	119	75 - 140		
Toluene-d8			28.0	6	24.51	87.4	85 - 115		

SB-16-01

Laboratory:	Empirical Laboratorie	s, LLC		5	SDG:	1103258			
Client:	SES, Inc. (S750)			1	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laborat	ory ID:	1103258-	08 <u>RE1</u>	File ID:	0325808D.D		
Sampled:	03/30/11 10:30	Prepare	d:	04/01/11	00:00	Analyzed:	04/01/11 16:36		
Solids:	85.95	Prepara	tion:	<u>5035</u>		Dilution:	<u>50</u>		
Batch:	1D01016 Sec	uence:	1D09201		Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CON	C. (ug/Kg dry)	MDL	MRL	Q	24
71-43-2	Benzene					24.1	256	U	R
100-41-4	Ethylbenzene				2290	38.4	256	D	_
108-88-3	Toluene					44.0	256	U	R
1330-20-7	Xylenes (total)				4700	35.8	256	D	
SYSTEM MON	NITORING COMPOUND)	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		30.7	3	36.87	120	85 - 120	X	
Dibromotluoro	methane		30.7	3	30.92	101	80 - 125		
1,2-Dichloroeth	nane-d4		30.7	3	30.36	98.8	75 - 140		
Toluene-d8			30.7	3	31.40	102	85 - 115		

SB-16-02

Laboratory:	Empirical Laboratories	<u>, LLC</u>		SDG:	1103258			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laboratory ID:	1103258	-09	File ID:	0325809D.D		
Sampled:	03/30/11 10:40	Prepared:	03/31/1	1 00:00	Analyzed:	04/01/11 02:43		
Solids:	76.43	Preparation:	5035		Dilution:	100		
Batch:	<u>1D01001</u> Sequ	ience: <u>1D09107</u>		Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Re
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	and
71-43-2	Benzene			58.9	47,4	504	J, D	3
100-41-4	Ethylbenzene			385	75.6	504	J, D	J
108-88-3	Toluene				86.7	504	U	u
1330-20-7	Xylenes (total)			1820	70.6	504	D	
SYSTEM MON	NITORING COMPOUND	ADDED	ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene	30	.24	32.03	106	85 - 120		
Dibromofluoro	methane	30	24	30.54	101	80 - 125		
1,2-Dichloroeth	ane-d4	30	24	29.03	96.0	75 - 140		
Toluene-d8		30	24	31.00	103	85 - 115		

SB-17-01

_aboratory:	Empirical Laborate	Empirical Laboratories, LLC			SDG:	1103258			
Client:	SES, Inc. (S750)			Project:		FTS UST 2008	3-2010		
Matrix:	Soil	Labora	tory ID:	1103258	<u>-10</u>	File ID:	0325810.D		
Sampled:	03/30/11 10:55	Prepar	ed:	03/31/11	00:00	Analyzed:	03/31/11 23:53		
Solids:	77.36	Prepar	ation:	5035		Dilution:	1		
Batch:	<u>1D01001</u> 5	Sequence:	1D09107		Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	- Re
CAS NO.	COMPOUND			CON	C. (ug/Kg dry)	MDL	MRL	Q	â
71-43-2	Benzene				1,83	0.517	5.50	J	J
100-41-4	Ethylbenzene				28.9	0.824	5.50		3
108-88-3	Toluene					0.945	5,50	U	45
1330-20-7	Xylenes (total)				94.3	0.769	5.50		J
SYSTEM MON	NITORING COMPOUT	ND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		32.9	7	31.68	96.1	85 - 120		
Dibromofluoro	methane		32.9	7	35.13	107	80 - 125		
1,2-Dichloroeth	iane-d4		32.9	7	36.15	110	75 - 140		
Toluenc-d8			32.9	7	25.35	76.9	85 - 115	*	

SB-17-02

Laboratory:	Empirical Laboratories, I	<u>.LC</u>		SDG:	1103258			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laboratory ID:	1103258	-11	File ID:	0325811D.D		
Sampled:	03/30/11 11:00	Prepared:	03/31/1	1 00:00	Analyzed:	04/01/11 03:07		
Solids:	53.04	Preparation:	5035		Dilution:	100		
Batch:	<u>1D01001</u> Sequer	nce: <u>1D09107</u>		Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	Que
71-43-2	Benzene				100	1060	U	u
100-41-4	Ethylbenzene				160	1060	U	u
108-88-3	Toluene				183	1060	U	u
1330-20-7	Xylenes (total)			502	149	1060	J, D	J
SYSTEM MO	NITORING COMPOUND	ADDED (1	ig/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	enzene	63.1	34	66.77	105	85 - 120		
Dibromofluoro	methane	63.5	34	64.29	101	80 - 125		
1,2-Dichloroeth	hane-d4	63.1	84	62.42	97.8	75 - 140		
Toluene-d8		63.8	34	65.72	103	85 - 115		

SB-18-01

.aboratory:	Empirical Labor	atories, LLC		5	DG:	<u>1103258</u>			
lient:	SES, Inc. (S750)	1		F	roject:	FTS UST 2008	-2010		
Matrix:	Soil	Laborat	ory ID:	1103258-	12	File ID:	0325812D.D		
Sampled:	03/30/11 11:15	Prepare	d:	03/31/11	00:00	Analyzed:	<u>04/01/11 03:31</u>		
Solids:	59.62	Prepara	tion:	<u>5035</u>		Dilution:	100		
Batch:	1D01001	Sequence:	1D09107	C	Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND			CON	C. (ug/Kg dry)	MDL	MRL	Q	2"
71-43-2	Benzene				84.3	83.3	887	J, D	5
100-41-4	Ethylbenzene					133	887	U	u
108-88-3	Toluene			-encer		152	887	U	u
1330-20-7	Xylenes (total)				563	124	887	J, D	J
			ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe			53.1	9	55.35	104	85 - 120		
Dibromofluoro			53.1	9	52.82	99.3	80 - 125		_
1,2-Dichloroet			53.1	19	54.56	103	75 - 140	_	
Toluene-d8			53.1	19	55.01	103	85 - 115		

SB-18-02

Laboratory:	Empirical Laboratories	<u>, LLC</u>		5	SDG:	1103258		90	
Client:	SES, Inc. (S750)			ł	Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laboratory II	D: <u>11</u>	103258-	13	File ID:	0325813D.D		
Sampled:	03/30/11 11:25	Prepared:	<u>0</u>	3/31/11	00:00	Analyzed:	04/01/11 03:56		
Solids:	80.61	Preparation:	5	035		Dilution:	<u>100</u>		
Batch:	<u>1D01001</u> Sequ	ience: <u>1D</u>	009107	(Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND	-		CON	C. (ug/Kg dry)	MDL	MRL	Q	Que
71-43-2	Benzene				173	68.1	725	J. D	4 1.
100-41-4	Ethylbenzene				276	109	725	J, D	J
108-88-3	Toluene					125	725	U	u
1330-20-7	Xylenes (total)				2590	101	725	D	
SYSTEM MO	NITORING COMPOUND	Al	DDED (ug/K	(g dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	enzene		43.48		45.96	106	85 - 120		
Dibromofluoro	methane		43.48		43.72	101	80 - 125		
1,2-Dichloroetl	hane-d4		43.48		43.48	100	75 - 140		
Toluene-d8			43.48		45.36	104	85 - 115		

SB-19-01

Laboratory:	Empirical Laboratories	<u>, LLC</u>		SDG:	1103258			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laboratory ID:	1103258	-14	File ID:	0325814.D		
Sampled:	03/30/11 14:00	Prepared:	03/31/1	1 00:00	Analyzed:	04/01/11 00:17		
Solids:	91.10	Preparation:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D01001</u> Sequ	ence: <u>1D0910</u>	Z	Calibration:	1081001	Instrument:	MS-VOA6	Rei
CAS NO.	COMPOUND	- tranyle - transfer	CON	NC. (ug/Kg dry)	MDL	MRL	Q	2.
71-43-2	Benzene				0.458	4.87	U	ù
100-41-4	Ethylbenzene				0.731	4.87	U	
108-88-3	Toluene				0.838	4.87	U	
1330-20-7	Xylenes (total)				0.682	4.87	U	Ψ
SYSTEM MO	NITORING COMPOUND	ADDED	(ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	enzene	29	9.25	31.28	107	85 - 120		
Dibromofluoro	methane	25	9.25	30.28	104	80 - 125		
1,2-Dichloroet	hane-d4	29	0.25	29.77	102	75 - 140		
Tolucne-d8		29	0.25	30.74	105	85 - 115		

SB-19-02

_aboratory:	Empirical Laboratorie	s. LLC		5	SDG:	<u>1103258</u>			
Client:	SES, Inc. (S750)			1	Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laborate	ory ID:	1103258-	-15RE1	File ID:	0325815R.D		
Sampled:	03/30/11 14:05	Prepared	Ŀ	04/01/11	00:00	Analyzed:	04/01/11 13:46		
Solids:	83.85	Preparat	ion:	<u>5035</u>		Dilution:	1		
Batch:	<u>1D01016</u> Seq	uence:	1D09201		Calibration:	1081001	Instrument:	MS-VOA6	Pal
CAS NO.	COMPOUND			CON	iC. (ug/Kg dry)	MDL	MRL	Q	Au
71-43-2	Benzene					0.619	6.58	U	us 1
100-41-4	Ethylbenzene					0.987	6.58	U	100
108-88-3	Toluene					1.13	6.58	U	
1330-20-7	Xylenes (total)				Land I and a second	0.921	6.58	U	1.
SYSTEM MON	NITORING COMPOUND		ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene		39.4	9	34.57	87.5	85 - 120	X	
Dibromofluoro	methane		39.4	.9	42.48	108	80 - 125		
1,2-Dichloroeth	nane-d4		39.4	9	42.63	108	75 - 140		
Toluene-d8		10000	39.4	.9	47.51	120	85 - 115	*	

Laboratory:	Empirical Laboratorie	s, LLC		SDG:	1103258			
Client:	SES, Inc. (\$750)			Project:	FTS UST 2008	-2010		
Matrix:	Soil	Laboratory ID:	1103258	-16	File ID:	0325816.D		
Sampled:	03/30/11 14:15	Prepared:	03/31/1	1 00:00	Analyzed:	04/01/11 01:05		
Solids:	77.08	Preparation:	5035		Dilution:	1		
Batch:	<u>1D01001</u> Seq	uence: <u>1D09107</u>		Calibration:	1081001	Instrument:	MS-VOA6	- Rev
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	and
71-43-2	Benzene				0.601	6.40	U	4
100-41-4	Ethylbenzene				0.960	6.40	U	
108-88-3	Tolucne				1.10	6.40	U	
1330-20-7	Xylenes (total)				0.896	6.40	U	
SYSTEM MON	NITORING COMPOUND	ADDED	ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene	38	38	33.21	86.5	85 - 120		
Dibromofluoro	methane	38	38	40.06	104	80 - 125		
1,2-Dichloroeth	nane-d4	38	38	40.43	105	75 - 140		
Toluene-d8		38	38	45.63	119	85 - 115	*	

Laboratory:	Empirical Laboratories.	LLC		SDG:	1103258			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laboratory ID:	1103258	-17	File ID:	0325817.D		
Sampled:	03/30/11 14:15	Prepared:	03/31/1	1 00:00	Analyzed:	04/01/11 01:30		
Solids:	69.39	Preparation:	<u>5035</u>		Dilution:	1		
Batch:	1D01001 Seque	nce: <u>1D09107</u>		Calibration:	1081001	Instrument:	MS-VOA6	Ravi
CAS NO.	COMPOUND		CON	VC. (ug/Kg dry)	MDL	MRL	Q	qua
71-43-2	Benzene				0.649	6.90	U	u3 70
100-41-4	Ethylbenzene				1.04	6.90	U	
108-88-3	Toluene				1.19	6.90	U	
1330-20-7	Xylenes (total)				0.966	6.90	U	V V
SYSTEM MON	VITORING COMPOUND	ADDED (ug/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene	41.	41	32.93	79.5	85 - 120	*	
Dibromofluoro	methane	41.	41	43.54	105	80 - 125		
1,2-Dichloroeth	ane-d4	41	41	44.48	107	75 - 140		
Toluene-d8		41.	41	52.04	126	85 - 115	*	

Laboratory:	Empirical Laboratories, I	LLC		SDG:	<u>1103258</u>			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laboratory 1D:	1103258	-17RE1	File ID:	0325817R.D		
Sampled:	03/30/11_14:15	Prepared:	04/01/1	00:00	Analyzed:	04/01/11 12:08		
Solids:	69.39	Preparation:	5035		Dilution:	1		
Batch:	<u>1D01016</u> Sequer	nce: <u>1D09201</u>	8	Calibration:	<u>1081001</u>	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND		CON	NC. (ug/Kg dry)	MDL	MRL	Q	Que
71-43-2	Benzene				0.673	7.16	U	RI
100-41-4	Ethylbenzene				1.07	7.16	U	T
108-88-3	Toluene				1,23	7.16	U	
1330-20-7	Xylenes (total)				1.00	7.16	U	4
SYSTEM MON	NITORING COMPOUND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	`
Bromofluorobe	nzene	42.9	7	35.27	82.1	85 - 120	*X	
Dibromofluoro	methane	42.9	7	46.30	108	80 - 125		
1,2-Dichloroeth	nane-d4	42.9	7	45.53	106	75 - 140		
Toluene-d8		42.9	7	51.64	120	85 - 115	*	

Laboratory:	Empirical Laboratories, L	<u>LC</u>		SDG:	1103258			
Client:	SES, Inc. (S750)			Project:	FTS UST 2008	3-2010		
Matrix:	Soil	Laboratory ID:	1103258	-18RE1	File ID:	0325818R.D		
Sampled:	03/30/11 14:20	Prepared:	<u>04/01/1</u>	1_00:00	Analyzed:	04/01/11 13:21		
Solids:	77.42	Preparation:	<u>5035</u>		Dilution:	1		
Batch:	1D01016 Sequer	ice: <u>1D09201</u>		Calibration:	1081001	Instrument:	MS-VOA6	Rev
CAS NO.	COMPOUND		CON	IC. (ug/Kg dry)	MDL	MRL	Q	Qua
71-43-2	Benzenc				0.653	6.94	U	ii
100-41-4	Ethylbenzene				1.04	6.94	U	
108-88-3	Toluene				1.19	6.94	U	
1330-20-7	Xylenes (total)				0.972	6.94	U	V
SYSTEM MON	NITORING COMPOUND	ADDED (u	g/Kg dry)	CONC (ug/Kg dry)	% REC	QC LIMITS	Q	
Bromofluorobe	nzene	41.6	57	42.74	103	85 - 120	X	
Dibromofluoro	methane	41.6	57	44.12	106	80 - 125		
1,2-Dichloroeth	nane-d4	41.6	57	43.16	104	75 - 140		
Toluene-d8		41.6	57	43.28	104	85 - 115		

	DATA VALIDATION WORKSHEETS VOLATILE ORGANICS			
Reviewer:	Kitchings Date: 4/19			
	1103258 SDG: 1103258 Matrix/No. Samples: 5-17			
riojeet	FTG 419			
I.	Technical Holding Times			
	A. Sample Preservation, Handling and Transport			
	1. Have all samples been preserved correctly?	Yes	No	N/A
	2. Have sample temperatures been kept at 4° C (+ or - 2°)?	Ves	No	N/A
	3. Were all samples received in proper condition?	Ves	No	N/A
	4. Were any qualifications required based on this information?	Yes (No	N/A
	Coolers @ 2.4°C.		\bigcirc	
	B. Chain of Custody		1	
	1. Were all samples properly recorded on COCs?	Ves	No	N/A
	2. Were correct analyses performed on samples?	Ves	No	N/A
	C. Holding Times			
	1. Were samples extracted and analyzed within acceptable holding times?	Yes	No	N/A
	2. Were any qualifications required based on this information?	Yes	(No)	N/A
	SAMPLED PREPPED	ANALYZEI		
		3/31		
	5(00	4/1		
		+[2		
11.	GC/MS Instrument Performance Check			
	1. Were instrument performance check samples run for each analysis period?	(Yes)	No	N/A
	2. Were ion abundance criteria met for BFB analysis?	Yes	No	N/A
	3. Do laboratory forms match raw data?	Yes	No	NA
Comm	4. Were any qualifications required based on this information?	Yes	(No)	N/A
Comme	3/7 401. 3/31 42 4/1	9402 4	2	
	95 base ->>	<u></u>	*	
	gs base > >			
	met.			

Reviewer:	Kitchings Date: 4 19			
	FTC-419 SDG: 103258 Matrix/No. Samples: 5-17	<u></u>		
Ш.	Initial Calibration	~		
	1. Were correct concentrations of standards used for initial calibration? Were samples analyzed within 12 hours of associated instrument performance check?	Yes	No	N/A
	2. Were initial calibration RRFs for all volatile target compounds and system monitoring compounds >or = 0.05? Do recalculations for RRFs agree with reported values?	Ves	No	N/A
	3. Were %RSDs < or = 30% for all volatile target compounds? Do recalculations for RSDs agree with reported values?	Ves	No	N/A
	4. Were any qualifications required based on this information?	Yes	No	N/A
	Comments/Qualifications:		\bigcirc	
3	17 toluere. 8971 RRFS	۸.		
7	0.7 - Kilo	4.26		
IV.	Continuing Calibration $\frac{908}{839}$ 9 $\frac{9}{8}$			
	 Were continuing calibration samples run at the required frequency, and compared to the correct initial calibration? 	Yes	No	N/A
	2. Did calculations from raw data agree with laboratory reported values for RRF and %D?	XA	No	(N/A)
	3. Were continuing calibration RRFs for volatile organic compounds and system monitoring compounds (surrogates) > or = 0.05 ?	Yes	No	N/A
	4. Were %D between initial calibration RRF and the continuing calibration RRFs within + or - 25%?	Yes	No	N/A
	5. Were any qualifications required based on this information?	Yes	(No)	N/A
	Comments/Qualifications: 9201 9202	CCAI	4/2	
	9107 CCV1 .00	1 - 17	7.3	
	z.7-11, Z.1-20.3	m3. <u>l</u> .	113 -0.	154
	×y1. 320.32300 tours.		(.113	
	-300 1.598-1.478		14.32	2
	$\frac{2.505 - 2.344}{2.346} = 7.5\%,$			~~ \

.eviewer:	Kitchings Date: 4 19			
roject:	1-7 c-419 SDG: 1103258 Matrix/No. Samples: 5-17			
v.	Blanks			- Aller - M
	1. Were any target or non-target compounds reported in laboratory prep or calibration blanks?	Yes	Nd	N/A
	2. Were method blank analyses performed at required frequency, and for each GC/MS system used to analyze samples for each type of analysis (i.e., matrix)?	Yes	No	N/A
	3. Were any qualifications required based on this information?	Yes	Noj	N/A
	Comments/Qualifications: $ 0 6-BLK2$ $2005-BLK1$ $1001-BLK2$ $4/1$ $4/2$ $3 31$ $4/1$ $4/2$ $U's_{V}$ $U's_{V}$ $U's_{V}$		U	
VI.	System Monitoring Compounds (Surrogate Spikes)			
	1. Were laboratory surrogate recoveries calculated and reported correctly?	Yes	No	N/A
	2. Were surrogate recoveries within acceptable limits?	Yes	Ng	N/A
	3. Were any qualifications required based on surrogate spike QC information?	Yes	No 14-02	N/A
VII.		the the high.		
	I. Were MS/MSD samples analyzed at required frequency for each ample matrix?	(Yes)	No	N/A
	2. Were MS/MSD results for recovery and RPD within advisory limits?	Yes	(No)	N/A
	3. Were Samples used for MS/MSD field blanks?	Yes	Ng	N/A
	4. Were laboratory reported results correctly calculated from raw data?	Yes	No	N/A
	5. Were any qualifications required, based on results of MS/MSD samples in conjunction with other QC information?	Yes	No	N/A
3-4	Comments/Qualifications: SB-13-01 MS - all but to have Iow MSP - all box RPD'S - all out. 25 3			

roject:	Frc-419 SDG: 10 32 98 Matrix/No. Samples: 5-17			
VIII.	Laboratory Control Sample (LCS)	9		
	1. Were LCS samples run at correct frequency for each matrix samples?	Ves	No	N/A
	2. Were LCS calculations performed correctly, and did laboratory reported values match raw data? Were recoveries within laboratory QC limits?	ŶŎ	No	N/A
	4. Were any qualifications required based on LCS data in conjunction with other QC information?	Yes	N	N/A
1.	Comments/Qualifications: 1001-BS1 2005-BS1 LCS/USD. Toluene. 53.53 - 107.1 102-114 Toluene 54.10 = 108.2 53.845 = Ben3. 1016-BS1	47.47 50.0	- = 94.9	121
IX.	Internal Standards			
	1. Were standard area counts within a factor of two (-50% to +100%) from associated calibration standard?	Yes	No	N/A
	2. Were retention times of internal standard within + or - 30 seconds of retention time of associated calibration check?	Yes	No	N/A
	3. Were any qualifications required based on internal standard results?	Yes	(Ng)	N/A
	Comments/Qualifications: $TSI 14-01 = \frac{612025}{634144} = 95.8 ls = \frac{7.947}{7.939}$	1	,4 d b Fr 14- 15 hf cpds	2/2005 02 14-0 019-2
	Isz 18-01 <u>284061</u> = 113.620 11.06 250106 = 113.620 11.05		hst cpds	no gue
	IS 3 13-02 226331 = 91.2 13.44 248136 = 91.2 13.44			
X.	Target Compound Identification			,
	1. Are relative retention times (RRTs) within + or - 0.06 RRT units of standard RRT?	Yes	No	NA
	2. Do sample compound spectra meet specified criteria in relation to laboratory standard spectra?	Yes	No	NA
	3. Were all compounds accounted for on chromatogram?	Yes	No	NA
	Comments/Qualifications: No van data level The			

ect: FTC-419 SDG: 1103258 Matrix/No. Samples: S-17			
. Compound Quantitation and Reported Contract Required Quantitation Limits (CRQI	_s)		
1. Were sample results correctly calculated and reported by laboratory?	Yes	No	NK
2. Were correct internal standard quantitation ion and RRF used to quantify all compounds for all samples?	Yes	No	N/Y
3. Were CRQLs adjusted to reflect sample dilutions and dry weight factors not accounted for by the method?	Yes	No	N/
4. Were any laboratory QA/QC sample results calculated from peaks derived using manual integration?	Yes	No	N
5. Were any qualifications required based on this information?	(Yes)	No	N/A
Comments/Qualifications: No raw derta - (evel III SB-16-01 Dilution. Ethyp>ICL & Sylere >ICL A	_		
I. Field QC			
1. Were any Field Duplicates associated with this SDG?	(Yes)	No	N/A
1. Were any rick Dupheates associated with ans 5DO:		1000	N/A
a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)?	Yes	No	1.01
	(Yes) (Yes)	No	
a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)?			N/A
 a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? 2. Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? b. Were any qualifications required based on this information? 	Yes	No	N/A N/A
 a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? 2. Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? 	Yes Yes	No No	N/A N/A N/A
 a. If Yes, were RPDs acceptable (50% for water samples, 100% for soil samples)? 2. Were any field blanks or equipment rinsates associated with this SDG? a. If yes, were any compounds reported in samples >IDL? b. Were any qualifications required based on this information? Comments/Qualifications: 58-20-019 4/1 TB 9503 	Yes Yes	No No	N/A N/A