1 GROUNDWATER FLOW AND SOLUTE TRANSPORT

1.1 Monitoring Well Installation

Groundwater monitoring wells were installed in the locations shown on Figure 1. These locations are on the refinery property adjacent to 26th Street and north of Hartranft Street. Locations S-261D and S-263D (Figure 1) were first drilled and sampled to a depth of 66 feet below ground surface (BGS). Location S-262D (Figure 1) was drilled and sampled to a depth of 65 feet BGS and location S-264D (Figure 1) was drilled to a depth of 82 feet BGS.

1.1.1 Drilling Technique

These locations were first drilled using the hollow stem auger drilling technique with continuous soil sampling through the vertical interval.

At each location, prior to drilling, the location was precleared by Mobile Dredge to a depth of 4 – 4.5 feet BGS with the exception of S-264D, which was pre-cleared by Mobile Dredge to a depth of 8 feet BGS. The boring was then advanced to a depth that penetrated the Lower Sand (Farrington Sand Member of the Raritan Formation). Geologic descriptions of the samples were obtained and used to determine the stratigraphy at each boring location. The presence of the Lower Sand was determined by its lithology, which, according to Greenman, et al. (1961), is predominantly coarse-grained sand and fine gravel that grades upward into medium- to fine-grained sand. This material is often described by drillers as clean white sand.

During the drilling of S-261D, soil samples were collected with a 2-inch split-spoon sampler at 5 foot and 11 foot depth; then continuously at 2-foot intervals from 14 feet to total depth. During the drilling of S-262D, soil samples were collected with a 2-inch split-spoon sampler at 6 foot and 11 foot depth; then continuously at 2-foot intervals from 15 feet to total depth. During the drilling of S-263D, soil samples were collected with a 2-inch split-spoon sampler at 6 foot and 11 foot depth; then continuously at 2-foot intervals from 16 feet to total depth. During the drilling of S-264D, soil samples were collected with a 2-inch split-spoon sampler at 9 foot depth; then continuously at 2-foot intervals from 16 feet to total depth. A Shelby Tube sample was collected for environmental sampling and soil characterization at each major change in lithology in each of the borings. The depths of the Shelby Tube samples in each boring can be seen in the boring logs (Appendix A) where the location is duly noted. Split spoon and Shelby Tube samplers were decontaminated after each use by using washing with isopropyl alcohol, Alconox, and distilled water.

Recovered samples from the continuously sampled core were field-screened using a properly calibrated RAE Systems MiniRAE 2000. A Shelby Tube sampler was used to obtain samples for environmental sample analysis and soil characterization. Soil samples were collected at 2-foot intervals from each hydrostratigraphic unit in each location and were submitted for laboratory analysis to determine the compounds enumerated in the sections that follow.

After all four locations were drilled and sampled; the borings were plugged and abandoned with a bentonite grout mixture from total depth to the surface with a tremy pipe.

Within 5 feet of the locations for S-261D, S-262D, and S-263D, a monitoring well was installed into the Trenton Gravel to a depth of 30 feet using flush threaded 4-inch Schedule 40 PVC and 10 feet of 4-inch Schedule 40 0.010-inch slotted PVC screen. Within 5 feet of location S-264D, a monitoring well was installed into the Lower Sand using flush threaded 4-inch Schedule 40 PVC riser and 10 feet of 4-inch Schedule 40 0.010-inch slotted PVC screen. Each well was completed with sand pack to an elevation 2 feet above the screened interval; a bentonite seal at least 2 feet above the top of the sand pack (5 feet above the sand pack in S-264D); and grout to within 2 feet BGS.

Monitoring wells S-261, S-262, and S-264D were finished with stick-ups with protective covers and S-263 was finished with a flush-mounted protective cover and all were fitted with locking caps and cover locks. Soil cuttings and soil samples (core) were containerized in 55-gallon drums provided by the driller. The drums were properly labeled and stored in a secure location for disposal at a later date.

Each well was developed prior to sampling to remove fines and settle the sand pack. Development water was passed through carbon filters and disposed on the surface.

1.1.1.1 Volatile Organic Compounds (VOCs) via Expanded U.S. EPA Method 8260b

Soil samples were analyzed using an expanded U.S. EPA Method 8260B (SW-846) in which the concentrations of gasoline range (C5-C13) compounds are quantified (Uhler, 2003). For high level soil samples, approximately 5 grams (g) of soil was diluted in 5 milliliters (mL) of methanol. Aliquots (100 microliters [µL]) of each sample were spiked into 5 mL of reagent water and fortified with recovery and internal standards. For low level soil samples, 5 g of soil was added to 5 mL of reagent water and fortified with recovery and internal standards. The solutions were then introduced into the gas chromatograph (GC) by standard purge-and-trap technology (U.S. EPA Method 5030A). The GC separates the target compounds and the eluting compounds were detected with a mass spectrometer (MS) operated in the full scan acquisition mode. The target analyte concentrations in the samples were quantified using average compound-specific response factors (RFs) generated from the initial five-point instrument calibration relative to the internal standard.

A list of compounds analyzed and results obtained is are listed in Table 1a.

1.1.1.2 Semi-volatile Organic Compounds (SVOCs) (Including Alkyl Polycyclic Aromatic Hydrocarbons [PAH] and Sterane and Triterpane Biomarkers) via Expanded U.S. EPA Method 8270

Soil samples were analyzed for PAH and biomarker compounds using an expanded U.S. EPA Method SW846 8270C by GC/MS operated in the full scan or selected ion monitoring (SIM) mode. The concentrations of the individual PAH and biomarker compounds were quantified versus internal standards, which were spiked into the sample extract prior to analysis. Alkyl homologues were quantified using the RF of the parent compound. The target PAH concentrations were quantified using average RFs generated from the five-point calibration curve.

These compounds and concentrations obtained are listed in Table 1b.

1.1.1.3 TPH (C_9–C_{44}) and Normal Alkanes (C_9–C_{40}) via Modified U.S. EPA Method 8015

Soil samples were analyzed for TPH/Alkanes by GC/flame ionization detector (FID) for saturated and total petroleum hydrocarbons using a modified U.S. EPA Method SW846 8015. Sample extracts were injected onto a 60-meter (m) x 0.25-millimeter (mm) I.D. fused-silica capillary column with DB-5 bonded phase, or equivalent. This column provides baseline resolution of n-alkanes from n-C_9 to n-C_{40} and n-C_{17}/pristane and n-C_{18}/phytane pairs. The injection port is designed for split-less injection and includes a drilled uniliner to reduce high-molecular-weight mass discrimination. A five-point calibration curve, quantified using internal standard techniques, was initially analyzed prior to sample analyses. Samples were quantified using internal standards spiked into each sample prior to instrumental analysis and average RF generated from the five-point calibration curve.

These compounds and the concentrations obtained are listed in Table 1c.

1.1.1.4 Vertical Hydraulic Conductivity and Porosity from Discrete Hydrostratigraphic Units in Each of 4 Locations

Vertical hydraulic conductivity and porosity from discrete hydrostratigraphic units in each of 4 locations were measured using either an API RP40/EPA 9100 flexible wall permeameter and the triaxial method, or an ASTM D5084 flexible wall permeameter and the triaxial method for hydraulic conductivity by PTS Laboratories. The hydraulic conductivity of a soil is a measure of the soil’s ability to transmit water when submitted to a hydraulic gradient. Hydraulic conductivity is defined by Darcy's law, which, for one-dimensional vertical flow, can be written as follows:

$$U = -K\frac{dh}{dz},$$

Where: U = Darcy’s velocity (or the average velocity of the soil fluid through a geometric cross-sectional area within the soil)
K = Hydraulic conductivity (coefficient of proportionality)
h = Hydraulic head
z = Vertical distance in the soil

In this equation, the hydraulic conductivity is defined as the ratio of Darcy's velocity to the applied hydraulic gradient. The dimension of K is the same as that for velocity (i.e., length per unit of time [lT^{-1}]).

Hydraulic conductivity is one of the hydraulic properties of the soil; the other hydraulic property involves the soil’s fluid retention characteristics. These properties determine the behavior of the soil fluid within the soil system under specified conditions. More specifically, the hydraulic conductivity determines the ability of the soil fluid to flow through the soil matrix system under a specified hydraulic gradient; the soil fluid retention characteristics determine the ability of the soil system to retain the soil fluid under a specified pressure condition.

The hydraulic conductivity depends on the soil grain size, the structure of the soil matrix, the type of soil fluid, and the relative amount of soil fluid (saturation) present in the soil matrix. The important properties relevant to the solid matrix include pore size distribution, pore shape, tortuosity, specific surface, and porosity. The important properties of the soil fluid include fluid density and fluid viscosity. For a subsurface system saturated with the soil fluid, the hydraulic conductivity, K, can be expressed as follows:

$$K = \frac{k\rho g}{\mu},$$

Where: K = Hydraulic conductivity (length per unit of time (lT^{-1})
k = Intrinsic permeability of the soil, which depends only on properties of the solid matrix (l^2)

g/ = Fluidity of the liquid, which represents the properties of the percolating fluid ($l^{-1}T^{-1}$)

Total porosity was measured (API RP40/mod. ASTM D425 Centrifugal Method; includes total porosity). Total porosity is the total pore volume per unit volume of soil. It is measured in volume/volume, percent, or porosity units. The total porosity is the total void space and, as such, includes isolated pores and the space occupied by clay-bound water. It is the porosity measured by core analysis techniques that involve disaggregating the sample. Total porosity is the total void space in the rock whether or not it contributes to fluid flow. Total porosity measurements are presented in Appendix B.

1.1.1.5 Permeability with Respect to Water

Permeability is the ability, or measurement of a soil's ability, to transmit fluids, typically measured in darcies or millidarcies. Formations that transmit fluids readily, such as sands, are described as permeable and tend to have many large, well-connected pores. Impermeable formations, such as clays and silts, tend to be finer grained or of a mixed grain size, with smaller, fewer, or less interconnected pores. Absolute permeability is the measurement of the permeability conducted when a single fluid, or phase, is present in the soil. Effective permeability is the ability to preferentially flow or transmit a particular fluid through a soil when other immiscible fluids, such as LNAPL, are present. The relative saturations of the fluids as well as the nature of the soils affect the effective permeability. Relative permeability is the ratio of effective permeability of a particular fluid at a particular saturation to absolute permeability of that fluid at total saturation. If a single fluid is present in a soil, its relative permeability is 1.0. The relative permeability calculation allows for comparison of the different abilities of fluids to flow in the presence of each other, since the presence of more than one fluid generally inhibits flow.

Permeability with respect to water was determined using the same method as that for hydraulic conductivity, which was described in Section 1.1.1.4. The results of this analysis are presented in Appendix B.

1.1.1.6 Permeability with Respect to Oil

Permeability with respect to oil (if present) was to be measured using the method described in API RP40 – Intrinsic Permeability to Product (LNAPL). No LNAPL was found in sufficient quantities to warrant this measurement.

1.1.1.7 Density

Grain density is the density of soil with no porosity, also known as matrix density, commonly in units of grams per cubic centimeter (g/cm^3). The grain density of core samples is calculated from the measured dry weight divided by the grain volume. Grain density was measured using the methods described in API RP40.

The bulk density of a soil is the mass of dry soil per unit of "bulk" (total volume of soil or soil particles and pore space). The bulk density was measured in select samples using the method described in ASTM D2937. The results are presented in Appendix B.

1.1.1.8 Saturation with Respect to Water

Saturation with respect to water is the fraction of water in a given pore space. It is expressed in volume/volume, percent, or saturation units. Unless otherwise stated, water saturation is the fraction of formation water in the undisturbed zone. The saturation is known as the total water saturation if the pore space is the total porosity; it is known as the effective water saturation if the pore space is the effective porosity. If used without qualification, the term usually refers to the effective water saturation. Pore fluid saturations were determined using the Dean-Stark Extraction Method. The results of this measurement are presented in Appendix B.

1.1.1.9 Saturation with Respect to Oil

Saturation with respect to oil (if present) is the relative amount of oil in the pores of a soil, usually as a percentage of volume. Pore fluid saturations would have been determined using the Dean-Stark Extraction Method. There were no samples with sufficient LNAPL to warrant this measurement.

1.1.1.10 Total Porosity

Total porosity is described in Section 1.1.1.4.

1.1.1.11 Air-filled Porosity

Air-filled porosity of the soil at a given soil water content is obtained by subtracting the water (and oil) content value from its total pore space. The method described in API RP40 was used to determine the air filled porosity. These results are also presented in Appendix B.

1.1.1.12 Water-filled Porosity

Water-filled porosity is a measurement of the amount of water a soil can store. Soils such as silt or clay have high water-filled porosity. The method described in API RP40 was used to determine the water-filled porosity. Results for this measurement are listed in the tables in Appendix B.

1.1.2 Survey Newly Installed Wells and Any Existing Wells with Questionable Data

A local surveyor with knowledge of the area was contracted to survey newly installed wells using the North American Datum (NAD) of 1983 State Plane Pennsylvania South FIPS 3702 Feet Coordinate System and the North American Vertical Datum (NAVD) of 1988 US Foot Vertical Datum. The survey results for each of the wells and soil borings is presented on the following page.

X-Coordinate	Y-Coordinate	Elevation	Description
2685939.635	222798.681	25.604	Ground Surface - S-261
2685939.765	222798.027	27.412	S-261 TIC
2685939.693	222798.209	27.64	S-261 TOC
2685939.08	222792.5	25.485	Boring Ground Surface - S-261
2685589.257	222044.947	17.728	Ground Surface - S-262
2685590.028	222044.624	19.443	S-262 TIC
2685589.996	222044.549	19.601	S-262 TOC
2685586.841	222044.369	17.559	Boring Ground Surface - S-262
2685575.726	221829.085	17.168	Ground Surface - S-263
2685575.879	221828.908	16.785	S-263 TIC
2685575.764	221828.999	17.127	S-263 TOC
2685575.598	221832.863	17.114	Boring Ground Surface - S-263
2685761.96	221288.476	25.196	Ground Surface - S-264
2685761.821	221289.017	26.63	S-264 TIC
2685762.065	221288.99	26.909	S-264 TOC
2685762.411	221287.135	25.097	Boring Ground Surface - S-264

Figures


N
W
E
S
S-261D
S-262D
S-263D
S-264D
Legend
Well/Boring Locations
Sewers
Railroads
510
255
0
510
1,020
Feet

Tables

Table 1a
8260M

Location ID	Depth	Sample Date	1,2,4,5-TETRAMETHYLBENZENE	1,2,4-TRIMETHYLBENZENE	1,2-DICHLOROETHANE	1,2-Diethylbenzene	1,2-Dimethyl-3-Ethylbenzene	1,2-Dimethyl-4-Ethylbenzene	1,3,5-Trimethylbenzene	1,3-Dimethyl-4-ethylbenzene	1,3-Dimethyl-5-ethylbenzene	1,4-DICHLOROBUTANE	1,4-Dimethyl-2-Ethylbenzene	1-Decene	1-Hexene	1-Methyl-2-ethylbenzene	1-Methyl-2-Isopropylbenzene	1-Methyl-2-n-Propylbenzene	1-Methyl-3-Ethylbenzene	1-Methyl-3-Isopropylbenzene	1-Methyl-3-n-Propylbenzene	1-Methyl-4-Ethylbenzene	1-Methyl-4-Isopropylbenzene	1-Methyl-4-n-Propylbenzene	1-Methylnaphthalene	1-Nonene	1-PENTENE	2,2,3-Trimethylpentane	2,2,4-TRIMETHYLPENTANE	2,2-Dimethylpentane
			ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	%	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
S-261D	23	12/18/2007	560	160	< 77	130	110	350	84	210	1200	106	230	< 77	< 77	49 J	68 J	160	< 77	59 J	130	< 77	42 J	150	190 B	< 190	< 77	85	760	59 J
S-261D	29	12/18/2007	1300	< 81	< 81	300	< 81	< 81	< 81	< 81	2500	94	71 J	< 81	< 81	69 J	180	31 J	< 81	< 81	< 81	< 81	< 81	140	57 JB	< 200	< 81	510	6000	220
S-261D	34.5	12/18/2007	370	2800	< 92	93	200	760	1100	530	790	118	490	< 92	< 92	410	60 J	310	1000	350	690	600	270	360	730	< 230	< 92	130	1400	130
S-261D	41	12/18/2007	< 84	4.6 JB	< 84	< 84	< 84	< 84	< 84	< 84	11 J	102	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	16 JB	< 210	< 84	< 84	< 84	< 84
S-261D	43	12/18/2007	< 77	12 JB	< 77	< 77	< 77	5.8 J	3.9 J	< 77	8.1 J	105	< 77	< 77	< 77	< 77	< 77	< 77	< 77	< 77	4.6 J	< 77	< 77	3.9 J	35 JB	< 190	< 77	< 77	< 77	< 77
S-261D	49	12/18/2007	290	180	< 76	63 J	14 J	65 J	73 J	44 J	590	118	66 J	< 76	< 76	49 J	39 J	40 J	54 J	29 J	61 J	45 J	28 J	69 J	110 B	< 190	< 76	120	1400	71 J
S-261D	55	12/18/2007	7.6 J	< 84	< 84	< 84	< 84	< 84	< 84	< 84	14 J	97	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	7.2 JB	< 210	< 84	< 84	< 84	< 84
S-261D	59	12/19/2007	1300	1100	< 72	290	93	300	430	220	2700	109	280	< 72	< 72	260	180	170	380	130	280	260	130	310	430	< 180	< 72	490	5500	240
S-261D	65	12/19/2007	20 J	8.7 JB	< 79	4.4 J	< 79	< 79	< 79	< 79	36 J	99	< 79	< 79	< 79	< 79	< 79	< 79	< 79	< 79	< 79	< 79	< 79	< 79	7.9 JB	< 200	< 79	9.1 J	110	< 79
S-261D	29	12/19/2007	560	< 85	< 85	95	< 85	< 85	8.1 J	< 85	1000	102	90	< 85	< 85	68 J	46 J	46 J	< 85	37 J	< 85	18 J	< 85	130	74 JB	< 210	< 85	81 J	730	93
S-261D	33	12/19/2007	7200	< 840	< 840	1200	< 840	< 840	< 840	< 840	14000	79	940	< 840	< 840	580 J	620 J	580 J	< 840	600 J	< 840	97 J	< 840	2400	6000	< 2100	< 840	1500	16000	1300
S-261D	39	12/19/2007	6000	< 780	< 780	1400	< 780	< 780	150 J	< 780	12000	76	1000	< 780	< 780	680 J	850	450 J	< 780	510 J	< 780	74 J	< 780	1900	7700	< 1900	< 780	3800	52000	2700
S-262D	6	12/12/2007	3300	< 170	< 170	570	54 J	< 170	< 170	< 170	7700	105	120 J	< 170	< 170	97 J	190	310	< 170	32 J	< 170	< 170	21 J	620	56 JB	< 430	< 170	7800	57000 D	880
S-262D	11.835	12/12/2007	2600	< 140	< 140	410	99 J	56 J	< 140	< 140	5900	128	170	< 140	< 140	170	130 J	1600	< 140	14 J	20 J	< 140	36 J	580	180	< 340	< 140	2700	30000 D	640
S-262D	16.25	12/12/2007	430	4200	< 74	65 J	200	740	1100	510	910	105	570	< 74	< 74	300	23 J	320	220	150	440	750	120	420	580	< 180	< 74	54 J	620	44 J
S-262D	28	12/12/2007	15000	< 810	< 810	2900	5200	1300	1500	< 810	33000	96	4800	< 810	< 810	8300	990	12000	< 810	580 J	360 J	3000	2100	9600	10000	< 2000	< 810	7500	70000	12000
S-262D	32	12/12/2007	270	1500	< 77	51 J	76 J	260	470	150	650	99	200	< 77	< 77	260	20 J	200	330	62 J	190	380	44 J	210	200	< 190	< 77	260	2900	170
S-262D	33.5	12/12/2007	140	750	< 87	27 J	37 J	120	230	75 J	290	103	98	< 87	< 87	120	9.6 J	87	160	31 J	97	200	21 J	97	94	< 220	< 87	94	940	42 J
S-262D	46.5	12/12/2007	0.47 J	4.1	< 1.8	0.11 J	0.18 J	0.53 J	1.2 J	0.34 J	1.1 J	97	0.43 J	< 1.8	< 1.8	0.65 J	< 1.8	0.35 J	1.2 J	0.15 J	0.43 J	1.2 J	0.25 J	0.37 J	0.22 JB	< 4.4	0.33 J	1.4 J	19	1.1 J
S-262D	54	12/13/2007	0.15 J	0.97 J	< 1.6	< 1.6	< 1.6	0.12 J	0.31 J	0.09 J	0.26 J		0.11 J	< 1.6	< 1.6	0.17 J	< 1.6	< 1.6	0.47 J	< 1.6	0.11 J	0.33 J	0.16 J	0.09 J	0.08 JB	< 1.6	0.31 J	0.31 J	4.1	< 1.6
S-263D	25	12/13/2007	5400	160000 D	< 820	950	2600	12000	36000	6500	11000	93	7300	< 820	< 820	25000	470 J	4000	16000	2400	6600	29000	2000	4800	9500	< 2000	< 820	9200	100000 D	2300
S-263D	31	12/13/2007	8800	180000 D	< 960	2600	6300	22000	50000	14000	20000	117	15000	< 960	< 960	27000	1900	9600	58000	10000	18000	33000	7300	9800	17000	< 2400	7400	2200	7600	6000
S-263D	39	12/14/2007	100	660	< 89	17 J	46 J	120	210	88 J	190	95	98	< 89	< 89	120	9.3 J	56 J	180	32 J	86 J	150	27 J	66 J	740	< 220	21 J	30 J	300	20 J
S-263D	43	12/14/2007	3.8	0.31 J	< 1.5	0.62 J	< 1.5	< 1.5	0.26 J	< 1.5	6.4	%	0.28 J	< 1.5	< 1.5	1.4 J	0.26 J	0.23 J	0.12 J	0.09 J	< 1.5	0.32 J	0.15 J	0.37 J	0.21 JB	< 3.8	< 1.5	0.5 J	5.7	0.58 J
S-263D	49	12/14/2007	0.14 J	0.38 J	< 1.4	< 1.4	< 1.4	0.1 J	0.13 J	0.1 J	0.22 J	%	0.1 J	< 1.4	< 1.4	0.08 J	< 1.4	< 1.4	< 1.4	< 1.4	0.07 J	< 1.4	< 1.4	< 1.4	0.89 JB	< 3.5	< 1.4	0.07 J	0.88 J	< 1.4
S-263D	53	12/14/2007	61	540 D	< 1.5	9.3	26	70	160 D	51	100	%	60	< 1.5	< 1.5	86	4.8	34	120	22	50	110	18	39	590 D	< 3.6	16	23	190 D	22
S-263D	58.75	12/14/2007	990	7600	< 85	170	460	1400	2700	950	1800	111	1000	< 85	< 85	1500	96	630	2300	450	1000	1900	360	730	4100	< 210	150	290	2900	260
S-263D	63	12/14/2007	140	930	< 80	23 J	59 J	160	300	120	230	97	130	< 80	< 80	170	12 J	75 J	260	50 J	120	220	43 J	93	770	< 200	19 J	36 J	340	29 J
S-263D	33	12/14/2007	4800	58000	< 790	1200	2900	9800	22000	6400	9400	115	6700	< 790	< 790	12000	840	4300	22000	4300	8000	14000	3200	4400	13000	< 2000	2300	950	4500	2400
S-263D	45	12/14/2007	18	84	< 1.4	2.8	5.6	14	28	11	29	%	14	< 1.4	< 1.4	18	1.3 J	7.4	22	4.4	9.9	20	3.7	8.5	120	< 3.6	1.8	5.1	57	5.2
S-264D	19	12/19/2007	5.3	1.6	< 1.3	1.2 J	0.21 J	0.5 J	0.62 J	< 1.3	11	111	0.64 J	< 1.3	< 1.3	0.58 J	0.73 J	0.37 J	0.52 J	0.21 J	0.41 J	0.38 J	0.19 J	0.75 J	1 J	< 3.3	< 1.3	2.4	30	2
S-264D	49	12/20/2007	120	< 97	< 97	25 J	< 97	< 97	< 97	< 97	270	104	22 J	< 97	< 97	14 J	12 J	12 J	< 97	11 J	< 97	< 97	< 97	45 J	84 JB	< 240	< 97	30 J	330	27 J
S-264D	53	12/20/2007	1.2 J	0.41 J	< 1.4	0.22 J	< 1.4	< 1.4	0.16 J	< 1.4	2.2	107	0.21 J	< 1.4	< 1.4	0.22 J	0.11 J	0.13 J	0.22 J	0.09 J	< 1.4	0.16 J	< 1.4	0.34 J	0.86 J	< 3.4	< 1.4	0.49 J	6	0.48 J
S-264D	57	12/20/2007	270	< 74	< 74	46 J	< 74	< 74	< 74	< 74	510	113	45 J	< 74	< 74	24 J	25 J	24 J	< 74	18 J	< 74	< 74	< 74	83	200 B	< 180	< 74	84	950	58 J
S-264D	61	12/20/2007	60 J	< 71	< 71	12 J	< 71	< 71	< 71	< 71	120	98	10 J	< 71	< 71	6.1 J	< 71	6.4 J	< 71	< 71	< 71	< 71	< 71	20 J	48 JB	< 180	< 71	22 J	240	16 J

Table 1a
8260M

Location ID	Depth	2,3,3-Trimethylpentane	2,3,4-Trimethylpentane	2,3-Dimethylbutane	2,3-Dimethylpentane	2,4-Dimethylhexane	2,4-Dimethylpentane	2,5-Dimethylhexane	2-Ethylthiophene	2-Methyl-1-Butene	2-Methylheptane	2-Methylhexane	2-METHYLNAPHTHALENE	2-Methylpentane	2-Methylthiophene	3-Ethylhexane	3-Methylheptane	3-Methylhexane	3-Methylpentane	3-Methylthiophene	4-Bromofluorobenzene	BENZENE	Benzothiophene	cis-2-Pentene	CYCLOHEXANE	CYCLOPENTANE	Dibromofluoromethane	DIISOPROPYL ETHER	ETHYLBENZENE	Ethylene dibromide (EDB)	Ethyltert-butylether
		ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	%	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	%	ug/Kg	ug/Kg	ug/Kg	ug/Kg
S-261D	23	790	750	100	480	480	210	420	< 77	< 77	66 J	30 J	330 B	130	< 77	250	88	180	410	< 77	109	6.2 JB	< 77	< 77	45 J	< 77	98	< 77	18 J	< 77	< 77
S-261D	29	4700	4400	840	2000	2000	1100	2000	< 81	< 81	620	320	53 JB	2400	< 81	700	240	2400	3500	< 81	111	7.7 JB	< 81	< 81	210	35 J	84	< 81	22 JB	< 81	< 81
S-261D	34.5	1000	900	710	910	590	430	550	< 92	180	2600	2100	1200	3400	< 92	170	1400	2400	2500	< 92	109	< 92	< 92	< 92	2000	250	89	< 92	220	< 92	< 92
S-261D	41	8.9 J	9.3 J	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	18 JB	< 84	< 84	< 84	< 84	< 84	8.9 J	< 84	106	< 84	< 84	< 84	< 84	< 84	90	< 84	13 J	< 84	< 84
S-261D	43	< 77	5 J	< 77	< 77	< 77	< 77	< 77	< 77	< 77	< 77	< 77	72 JB	< 77	< 77	< 77	< 77	< 77	< 77	< 77	107	< 77	< 77	< 77	< 77	< 77	99	< 77	13 J	< 77	< 77
S-261D	49	1000	940	320	600	480	300	470	< 76	44 J	760	530	91 B	990	< 76	140	580	870	1200	< 76	111	13 JB	< 76	< 76	650	38 J	99	< 76	35 J	< 76	< 76
S-261D	55	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	10 JB	< 84	< 84	< 84	< 84	< 84	< 84	< 84	110	< 84	< 84	< 84	< 84	< 84	90	< 84	13 JB	< 84	< 84
S-261D	59	4400	4200	990	2200	1900	1100	1900	< 72	96	2200	1600	490	3000	< 72	730	1700	3100	3800	< 72	115	14 JB	< 72	< 72	1700	150	91	< 72	180	< 72	< 72
S-261D	65	74 J	72 J	23 J	48 J	36 J	29 J	36 J	< 79	< 79	32 J	32 J	11 JB	74 J	< 79	15 J	47 J	60 J	83	< 79	108	< 79	< 79	< 79	30 J	< 79	97	< 79	14 JB	< 79	< 79
S-261D	29	520	470	620	810	570	380	500	< 85	27 J	2100	1800	< 85	2300	< 85	220	1600	2000	1800	< 85	112	27 JB	< 85	< 85	< 85	21 J	84	< 85	24 JB	< 85	< 85
S-261D	33	10000	9400	8500	12000	9400	6200	8800	< 840	320 J	39000	28000	350 JB	30000	< 840	3400	26000	31000	24000	< 840	109	< 840	< 840	< 840	< 840	160 J	87	< 840	< 840	< 840	< 840
S-261D	39	30000	28000	21000	21000	17000	14000	17000	< 780	820	58000	43000	130 JB	60000	< 780	4800	35000	51000	49000	< 780	109	< 780	< 780	< 780	1300	760 J	85	< 780	190 J	< 780	< 780
S-262D	6	72000 D	65000 D	6000	19000 D	16000 D	11000	20000 D	< 170	< 170	4400	3200	44 JB	5500	< 170	2800	3700	8100	11000	< 170	104	< 170	< 170	< 170	< 170	< 170	86	< 170	55 J	< 170	< 170
S-262D	11.835	24000 D	22000 D	3200	16000 D	8700	7600	9800	< 140	< 140	10000	5600	41 JB	3900	< 140	2300	6800	9000	6400	< 140	108	< 140	< 140	< 140	540	< 140	89	< 140	37 J	< 140	< 140
S-262D	16.25	400	430	180	760	340	340	290	< 74	< 74	1700	1100	1100	740	< 74	150	1200	1200	600	< 74	107	64 J	< 74	< 74	440	27 J	91	< 74	850	< 74	< 74
S-262D	28	48000	50000	39000	78000 D	59000	33000	49000	< 810	2500	230000 D	180000 D	3400	130000 D	< 810	31000	150000 D	220000 D	110000 D	< 810	104	< 810	< 810	< 810	98000 D	< 810	90	< 810	2500	< 810	< 810
S-262D	32	2000	2000	680	2200	1300	1000	1300	< 77	35 J	2400	2300	270	2000	< 77	530	2000	3000	1900	< 77	107	68 J	< 77	< 77	2000	82	94	< 77	530	< 77	< 77
S-262D	33.5	760	740	200	730	420	280	400	< 87	14 J	880	700	140 B	550	< 87	150	760	920	560	< 87	103	48 JB	< 87	< 87	730	34 J	95	< 87	300	< 87	< 87
S-262D	46.5	12	11	7.8	16	5.1	8.6	4.8	< 1.8	0.76 J	10	16	0.24 JB	22	< 1.8	1.3 J	8.2	19	18	< 1.8		1.3 J	< 1.8	< 1.8	11	1.3 J		< 1.8	2.6	< 1.8	< 1.8
S-262D	54	2.5	2.4	1.7	3.6	1.1 J	1.9	1 J	< 1.6	< 1.6	2.4	3.8	0.15 JB	5.2	< 1.6	< 1.6	2.3	4.1	4.3	< 1.6	95	0.61 JB	< 1.6	< 1.6	3.1	0.38 J	110	< 1.6	0.75 J	< 1.6	< 1.6
S-263D	25	78000	73000	19000	26000	27000	20000	32000	< 820	4800	60000	46000	15000	44000	< 820	5100	38000	51000	34000	< 820	107	8400	< 820	710 J	26000	7100	95	< 820	51000	< 820	< 820
S-263D	31	7800	7100	30000	35000	20000	14000	17000	< 960	35000	110000 D	88000	23000	120000 D	< 960	8700	72000	85000 D	86000 D	< 960	112	150000 D	< 960	12000	120000 D	28000	91	< 960	86000	< 960	< 960
S-263D	39	210	200	170	210	120	100	120	< 89	96	500	380	1200	540	< 89	53 J	330	420	410	< 89	107	320	< 89	31 J	430	98	94	< 89	290	< 89	< 89
S-263D	43	4.7	3.2	20	5.4	1.1 J	3.1	0.92 J	< 1.5	< 1.5	1.3 J	3.1	0.27 JB	30	< 1.5	< 1.5	< 1.5	5.6	30	< 1.5	101	3.3	< 1.5	< 1.5	26	4	100	< 1.5	0.34 J	< 1.5	< 1.5
S-263D	49	0.58 J	0.51 J	< 1.4	0.44 J	0.28 J	0.29 J	0.3 J	< 1.4	0.24 J	1 J	0.79 J	1.3 JB	1.2 J	< 1.4	< 1.4	1.3 J	0.86 J	0.7 J	< 1.4	98	1.9	< 1.4	< 1.4	0.35 J	< 1.4	102	< 1.4	0.12 J	< 1.4	< 1.4
S-263D	53	140 D	130 D	69 JD	130 D	89	100	91	< 1.5	120	320 D	220 D	940 D	290 D	< 1.5	28	240 D	260 D	210 D	< 1.5	114	260 D	< 1.5	32	280 D	84	91	< 1.5	270 D	< 1.5	< 1.5
S-263D	58.75	2000	1900	1600	2200	1400	1100	1300	< 85	1200	6000	4400	6600	6100	< 85	430	3800	4800	4600	< 85	108	3500	< 85	360	4800	1200	90	< 85	3900	< 85	< 85
S-263D	63	240	230	180	260	160	120	150	< 80	140	700	500	1300	700	< 80	72 J	440	530	510	< 80	105	470	< 80	38 J	540	120	90	< 80	460	< 80	< 80
S-263D	33	4200	4000	13000	14000	9300	6600	7500	< 790	15000	51000	38000	18000	60000	< 790	4200	31000	42000	44000	< 790	109	57000	< 790	4500	53000	12000	97	< 790	36000	< 790	< 790
S-263D	45	38	34	46	46	21	25	20	< 1.4	14	79	79	200 BD	140	< 1.4	7.3	51	86	110	< 1.4	106	41	< 1.4	3	68	12	98	< 1.4	35	< 1.4	< 1.4
S-264D	19	21	19	16	16	8.4	9.5	8.4	< 1.3	< 1.3	4.5	5.4	1.1 JB	23	< 1.3	3	4.2	13	36	< 1.3	%	0.29 J	< 1.3	< 1.3	5.4	1.3 J	%	< 1.3	0.33 J	< 1.3	< 1.3
S-264D	49	220	200	180	250	180	98	170	< 97	< 97	730	540	15 JB	630	< 97	78 J	520	610	510	< 97	110	8.7 J	< 97	< 97	20 J	< 97	91	< 97	< 97	< 97	< 97
S-264D	53	3.4	3.2	3.2	3.8	2.7	2.1	2.6	< 1.4	0.37 J	10	8.1	0.2 JB	10	< 1.4	0.99 J	6.8	9.1	8.2	< 1.4	%	1.8	< 1.4	< 1.4	0.65 J	0.67 J	%	< 1.4	0.22 J	< 1.4	< 1.4
S-264D	57	620	580	380	520	430	290	410	< 74	< 74	1700	1100	< 74	1300	< 74	140	1100	1300	1000	< 74	111	13 J	< 74	< 74	52 J	16 J	84	< 74	< 74	< 74	< 74
S-264D	61	150	150	100	140	110	78	100	< 71	< 71	430	290	8.2 JB	350	< 71	44 J	290	330	270	< 71	109	< 71	< 71	< 71	21 J	< 71	85	< 71	13 J	< 71	< 71

Table 1a
8260M

Location ID	Depth	HEXANE	Isopentane	Isopropylbenzene	IUan	m,p-Xylene	Methyl tert-butyl ether	Methylcyclohexane	Methylcyclopentane	NAPHTHALENE	n-Butylbenzene	N-DECANE	N-DODECANE	N-HEPTANE	NONANE	n-Pentylbenzene	n-Propylbenzene	N-TRIDECANE	N-UNDECANE	OCTANE	OCTENE-1	o-Xylene	PENTANE	sec-Butylbenzene	Styrene	tert-Amylmethylether	TERT-BUTYL ALCOHOL	Thiophene	Toluene	Toluene-d8	trans-2-Pentene
		ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	%	ug/Kg
S-261D	23	< 77	110	200	140	11 J	< 77	330	44 J	99 B	150	1100	3900	< 77	36 J	80	460	2800	3700	< 77	< 77	< 77	20 JB	270	< 77	< 77	< 77	< 77	9.2 JB	100	< 77
S-261D	29	< 81	1200	680	690	34 JB	14 J	16000 D	250	< 81	600	< 81	520	< 81	< 81	220	1500	< 200	< 81	< 81	< 81	< 81	280	610	< 81	< 81	1800	< 81	12 JB	93	< 81
S-261D	34.5	6100	3600	220	140	560	16 J	7900	3300	300	290	1100	330	5400	1400	61 J	460	270	510	3000	< 92	95	3900	200	< 92	< 92	63000 D	< 92	< 92	99	17 J
S-261D	41	< 84	< 84	< 84	< 84	< 170	10 J	30 J	< 84	< 84	4.2 J	< 84	< 84	< 84	< 84	< 84	< 84	< 210	< 84	< 84	< 84	< 84	12 JB	< 84	< 84	< 84	37000 D	< 84	< 84	97	< 84
S-261D	43	< 77	< 77	< 77	< 77	< 160	16 J	14 J	< 77	17 JB	5 J	< 77	< 77	< 77	< 77	< 77	< 77	< 190	< 77	< 77	< 77	< 77	19 JB	< 77	< 77	< 77	71000 D	< 77	5.4 JB	102	< 77
S-261D	49	670	820	180	200	72 J	11 J	4100	810	30 JB	160	120	< 76	660	74 J	34 J	390	< 190	54 J	310	< 76	14 J	610	140	< 76	< 76	16000 D	< 76	< 76	101	< 76
S-261D	55	< 84	< 84	< 84	6.7 J	< 170	< 84	14 J	< 84	< 84	6.7 J	< 84	< 84	< 84	< 84	4.2 J	< 84	< 210	< 84	< 84	< 84	< 84	< 84	< 84	< 84	< 84	2300	< 84	< 84	97	< 84
S-261D	59	2100	2100	820	800	500	< 72	16000 D	2300	240	720	720	< 72	2300	530	160	1800	< 180	< 72	1200	< 72	67 J	1600	660	< 72	< 72	3900	< 72	17 JB	97	< 72
S-261D	65	35 J	68 J	< 79	8.3 J	< 160	< 79	240	30 J	< 79	9.1 J	< 79	< 79	38 J	< 79	< 79	20 J	< 200	< 79	12 J	< 79	< 79	47 J	7.1 J	< 79	< 79	1000	< 79	5.1 JB	97	< 79
S-261D	29	78 J	2000	290	490	< 170	8.1 J	4600	1200	< 85	250	< 85	< 85	66 J	< 85	74 J	680	< 210	< 85	80 J	< 85	< 85	420	140	< 85	< 85	3300	< 85	< 85	94	< 85
S-261D	33	970	20000	4400	3400	< 1700	< 840	71000 D	23000	< 840	4100	< 840	< 840	1100	< 840	1100	9800	< 2100	< 840	2900	< 840	< 840	7400	2200	< 840	< 840	1900	< 840	80 J	99	< 840
S-261D	39	1700	59000	7100	6200	< 1600	< 780	190000 D	60000	< 780	4100	< 780	< 780	830	< 780	840	14000	< 1900	< 780	1200	< 780	< 780	21000	3200	< 780	< 780	2500	< 780	70 J	98	< 780
S-262D	6	< 170	6900	3500	2900	92 J	< 170	63000 D	350	< 170	2100	1200	68 J	< 170	< 170	470	9300	< 430	520	< 170	< 170	< 170	40 JB	1400	< 170	< 170	1200	< 170	23 JB	97	< 170
S-262D	11.835	28 J	2200	2000	1400	< 270	< 140	41000 D	260	< 140	1900	1500	310	340	600	500	5100	140 J	730	280	< 140	< 140	58 JB	1000	< 140	< 140	< 140	< 140	< 140	98	< 140
S-262D	16.25	520	230	260	360	1200	< 74	2300	680	780	340	260	460	1200	150	70 J	760	120 J	650	490	< 74	9.2 J	120	150	< 74	< 74	< 74	< 74	< 74	95	< 74
S-262D	28	12000	68000 D	22000	23000	1900	< 810	450000 D	160000 D	< 810	11000	1000	< 810	18000	220 J	1300	54000	< 2000	790 J	4900	< 810	< 810	38000	6700	< 810	< 810	< 810	< 810	230 J	105	< 810
S-262D	32	760	1100	460	460	1200	< 77	11000 D	2700	180	240	170	53 J	950	290	39 J	1100	< 190	92	590	< 77	51 J	470	140	< 77	< 77	1000	< 77	< 77	98	< 77
S-262D	33.5	250	330	190	220	660	83 J	3900	930	98	110	91	25 J	390	140	19 J	460	< 220	45 J	260	< 87	32 J	130	62 J	< 87	< 87	5300	< 87	< 87	97	< 87
S-262D	46.5	9.9	20	0.92 J	0.64 J	6.2	< 1.8	44	18	0.28 JB	0.41 J	0.34 J	< 1.8	8.6	0.88 J	< 1.8	2	< 4.4	< 1.8	2.8	< 1.8	0.28 J	7.5	0.27 J	< 1.8	< 1.8	< 1.8	< 1.8	0.11 JB		< 1.8
S-262D	54	2.6	6.3	0.27 J	0.17 J	1.8 J	< 1.6	10	4.8	< 1.6	0.11 J	< 1.6	< 1.6	2.1	0.3 J	< 1.6	0.45 J	< 1.6	< 1.6	0.76 J	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	9	< 1.6	0.15 JB	103	< 1.6
S-263D	25	52000	57000	9100	13000	83000	< 820	86000 D	47000	14000	3600	20000	3800	78000	42000	1100	22000	1100 J	6100	71000	< 820	4200	30000	2000	< 820	< 820	1800	< 820	1600	103	1900
S-263D	31	180000 D	150000 D	18000	12000	280000 D	< 960	320000 D	150000 D	23000	8000	120000 D	30000	190000 D	150000 D	1800	25000	19000	58000	190000 D	< 960	71000	120000 D	6800	< 960	< 960	7600	< 960	36000	104	25000
S-263D	39	580	770	64 J	130	680	140	1100	610	200	59 J	480	320	690	580	24 J	130	230	360	680	< 89	170	460	28 J	< 89	< 89	8800	< 89	83 J	99	63 J
S-263D	43	0.4 J	150	4.2	30	1.7 J	89	39	20	< 1.5	0.57 J	< 1.5	< 1.5	0.33 J	0.19 J	< 1.5	2.7	< 3.8	< 1.5	0.37 J	< 1.5	0.28 J	21	0.62 J	< 1.5	< 1.5	3400 D	< 1.5	1.2 J	99	< 1.5
S-263D	49	0.95 J	2.2	< 1.4	0.19 J	0.33 J	4.6	1.6	0.6 J	< 1.4	0.08 J	0.51 J	0.29 J	1.3 J	0.8 J	< 1.4	< 1.4	< 3.5	0.27 J	1.2 J	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	8.7	< 1.4	0.1 JB	98	< 1.4
S-263D	53	320 D	350 D	44	68	590 D	14	800 D	380 D	130	32	110	33	440 D	440 D	8.3	89	20	58	480 D	< 1.5	130	240 D	18	< 1.5	< 1.5	110	< 1.5	60	105	76
S-263D	58.75	7900	6400 D	770	1000	9500	18 J	13000 D	6700	2000	600	6000	2400	7900 D	7200	210	1500	1500	3700	8200 D	< 85	2400	5600	340	< 85	< 85	< 85	< 85	930	101	820
S-263D	63	870	900	89	130	1100	< 80	1700	800	260	78 J	830	510	1000	900	34 J	180	420	630	1000	< 80	280	650	40 J	< 80	< 80	220	< 80	110	96	84
S-263D	33	76000 D	60000 D	7200	5600	92000	< 790	150000 D	71000	11000	3600	45000	16000	91000 D	62000	900	11000	8500	28000	98000 D	< 790	24000	65000	2900	< 790	< 790	3900	< 790	13000	105	10000
S-263D	45	120	81 JD	14	43	83	160 D	120 D	99	36	7.3	37	14	120	55	2	22	8.6	22	95	< 1.4	24	96	4.3	< 1.4	< 1.4	3000 D	< 1.4	10	105	6.3
S-264D	19	3.9	99	2.6	2.3	1 J	< 1.3	65	7.8	0.62 J	2.1	< 1.3	< 1.3	3.8	0.56 J	0.37 J	5.1	< 3.3	< 1.3	1.6	< 1.3	0.26 J	7.1	2.6	< 1.3	< 1.3	15	< 1.3	0.22 JB	%	< 1.3
S-264D	49	27 J	570	79 J	110	< 190	18 J	1700	580	< 97	79 J	< 97	< 97	34 J	< 97	22 JB	180	< 240	< 97	51 J	< 97	< 97	210	40 J	< 97	< 97	960	< 97	8.2 JB	94	< 97
S-264D	53	0.49 J	14	0.76 J	0.84 J	0.62 J	3.4	20	7	0.18 J	0.57 J	< 1.4	< 1.4	0.51 J	< 1.4	0.2 J	1.4	< 3.4	< 1.4	0.68 J	< 1.4	0.2 J	3.8	0.38 J	< 1.4	< 1.4	91	< 1.4	0.23 JB	%	< 1.4
S-264D	57	37 J	940	160	160	< 150	< 74	3700	890	< 74	150	< 74	< 74	45 J	< 74	42 JB	380	< 180	< 74	83	< 74	< 74	330	92	< 74	< 74	200	< 74	6.6 JB	93	< 74
S-264D	61	12 J	270	42 J	40 J	< 140	< 71	920	240	6.1 JB	39 J	< 71	< 71	< 71	< 71	12 JB	90	< 180	< 71	21 J	< 71	< 71	96	21 J	< 71	< 71	100	< 71	< 71	93	< 71

Table 1b
Modified 8270C

Location ID	Depth	Sample Date	1,1'-Biphenyl	Acenaphthene	ACENAPHTHYLENE	ANTHRACENE	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	BENZO(E)PYRENE	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzothiophene	C1-Chrysenes	C1-Dibenzothiophenes	C1-Fluoranthenes/pyrenes	C1-Fluorenes	C1-Naphthalenes	C1-Phenanthrenes/anthracenes	C2-Chrysenes	C2-Dibenzothiophenes	C2-Fluoranthenes/pyrenes	C2-Fluorenes	C2-Naphthalene	C2-Phenanthrenes/anthracenes	C3-Chrysenes	C3-Dibenzothiophenes	C3-Fluoranthenes/pyrenes	C3-Fluorenes	C3-Naphthalene	C3-Phenanthrenes/anth
			ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
S-261D	23	12/18/2007	5.1	1.4 J	0.84 J	1.1 J	1.9 J	0.99 J	1.4 J	1.2 J	0.64 JB	0.96 J	1.5 J	4.3	5.7	5.4	11	63	29	< 4.2	7.7	4.9	21	130	30	< 4.2	7.4	< 4.2	34	120	16
S-261D	29	12/18/2007	1.3 J	86	18	26	11	6.2	4.6	5.8	2.6 J	4.1	3.8	25	190	34	310	24	450	29	170	28	350	3900	320	31	90	25	190	3100	130
S-261D	34.5	12/18/2007	280	190	31 J	88	35 J	16 J	17 J	18 J	6.7 J	17 J	41 J	45 J	240	100	360	4600	600	< 76	220	36 J	400	5500	390	< 76	120	< 76	290	3500	150
S-261D	41	12/18/2007	0.084 J	0.25 J	0.092 J	0.15 J	0.11 J	< 0.91	0.069 J	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	1.1	0.42 J	1.5	0.52 JB	2.7	< 0.91	1.2	< 0.91	2.1	9.3	1.9	< 0.91	0.61 J	< 0.91	1.6	12	0.83 J
S-261D	43	12/18/2007	0.19 J	0.48 J	0.11 J	0.21 J	0.18 J	< 0.94	0.11 J	0.09 J	0.06 J	0.11 J	< 0.94	0.27 J	1.2	0.51 J	1.7	1.1	3.3	< 0.94	1.5	< 0.94	2.3	12	2.2	< 0.94	0.62 J	< 0.94	2.2	14	1
S-261D	49	12/18/2007	0.74 J	11	1.6	3.7	2.4	1.2 J	1.2 J	1.1 J	0.59 J	1.1 J	0.35 J	2.7	15	5	26	14	40	3.1	15	3.3	29	290	26	< 1.2	8	2.9	16	240	12
S-261D	55	12/18/2007	0.11 J	0.39 J	0.088 J	0.13 J	< 0.9	< 0.9	0.11 J	< 0.9	0.087 J	< 0.9	< 0.9	< 0.9	3.6 G	< 0.9	1.4	0.56 JB	2.5	< 0.9	1.6	< 0.9	17 G	10	1.9	< 0.9	< 0.9	< 0.9	1.5	12	1.3
S-261D	59	12/19/2007	11	63	12	25	12	6.2	5.6	4.9	2.7	5	3.5	16	100	28	170	220	260	15	96	17	190	2100	160	19	50	14	110	1600	71
S-261D	65	12/19/2007	0.81 JB	6.9	1.7	3	2.1	1 J	0.99 J	0.77 J	0.53 J	1 J	< 1.1	2.7	15	4.8	24	9.8	39	2.2	15	3.1	29	200	27	< 1.1	8	2.4	18	200	12
S-262D	6	12/12/2007	0.77 JB	19	0.95 JB	4.9	5.6	3.9 J	4.8	3.8 J	4.1 J	3.6 J	8.1	6.7	2.1 J	18	27	11	41	< 4.6	4.3 J	12	37	1100	30	< 4.6	4 J	6.2	28	260	12
S-262D	11.835	12/12/2007	2 J	22	1.6 JB	9.4	6.7	3.8 J	4.6	4.3 J	5.2	3.2 J	26	6	4 J	27	54	99	76	< 4.3	5.8	16	66	1600	54	< 4.3	3.5 J	7.1	40	440	17
S-262D	16.25	12/12/2007	100	45 J	21 J	44 J	43 J	22 J	29 J	20 J	15 J	20 J	310	38 J	74 J	90 J	140	8800	300	< 97	110	48 J	180	3500	210	< 97	82 J	< 97	< 97	1300	100
S-262D	20	12/12/2007	62 J	100	4.7 J	49 J	17 J	< 89	< 89	9.1 J	8.9 J	< 89	200	42 J	92	120	260	8400	580	< 89	120	76 J	350	9000	490	< 89	75 J	30 J	260	3400	160
S-262D	26	12/12/2007	1.4 J	6.1	1.4 JB	1.8 J	2.4 J	0.82 J	0.89 J	1.6 J	1.2 J	< 4.3	8	4.2 J	5.6	7.7	15	230	28	< 4.3	11	< 4.3	21	340	24	< 4.3	7.1	< 4.3	21	130	10
S-262D	28	12/12/2007	8.6 J	110	14 J	< 100	7.9 J	< 100	< 100	< 100	5.8 J	< 100	210	31 J	200	74 J	400	8000	570	< 100	190	< 100	470	7500	440	< 100	86 J	< 100	330	3400	140
S-262D	32	12/12/2007	0.96 JB	1.1 J	0.69 JB	0.42 JB	1.1 J	1.2 J	0.86 J	1.4 J	0.66 J	0.74 JB	2 J	1.9 J	1.8 J	3.9 J	4.1	93	8.4	< 4.1	3 J	< 4.1	5.9	83	6.7	< 4.1	< 4.1	< 4.1	< 4.1	34	4 J
S-262D	33.5	12/12/2007	0.43 JB	0.6 J	0.2 JB	0.29 JB	0.27 JB	0.19 JB	0.32 JB	0.21 JB	0.25 JB	0.2 JB	0.8 J	0.47 J	1 J	0.9 J	1.7	28	3.2	< 1.2	0.81 J	< 1.2	2.2	32	1.7	< 1.2	0.54 J	< 1.2	< 1.2	14	0.78 J
S-262D	46.5	12/12/2007	0.39 JB	0.2 J	0.18 JB	0.19 JB	0.29 JB	0.57 JB	1.4 J	0.92 J	0.56 J	< 1.9	0.096 J	3.9	< 1.9	3.7	0.67 J	3 B	2	3.7	< 1.9	5	< 1.9	3.8	2.8	< 1.9	< 1.9	4.9	< 1.9	3.2	3.7
S-262D	52	12/13/2007	0.14 J	3	2.6	3.4	4.3	4.4	4.7	0.72 J	4.3	4.1	< 1.4	3.1	0.53 J	3.4	0.61 JB	3.7	1.4 J	3.4	< 1.4	4.9	< 1.4	2.6 B	2	< 1.4	< 1.4	< 1.4	< 1.4	2.6 B	1.6
S-262D	54	12/13/2007	0.24 J	0.11 J	0.076 JB	0.086 J	0.31 J	0.21 J	0.8 J	0.39 J	0.41 J	0.29 J	0.12 J	1.8	0.26 J	1.7	0.47 JB	2.4	0.87 J	2.4	< 1	2.2	< 1	2.2 B	1	< 1	< 1	2	< 1	2.2 B	1.2
S-262D	58	12/13/2007	0.25 J	< 1.1	0.17 JB	0.11 J	0.14 J	< 1.1	0.16 J	0.15 J	0.14 J	0.12 J	< 1.1	0.41 J	< 1.1	0.44 J	< 1.1	2.2	0.56 J	< 1.1	< 1.1	< 1.1	< 1.1	1.8 B	0.33 J	< 1.1	< 1.1	< 1.1	< 1.1	0.96 JB	0.39 J
S-263D	6	12/13/2007	1600	6000	200	2400	140	110	110	96 J	92 J	120	320	190	11000	2000	20000	89000	45000	< 100	8700	800	27000	170000	32000	< 100	3400	260	17000	120000	12000
S-263D	25	12/13/2007	750	370	41 J	36 J	4.6 J	< 98	< 98	< 98	< 98	< 98	520	27 J	620	76 J	1200	15000	1900	< 98	550	47 J	1500	20000	1200	< 98	270	< 98	870	9800	440
S-263D	31	12/13/2007	2000	520	180	130	25 J	12 J	< 110	17 J	7.6 J	< 110	1700	130	1300	210	2500	48000	3100	190	1200	190	2400	44000	2300	< 110	700	150	1600	28000	1000
S-263D	33	12/14/2007	600	420	58 J	120	6 J	< 110	< 110	< 110	< 110	< 110	320	36 J	750	200	1600	16000	3200	< 110	740	91 J	1900	21000	2600	< 110	400	< 110	1500	14000	1100
S-263D	39	12/14/2007	15	53	2.5 J	30	0.65 J	< 4.3	< 4.3	< 4.3	0.31 J	< 4.3	1.8 J	1.8 J	110	38	230	460	620	< 4.3	97	16	360	1500	600	< 4.3	48	4 J	250	1400	250
S-263D	43	12/14/2007	0.53 J	1.8	0.15 J	1.5	< 1.2	< 1.2	0.16 JB	< 1.2	0.093 J	< 1.2	< 1.2	< 1.2	8.1	2.5	15	12	45	< 1.2	8.7	1.1 J	28	50	45	< 1.2	5.1	< 1.2	25	70	22
S-263D	45	12/14/2007	0.94 J	4.2	0.55 J	2.3	0.56 J	0.33 J	0.38 J	0.28 J	0.33 J	0.42 J	< 1.1	0.57 J	12	4.6	22	22	66	< 1.1	11	1.5	35	98	56	< 1.1	5.9	< 1.1	28	120	25
S-263D	49	12/14/2007	2.1	11	0.48 J	7	0.16 J	< 1.1	0.12 JB	< 1.1	0.095 J	0.095 J	0.18 J	0.4 J	28	8.8	57	63	160	< 1.1	26	2.9	90	270	160	< 1.1	12	< 1.1	64	310	64
S-263D	53	12/14/2007	5.9	22	0.93 J	13	0.35 J	0.12 J	0.19 JB	0.11 J	0.091 J	< 1.2	0.62 J	0.63 J	48	17	100	170	280	< 1.2	44	5.8	160	600	270	< 1.2	22	1.6	110	620	110
S-263D	55	12/14/2007	17	60	3.6 J	31	0.83 J	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	2.9 J	3 J	120	37	240	650	640	< 4.3	100	16	380	1800	600	< 4.3	50	4.2 J	260	1600	250
S-263D	58.75	12/14/2007	52	140	10	70	2.2 J	1.4 J	2 J	1.7 J	1.8 J	1.6 J	13	4.8	240	78	500	2000	1300	< 4.2	210	28	780	4400	1200	< 4.2	100	9.8	520	3600	520
S-263D	63	12/14/2007	17	55	3.2 J	24	0.96 J	< 4.5	< 4.5	< 4.5	0.61 J	< 4.5	2.6 J	2.1 J	110	32	220	580	570	< 4.5	93	14	330	1600	530	< 4.5	48	< 4.5	220	1400	220
S-264D	19	12/19/2007	0.43 JB	2.5	0.56 J	1.2	1.6	1.4	1.3	1.1	1 J	1.3	0.064 J	1.5	6.5 G	2.1	7.8	3.2	13	1.8	5.4	1.6	11	59	9.5	< 1	3	1.4	7.1	62	4.8
S-264D	29	12/19/2007	6.2	340	85	160	80	33	29	37	17	20	110	220	950	280	1500	3100 D	2200	230	1100	270	1800	17000 D	2000	210	760	240	1300	13000	1100
S-264D	33	12/19/2007	4.4	210	60	85	32	17	12	17	8	9.8	62	100	530	140	860	2400 D	1200	100	580	130	1000	9500 D	1000	100	380	110	660	8300	540

Table 1b
Modified 8270C

Location ID	Depth	Sample Date	1,1'-Biphenyl	Acenaphthene	ACENAPHTHYLENE	ANTHRACENE	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	BENZO(E)PYRENE	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzothiophene	C1-Chrysenes	C1-Dibenzothiophenes
S-264D	39	12/19/2007	3.3 J	120	43	56	24	11	8.6	13	5.8	6.5	42	72	380
S-264D	49	12/20/2007	< 2.3	6.5	2.6	3.6	2 J	0.95 J	1.1 J	1.1 J	0.65 J	0.73 J	1 J	5.6	28
S-264D	53	12/20/2007	0.12 JB	< 0.88	< 0.88	< 0.88	0.19 J	< 0.88	< 0.88	< 0.88	< 0.88	< 0.88	< 0.88	< 0.88	0.94
S-264D	57	12/20/2007	< 0.94	0.87 J	0.44 J	0.72 J	0.37 J	0.14 J	0.13 J	0.21 J	0.11 J	< 0.94	0.094 J	1.3	6.4
S-264D	61	12/20/2007	< 0.89	0.072 J	0.091 J	< 0.89	0.19 J	0.19 J	< 0.89	< 0.89	0.092 J	< 0.89	< 0.89	0.41 J	2.1

Location ID	Depth	Sample Date	C1-Fluoranthenes/pyrenes	C1-Fluorenes	C1-Naphthalenes	C1-Phenanthrenes/anthracenes	C2-Chrysenes	C2-Dibenzothiophenes	C2-Fluoranthenes/pyrenes	C2-Fluorenes	C2-Naphthalene	C2-Phenanthrenes/anthracenes	C3-Chrysenes	C3-Dibenzothiophenes	C3-Fluoranthenes/pyrenes	C3-Fluorenes	C3-Naphthalene	C3-Phenanthrenes/ant
S-264D	39	12/19/2007	95	610	2000	870	79	420	92	730	7700 D	750	76	270	80	500	6000	400
S-264D	49	12/20/2007	8.5	39	51	63	4.7	31	7.5	51	370	55	< 2.3	22	6.7	36	340	29
S-264D	53	12/20/2007	0.81 J	1.4	0.79 JB	2.5	< 0.88	1.4	< 0.88	2.5	5.8	2.6	< 0.88	1.2	< 0.88	3.1	8.2	1.6
S-264D	57	12/20/2007	1.8	9.1	4.1	15	< 0.94	8.2	1.7	12	49	14	< 0.94	5.6	1.8	8.8	68	7.2
S-264D	61	12/20/2007	0.78 J	2.9	0.55 JB	5.3	< 0.89	2.9	< 0.89	4.4	6.6	4.4	< 0.89	2.1	< 0.89	3.5	14	2.6

Table 1b
Modified 8270C

Location ID	Depth	C4-Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/anthracenes	Chrysene	Dibenzo(a,h)anthracene	DIBENZOFURAN	Dibenzothiophene	FLUORANTHENE	FLUORENE	Indeno(1,2,3-cd)pyrene	NAPHTHALENE	Perylene	PHENANTHRENE	PYRENE
		ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
S-261D	23	< 4.2	64	6.8	3 J	0.75 J	2.4 J	2.4 J	3.8 J	3.2 J	0.81 J	8.5	< 4.2	15	5.3
S-261D	29	18	1400	46	16	0.86 J	100	100	28	190	2.1 J	48	0.85 J	340	32
S-261D	34.5	< 76	1600	46 J	44 J	< 76	140	130	110	280	7.1 J	1400	< 76	610	110
S-261D	41	< 0.91	7.2	< 0.91	0.17 J	< 0.91	0.34 J	0.52 J	0.38 J	0.65 J	< 0.91	0.22 JB	< 0.91	2.1	0.43 J
S-261D	43	< 0.94	8.2	< 0.94	0.22 J	< 0.94	0.56 J	0.6 J	0.59 J	1.1	0.062 J	0.31 JB	< 0.94	3	0.6 J
S-261D	49	< 1.2	110	4.6	2.7	0.19 J	10	8.6	7.7	17	0.58 J	5.7	0.55 J	39	6.7
S-261D	55	< 0.9	7.1	0.47 J	< 0.9	< 0.9	0.56 J	0.5 J	0.45 J	0.97	0.049 J	0.32 JB	< 0.9	2.3	0.45 J
S-261D	59	< 2.2	760	28	14	1.1 J	62	57	36	120	2.4	72	1.6 J	230	34
S-261D	65	< 1.1	110	4.9	2.5	0.12 J	7.3	7.9	6.5	14	0.48 J	2	0.47 J	34	6
S-262D	6	< 4.6	53	4.3 J	6.2	0.97 J	2.8 J	0.7 J	8.2	13	2.8 J	45	7	24	12
S-262D	11.835	< 4.3	89	6.2	6.6	1 J	4.4	1.7 J	12	17	3.2 J	66	5	40	17
S-262D	16.25	< 97	480	33 J	54 J	< 97	39 J	36 J	110	97 J	12 J	7900	< 97	290	90 J
S-262D	20	< 89	1000	41 J	21 J	< 89	42 J	38 J	31 J	110	< 89	4400	< 89	280	74 J
S-262D	26	< 4.3	49	3.6 J	2.6 J	< 4.3	4.6	3 J	4 J	9.6	0.81 J	71	< 4.3	20	8
S-262D	28	< 100	1200	41 J	13 J	< 100	120	100	18 J	210	< 100	320	< 100	370	46 J
S-262D	32	< 4.1	14	1.9 J	1.7 J	< 4.1	0.82 JB	0.93 J	2.1 J	2.1 J	0.69 J	32	< 4.1	5.5	3.2 J
S-262D	33.5	< 1.2	4.4	0.34 J	0.46 JB	0.069 J	1.1 JB	0.86 J	0.51 JB	0.94 JB	0.14 JB	11	0.19 J	3 B	0.82 JB
S-262D	46.5	< 1.9	< 1.9	8.2	1 J	< 1.9	0.22 JB	0.1 JB	0.61 JB	0.5 JB	0.31 JB	2.8 B	1200	1.3 JB	0.74 JB
S-262D	52	< 1.4	< 1.4	3.2	4.6	3.9	0.21 JB	0.14 J	4	3.4	4.2	4.4	1900 D	4.2	4.2
S-262D	54	< 1	< 1	1.6	0.48 J	0.26 J	0.18 JB	0.075 J	0.33 J	0.32 JB	0.31 J	1.9 B	210	0.59 JB	0.46 J
S-262D	58	< 1.1	< 1.1	0.19 J	0.18 J	< 1.1	0.13 JB	0.071 J	0.23 J	0.18 JB	0.13 J	1.6 B	8.5	0.55 JB	0.3 J
S-263D	6	< 100	61000	3000	210	48 J	3200	5000	530	7900	88 J	8300	24 J	24000	1600
S-263D	25	< 98	4100	140	13 J	< 98	440	380	24 J	870	< 98	11000	< 98	1400	56 J
S-263D	31	< 110	11000	380	64 J	< 110	950	680	79 J	1500	< 110	32000	< 110	2000	130
S-263D	33	< 110	6400	300	23 J	< 110	420	380	46 J	760	< 110	7100	< 110	1600	140
S-263D	39	< 4.3	790	68	1.3 J	< 4.3	31	44	8	79	0.63 J	35	< 4.3	280	31
S-263D	43	< 1.2	53	5.6	0.14 JB	< 1.2	1.6	3.1	0.59 JB	4.3	0.081 J	0.94 JB	< 1.2	18	1.9
S-263D	45	< 1.1	73	6.3	0.69 J	0.093 J	2.5	4.6	2.4	7.5	0.3 J	1.6	< 1.1	32	5
S-263D	49	< 1.1	190	15	0.31 JB	0.056 J	6.5	11	2.1	18	< 1.1	2.8	< 1.1	70	7.2
S-263D	53	< 1.2	350	28	0.58 J	< 1.2	14	20	3.6	36	< 1.2	11	< 1.2	120	14
S-263D	55	< 4.3	830	65	1.7 J	< 4.3	35	46	8	91	< 4.3	58	< 4.3	290	31
S-263D	58.75	< 4.2	1800	130	4.1 J	< 4.2	84	97	18	200	1.7 J	280	< 4.2	600	63
S-263D	63	< 4.5	760	58	1.8 J	< 4.5	33	43	7.9	80	< 4.5	48	< 4.5	260	28
S-264D	19	< 1	37	2.3	1.8	0.38 J	2.4	2.5	3.6	4.2	1 J	1.4 B	0.41 J	11	3.3
S-264D	29	130	6600	420	110	7.9	480	380	150	810	12	360	6.9	1400	190
S-264D	33	61	3700	210	50	3.7 J	300	230	72	510	5.5	200	4.2	820	92

Table 1b
Modified 8270C

Location ID	Depth	C4-Chrysenes	C4-Naphthalenes	C4-Phenanthrenes/anthracenes	Chrysene	Dibenzo(a,h)anthracene	DIBENZOFURAN	Dibenzothiophene	FLUORANTHENE	FLUORENE	Indeno(1,2,3-cd)pyrene	NAPHTHALENE	Perylene	PHENANTHRENE	PYRENE
S-264D	39	42	2700	150	36	2.7 J	210	160	48	360	3.4 J	160	2.9 J	560	62
S-264D	49	< 2.3	170	13	3.1	0.31 J	11	11	4.8	20	0.51 J	3	< 2.3	41	6
S-264D	53	< 0.88	5.6	< 0.88	0.29 J	< 0.88	0.28 J	0.31 J	0.4 J	0.56 J	< 0.88	0.31 JB	< 0.88	1.7	0.43 J
S-264D	57	< 0.94	40	2.9	0.62 J	< 0.94	1.8	2.5	1	3.6	< 0.94	0.41 JB	< 0.94	9.2	1.3
S-264D	61	< 0.89	11	1	0.32 J	0.089 J	0.42 J	0.79 J	0.53 J	0.85 J	0.14 J	0.19 JB	0.16 J	3	0.67 J

Table 1b
GRO

Location ID	Depth	Sample Date	1,4-Dichlorobutane (FID)	1-Chloro-2-Fluorobenzene (FID)	1-Chloro-2-Fluorobenzene (PID)	2,5-Dibromotoluene (FID)	2,5-Dibromotoluene (PID)	2-Bromo-1-Chloropropane (FID)	Gasoline Range Organics (C5-C12)
			%	%	%	%	%	%	ug/Kg
S-261D	23	12/18/2007	168	190	146	83.8	102	129	71501.9 BJ
S-261D	29	12/18/2007	231	285	162	44.2	54	146	184501.9 BJ
S-261D	34.5	12/18/2007	105	119	87.2	56.5	61.4	91.8	72501.9 BJ
S-261D	41	12/18/2007	143	110	116	81.4	84.9	123	501.9 BJ
S-261D	43	12/18/2007	130	94.3	97.9	63.9	67.1	108	UJ
S-261D	49	12/18/2007	143	149	113	79.1	85.3	109	48501.9 BJ
S-261D	55	12/18/2007	142	109	113	84.8	89.7	122	UJ
S-261D	59	12/19/2007	218	278	160	84.2	80.1	134	377501.9 BJ
S-261D	65	12/19/2007	153	114	117	78.3	83.7	129	UJ
S-262D	6	12/12/2007	169	250	136	57.1	64.4	223	497501.9 BHJ
S-262D	11.835	12/12/2007	202	313	189	88.4	102	237	216501.9 BHJ
S-262D	16.25	12/12/2007	169	177	145	86.7	103	122	41501.9 BHJ
S-262D	28	12/12/2007	57.5	218	89.4	15.6	15.7	126	3688501.9 BHJ
S-262D	32	12/12/2007	163	263	166	92.5	107	136	99501.9 BHJ
S-262D	33.5	12/12/2007	138	136	123	90.3	103	123	21201.9 BHJ
S-262D	46.5	12/12/2007	133	102	109	30.1	32.3	114	2501.9 BHJ
S-262D	54	12/13/2007	116	84.8	92.5	54.6	60.9	75.9	UHJ
S-263D	25	12/13/2007	46.7	142	61.8	0	0	107	2408501.9 BHJ
S-263D	31	12/13/2007	280	162	114	0	0	254	3098501.9 BHJ
S-263D	33	12/14/2007	320	367	160	0	0	321	1788501.9 BJ
S-263D	39	12/14/2007	138	112	107	86	95.5	112	21202 BJ
S-263D	43	12/14/2007	149	110	110	86.5	91	124	502 BJ
S-263D	45	12/14/2007	144	107	111	72.1	79.9	115	UHJ
S-263D	49	12/14/2007	142	108	109	76.8	78.9	120	UJ
S-263D	53	12/14/2007	137	107	104	91.9	104	110	11402 BJ
S-263D	58.75	12/14/2007	160	189	125	62.2	65.4	133	189502 BJ
S-263D	63	12/14/2007	154	120	109	79.2	88	132	28902 BHJ
S-264D	19	12/19/2007	160	124	127	118	127	133	UJ
S-264D	29	12/19/2007	163	236	159	82.5	94.4	149	106501.9 BJ
S-264D	33	12/19/2007	268	407	209	0	0	285	498501.9 BJ
S-264D	39	12/19/2007	317	659	250	0	0	412	1388501.9 BJ
S-264D	49	12/19/2007	142	127	114	77.3	80.9	121	28101.9 BJ
S-264D	53	12/19/2007	148	108	110	75.1	78.7	122	UJ
S-264D	57	12/19/2007	164	180	136	99	108	133	49501.9 BJ
S-264D	61	12/19/2007	154	144	134	111	126	138	13901.9 BJ

Table 1b
8270M-Biomarkers

Location ID	Depth	Sample Date	13a,17b-20S-EDCH	13b(H),17a(H)-20R-DCH	13b(H),17a(H)-20S-DCH	13b,17a-20R-EDCH	13b,17a-20S-MDCH	14a(H),17a(H)-20R-CH	14a(H),17a(H)-20R-ECH	14a(H),17a(H)-20S-CH	14a(H),17a(H)-20S-ECH	14a,17a-20R-MCH	14a,17a-20S-MCH	14b(H),17b(H)-20R-CH	14b(H),17b(H)-20R-ECH	14b(H),17b(H)-20S-CH	14b(H),17b(H)-20S-ECH	14b,17b-20R-MCH	14b,17b-20S-MCH
			ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
S-261D	29	12/18/2007	0.52 J	6.8	12	3.7	4.6	22	9.5	7	8.2	8.2	3.9	12	16	12	11	11	13
S-261D	34.5	12/18/2007	< 0.77	4.9	8.4	2.4	3.5	14	6.3	4.4	5.4	5.3	2.1	8.1	10	8	6.9	7.4	8.7
S-262D	28	12/12/2007	0.24 J	1.8	3.1	0.91 J	1.4	5.5	2.8	1.5	2.1	3.4	1.1	3	4.1	3.3	2.6	2.8	3.4
S-263D	6	12/13/2007	< 1.3	5.9	11	2.7	4.7	18	6.2	6	8.4	5.3	2.2	14	16	13	9.6	7.4	11
S-263D	25	12/13/2007	< 0.98	3.3	5.1	1.7	2.6	8.3	3	2.5	2.8	2.8	1	4	5.4	4.1	3.6	3.8	4.6
S-263D	31	12/13/2007	1.4	22	39	9.9	17	55	26	15	18	24	8	30	42	29	24	32	33
S-263D	33	12/14/2007	0.86 J	9.1	16	4	8.5	23	10	9.1	7.2	8.9	3.2	12	17	12	8.8	11	13
S-264D	29	12/19/2007	3.5	41	76	21	36	120	58	45	44	53	17	63	92	60	49	54	69
S-264D	39	12/19/2007	1.4	17	29	9.2	15	52	24	17	18	21	6.4	25	35	25	34	22	29

Location ID	Depth	Sample Date	17a(H),21b(H)-25-NH	17a(H)-22,29,30-TriSNO-TM	17a(H)-DH	17a/b,21b/a 28,30-BiSNO	18a(H)&18b(H)-Oleananes	18a(H)-30-NNH-C29Ts	18a-22,29,30-TriSN-TS	30,31-BiSH-22R	30,31-BiSH-22S	30,31-TriSH-22R	30,31-TriSH-22S	30-HH-22R	30-HH-22S	30-NH	30-Normoretane	5B(H)Cholane	C23-TRITER	C24 Tetracyclic Terpane	C24-TRITER
			ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	%	ug/Kg	ug/Kg	ug/Kg
S-261D	29	12/18/2007	2	6.5	1.9	< 0.72	1.9	5.1	7.5	3.3	5	1.6	3	6.7	7.1	16	2.8	107	6.8	2.3	4.3
S-261D	34.5	12/18/2007	1.2	4.7	1.2	< 0.77	1.9	3.5	5.5	2.5	3.9	< 0.77	2	5	5.4	11	2.9	104	6.6	1.9	3.6
S-262D	28	12/12/2007	< 1	3.5	0.72 J	< 1	1.7	2.3	2.5	3.1	2.9	< 1	3	3.2	3.8	8.3	1.9	94 E	3.8	1	2.1
S-263D	6	12/13/2007	1.5	9	1.6	1.7	4	3.9	5.6	3.3	14 G	< 1.3	2.6	5.8	6.8	17	2.5	93	120	9.6	54
S-263D	25	12/13/2007	< 0.98	3.7	1.4	< 0.98	1.7	2.6	3.8	2.4	3.4	< 0.98	2.2	4.6	5.5	10	< 0.98	98	8.6	1.6	4.1
S-263D	31	12/13/2007	5.2	34	7.6	8.2	14	28	34	22	29	12	18	40	47	93	19	100	43	12	22
S-263D	33	12/14/2007	1.9	16	3.8	2.6	6.9	12	15	9.8	12	5.2	7.9	17	20	42	9	102	23	5.8	11
S-264D	29	12/19/2007	10	58	15	13	26	46	63	42	58	26	36	79	87	180	33	99	68	20	38
S-264D	39	12/19/2007	4.8	25	6.7	5.3	8.9	20	26	18	24	11	16	34	37	72	14	109	29	9	15

Table 1b
8270M-Biomarkers

Location ID	Depth	C25-TRITER	C26-TRITER-22R	C26-TRITER-22S	C28-TRITER-22R	C28-TRITER-22S	C29-TRITER-22R	C29-TRITER-22S	C30-TRITER-22R	C30-TRITER-22S	Hopane	Moretane	PentaKH-22R	PentaKH-22S	TetraKH-22R	TetraKH-22S
		ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
S-261D	29	5	2.2	2.6	3.7	3.3	4	3.4	2.8	2.3	27	3.4	< 0.72	< 0.72	< 0.72	1.9
S-261D	34.5	4	1.6	1.6	2.4	1.9	2.3	2.5	2.7	1.5	20	2.6	< 0.77	< 0.77	< 0.77	< 0.77
S-262D	28	2.2	0.93 J	0.6 J	0.94 J	1.1	1.3	1.1	0.56 J	0.53 J	13	2.2	< 1	< 1	< 1	< 1
S-263D	6	28	11	11	5.3	6.1	4.4	4.8	2.5	2	23	3.2	< 1.3	< 1.3	< 1.3	< 1.3
S-263D	25	3.5	1.3	1.6	1.3	1.2	1.4	1.6	1.1	< 0.98	17	2.3	< 0.98	< 0.98	< 0.98	< 0.98
S-263D	31	20	8	7.8	8.9	8.5	9	9.8	8.8	6	160	19	6.5	9.6	8.4	12
S-263D	33	8.2	3.6	3.4	3	3.5	3.4	5.1	3.4	1.7	71	9.3	< 1.1	4.3	3.9	5.1
S-264D	29	36	14	14	18	17	20	19	15	10	300	37	18	20	14	22
S-264D	39	15	6	6.1	7.2	7	8.3	7.9	6.6	5.8	130	15	6.8	7.5	7.3	8.6

Table 1c
8015M

Location ID	Depth	Sample Date	2,6,10 Trimethyltridecane (1470)	2,6,10-trimethyl-dodecane	D50 (n-Tetracosane-d50)	N-DECANE	n-Docosane (C22)	N-DODECANE	n-Dotriacontane (C32)	n-Eicosane (C20)	n-Heneicosane (C21)	n-Hentriacontane (C31)	n-Heptacosane (C27)	n-Heptadecane (C17)
			mg/Kg	mg/Kg	%	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
S-261D	15	12/18/2007	< 0.099	0.0022 J	68	0.0053 JB	0.002 JB	< 0.099	0.00089 JB	0.0011 J	0.00079 J	< 0.099	0.0013 JB	0.002 JB
S-261D	16.75	12/18/2007	< 0.089	< 0.089	67	0.0053 JB	0.0044 JB	0.0018 JB	0.0071 JB	0.0027 J	< 0.089	0.008 JB	0.0062 JB	0.00089 JB
S-261D	19	12/18/2007	< 0.1	< 0.1	67	0.0081 JB	0.0081 JB	0.002 JB	0.013 J	0.002 J	0.004 J	0.061 J	0.28	< 0.1
S-261D	21.5	12/18/2007	0.014 J	0.0065 J	69	0.0065 JB	0.012 JB	0.016 J	0.0046 JB	0.02 J	0.014 J	0.0055 JB	0.0055 JB	0.029 J
S-261D	23	12/18/2007	0.42	0.28 J	72	0.071 J	0.18 J	0.95	0.0084 JB	0.36 J	0.24 J	0.013 J	0.025 J	0.7
S-261D	25	12/18/2007	16	16	76	< 0.36	< 0.36	2.3	0.093 J	0.2 J	0.021 J	< 0.36	< 0.36	0.28 J
S-261D	27	12/18/2007	4.1	4.2	82	< 0.27	< 0.27	0.59	0.032 J	< 0.27	< 0.27	< 0.27	< 0.27	0.099 J
S-261D	29	12/18/2007	4.3	4	74	0.28 J	< 0.29	0.35	0.044 J	< 0.29	< 0.29	< 0.29	< 0.29	0.13 J
S-261D	31	12/18/2007	2.8	2.6	75	0.19 J	< 0.24	0.27	0.036 J	0.033 J	< 0.24	< 0.24	< 0.24	0.052 J
S-261D	33	12/18/2007	5.9	5.2	73	0.26 J	< 0.3	0.55	0.05 J	0.091 J	< 0.3	< 0.3	< 0.3	0.13 J
S-261D	34.5	12/18/2007	5.8	1.8	78	7.2	< 0.31	3.8	0.044 J	0.16 J	0.017 J	0.017 J	0.015 J	0.49
S-261D	36.25	12/18/2007	7.7	6.5	72	0.46	< 0.35	0.78	0.049 J	0.12 J	< 0.35	< 0.35	< 0.35	0.17 J
S-261D	38.5	12/18/2007	4.8	0.55	77	0.64	< 0.11	0.58	0.034 J	0.093 J	0.012 J	< 0.11	< 0.11	0.16
S-261D	41	12/18/2007	0.021 J	0.0013 J	75	0.0073 JB	< 0.091	0.0018 JB	0.003 JB	0.0031 JB	0.0031 JB	0.0078 JB	0.0064 JB	0.0027 JB
S-261D	43	12/18/2007	0.028 J	0.0024 J	76	0.0081 JB	< 0.094	0.0046 J	0.0031 JB	0.0026 JB	0.0015 JB	0.0031 JB	0.0042 JB	0.0028 JB
S-261D	45	12/18/2007	0.053 J	0.0011 J	83	0.0089 JB	< 0.097	0.0038 J	0.0023 JB	0.0024 JB	0.0013 JB	0.0024 JB	0.003 JB	0.0031 JB
S-261D	47	12/18/2007	0.081 J	0.0023 J	79	0.011 JB	< 0.092	0.011 J	0.0026 JB	0.0043 J	0.0021 JB	0.004 JB	0.0039 JB	0.0052 J
S-261D	49	12/18/2007	0.38	0.016 J	79	0.042 J	< 0.12	0.07 J	0.0081 J	0.013 J	0.007 J	0.0055 JB	0.0062 JB	0.022 J
S-261D	51	12/18/2007	0.085 J	0.0026 J	83	0.015 JB	< 0.1	0.015 J	0.0055 J	0.0049 J	0.0036 JB	0.0044 JB	0.0048 JB	0.0061 J
S-261D	53	12/18/2007	0.18	0.0062 J	83	0.023 JB	< 0.095	0.036 J	0.0044 JB	0.0071 J	0.0036 JB	0.0039 JB	0.0044 JB	0.0098 J
S-261D	55	12/18/2007	0.025 J	0.0011 J	81	0.0069 JB	< 0.09	0.002 JB	0.003 JB	0.0017 JB	0.0017 JB	0.0028 JB	0.0048 JB	0.0022 JB
S-261D	57	12/18/2007	0.054 J	0.0015 J	74	0.0061 JB	< 0.085	0.003 J	0.0043 JB	0.003 JB	0.0019 JB	0.005 JB	0.0056 JB	0.0036 JB
S-261D	59	12/19/2007	2.5	2.2	93	0.18 J	0.025 JB	0.29	0.029 JB	0.076 JB	0.012 J	0.0099 JB	0.015 JB	0.12 J
S-261D	61.75	12/19/2007	0.43	0.35	89	0.033 JB	0.0069 JB	0.037 J	0.0097 JB	0.021 JB	0.0062 J	0.0065 JB	0.0073 JB	0.022 JB
S-261D	63	12/19/2007	0.019 J	0.013 J	84	0.0067 JB	0.0066 JB	0.0021 J	0.0054 JB	0.012 JB	0.0076 J	0.0062 JB	0.0097 JB	0.013 JB
S-261D	64.5	12/19/2007	0.29	0.22	84	0.018 JB	0.014 JB	0.017 J	0.01 JB	0.018 JB	0.011 J	0.0072 JB	0.011 JB	0.024 JB
S-262D	6	12/12/2007	0.057 J	0.066 J	94	0.36 J	0.027 J	0.47	0.013 JB	0.011 J	0.0087 JB	0.019 JB	0.019 JB	0.0073 J
S-262D	11.835	12/12/2007	0.095 J	0.11 J	96	0.34 J	0.028 J	0.82	0.0074 JB	0.019 J	0.018 J	0.011 JB	0.0082 JB	0.018 J
S-262D	16.25	12/12/2007	0.62	0.55	95	2.1	0.052 J	5.2	0.024 J	0.063 J	0.036 J	0.028 J	0.013 JB	0.024 J
S-262D	18	12/12/2007	0.98	0.92	97	12	0.25 J	6.4	0.028 J	0.075 J	0.045 J	< 0.44	< 0.44	0.03 J
S-262D	20	12/12/2007	0.78	0.73	94	0.95	0.032 J	1.6	0.023 J	0.049 J	0.022 J	< 0.36	< 0.36	0.015 J
S-262D	22	12/12/2007	0.39 J	0.37 J	95	0.29 J	0.028 J	0.45	0.016 JB	0.02 J	0.0072 JB	< 0.42	0.0046 JB	0.0089 J
S-262D	26	12/12/2007	0.11 J	0.087 J	95	0.1 J	< 0.43	0.054 J	0.003 JB	0.0051 JB	0.0068 JB	< 0.43	0.0021 JB	0.0051 J
S-262D	28	12/12/2007	2.9	2.8	88	2.5	0.068 J	1.3	0.022 J	0.084 J	0.015 J	< 0.4	< 0.4	0.05 J
S-262D	30	12/12/2007	0.011 J	0.0095 J	96	0.04 JB	0.025 J	0.0091 J	0.0033 JB	0.0021 JB	0.0045 JB	< 0.41	0.0025 JB	0.0012 JB
S-262D	32	12/12/2007	0.02 J	0.017 J	98	0.057 JB	0.026 J	0.03 J	0.0024 JB	0.0032 JB	0.002 JB	0.0032 JB	0.002 JB	0.0016 JB

Location ID	Depth	Sample Date	n-Heptatriacontane (C37)	n-Hexacosane (C26)	N-HEXADECANE	n-Hexatriacontane (C36)	n-Nonacosane (C29)	n-Nonadecane (C19)	n-nonatriacontane (C39)	n-Octacosane (C28)	n-Octadecane (C18)	n-Octatriacontane (C38)	NONANE	Norpristane (1650)	n-Pentacosane (C25)	n-Pentatriacontane (C35)	n-Tetracontane (C40)
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
S-261D	15	12/18/2007	< 0.099	0.0028 JB	0.0018 JB	0.0025 J	< 0.099	0.0012 J	< 0.099	< 0.099	0.00099 JB	< 0.099	0.01 JB	0.0017 JB	0.047 JB	< 0.099	< 0.099
S-261D	16.75	12/18/2007	0.0018 J	0.0062 JB	0.00089 JB	0.0044 J	0.0098 JB	< 0.089	< 0.089	0.012 JB	0.0018 JB	< 0.089	0.0018 JB	0.0027 JB	0.04 JB	0.0018 J	< 0.089
S-261D	19	12/18/2007	0.01 J	0.026 J	0.001 JB	0.034 J	0.14	0.001 J	0.003 J	0.053 JB	0.001 JB	< 0.1	0.0051 JB	< 0.1	0.12 B	0.004 J	0.002 J
S-261D	21.5	12/18/2007	< 0.092	0.0046 JB	0.032 J	0.0018 J	0.0074 JB	0.024 J	< 0.092	0.014 JB	0.023 J	< 0.092	0.00092 JB	0.015 J	0.044 JB	< 0.092	< 0.092
S-261D	23	12/18/2007	< 0.42	0.034 J	0.87	0.0084 J	0.017 J	0.48	< 0.42	0.017 JB	0.54	< 0.42	0.0084 JB	0.34 J	0.22 JB	0.0042 J	< 0.42
S-261D	25	12/18/2007	< 0.36	0.075 J	1.5	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	0.39	11	0.26 J	< 0.36	< 0.36
S-261D	27	12/18/2007	< 0.27	0.038 J	0.47	0.0054 J	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	0.2 J	2.8	0.16 JB	< 0.27	< 0.27
S-261D	29	12/18/2007	< 0.29	0.05 J	0.52	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29	0.092 J	3.5	0.18 JB	< 0.29	< 0.29
S-261D	31	12/18/2007	< 0.24	0.037 J	0.26	0.0084 J	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	0.074 J	1.8	0.15 JB	< 0.24	< 0.24
S-261D	33	12/18/2007	< 0.3	0.049 J	0.61	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	0.058 J	4.6	0.2 JB	< 0.3	< 0.3
S-261D	34.5	12/18/2007	0.0046 J	0.027 J	1.2	0.022 J	< 0.31	0.3 J	< 0.31	0.019 J	0.19 J	< 0.31	4.4	4.1	0.18 JB	0.0092 J	< 0.31
S-261D	36.25	12/18/2007	< 0.35	0.053 J	0.83	0.018 J	< 0.35	0.32 J	< 0.35	< 0.35	< 0.35	< 0.35	0.17 J	5.9	0.22 JB	< 0.35	< 0.35
S-261D	38.5	12/18/2007	< 0.11	< 0.11	0.34	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	0.48	3.7	0.087 JB	< 0.11	< 0.11
S-261D	41	12/18/2007	< 0.091	0.0037 JB	0.0044 J	0.0033 JB	0.0098 J	0.003 JB	< 0.091	0.0047 JB	0.0023 JB	< 0.091	0.0034 JB	0.023 J	0.046 JB	0.002 JB	< 0.091
S-261D	43	12/18/2007	< 0.094	0.0047 JB	0.0048 J	0.0063 JB	0.0039 JB	0.0026 JB	< 0.094	0.0066 JB	0.0018 JB	< 0.094	0.0038 JB	0.024 J	0.049 JB	0.0019 JB	< 0.094
S-261D	45	12/18/2007	< 0.097	0.0024 JB	0.0062 J	0.0035 JB	0.0034 JB	0.0032 JB	< 0.097	0.0038 JB	0.0013 JB	< 0.097	0.0039 JB	0.045 J	0.05 JB	0.0017 JB	< 0.097
S-261D	47	12/18/2007	< 0.092	0.0031 JB	0.0094 J	0.0042 JB	0.005 JB	0.0057 J	< 0.092	0.0043 JB	0.0022 JB	< 0.092	0.0042 JB	0.072 J	0.047 JB	0.00083 JB	< 0.092
S-261D	49	12/18/2007	< 0.12	0.0059 JB	0.037 J	0.0051 JB	0.01 J	0.02 J	< 0.12	0.0095 JB	0.0076 J	< 0.12	0.011 JB	0.31	0.067 JB	0.0036 JB	< 0.12
S-261D	51	12/18/2007	0.00084 JB	0.0044 JB	0.0087 J	0.0028 JB	0.0055 JB	0.0078 J	< 0.1	0.0055 JB	0.0036 J	< 0.1	0.0069 JB	0.073 J	0.054 JB	0.0025 JB	< 0.1
S-261D	53	12/18/2007	< 0.095	0.0041 JB	0.018 J	0.0051 JB	0.0056 JB	0.01 J	< 0.095	0.0048 JB	0.0042 J	< 0.095	0.0083 JB	0.15	0.049 JB	0.0028 JB	< 0.095
S-261D	55	12/18/2007	< 0.09	0.0042 JB	0.0037 J	0.0025 JB	0.0048 JB	0.0014 JB	< 0.09	0.0096 JB	0.0011 JB	< 0.09	0.0032 JB	0.025 J	0.051 JB	< 0.09	< 0.09
S-261D	57	12/18/2007	0.00076 JB	0.0053 JB	0.0064 J	0.0025 JB	0.006 JB	0.0036 JB	< 0.085	0.006 JB	0.0014 JB	< 0.085	0.0027 JB	0.055 J	0.045 JB	0.0019 JB	< 0.085
S-261D	59	12/19/2007	< 0.22	0.028 JB	0.4	0.0086 JB	0.016 JB	0.047 JB	< 0.22	0.032 JB	0.055 JB	< 0.22	0.048 J	2.1	0.11 JB	< 0.22	< 0.22
S-261D	61.75	12/19/2007	0.0012 JB	0.0096 JB	0.076 J	0.0029 JB	0.0081 JB	0.016 JB	< 0.09	0.024 JB	0.013 JB	0.0014 JB	0.0084 JB	0.39	0.035 JB	0.0033 JB	< 0.09
S-261D	63	12/19/2007	0.0021 JB	0.011 JB	0.014 JB	0.0024 JB	0.009 JB	0.01 JB	< 0.093	0.11	0.011 JB	0.0013 JB	0.002 JB	0.025 JB	0.015 JB	0.0025 JB	< 0.093
S-261D	64.5	12/19/2007	0.0015 JB	0.013 JB	0.051 J	0.0036 JB	0.01 JB	0.02 JB	< 0.11	0.018 JB	0.019 JB	0.0012 JB	0.0046 JB	0.29	0.031 JB	0.0039 JB	< 0.11
S-262D	6	12/12/2007	0.0064 J	0.017 JB	0.031 J	0.03 J	0.02 JB	0.0087 J	< 0.46	0.067 JB	0.0087 J	0.0077 J	0.12 J	0.041 J	0.24 JB	0.013 JB	< 0.46
S-262D	11.835	12/12/2007	< 0.43	0.0069 JB	0.055 J	0.013 JB	0.015 JB	0.021 J	< 0.43	0.039 JB	0.017 J	< 0.43	0.46	0.076 J	0.22 JB	< 0.43	< 0.43
S-262D	16.25	12/12/2007	0.0054 J	0.016 JB	0.17 J	0.016 JB	0.01 JB	0.069 J	< 0.39	0.24 J	0.013 J	< 0.39	0.86	0.5	0.24 JB	0.011 JB	< 0.39
S-262D	18	12/12/2007	< 0.44	0.013 JB	0.18 J	0.0097 JB	0.0075 JB	0.077 J	< 0.44	0.021 JB	0.019 J	< 0.44	17	0.78	0.24 JB	< 0.44	< 0.44
S-262D	20	12/12/2007	< 0.36	< 0.36	0.19 J	0.0057 JB	0.0036 JB	0.071 J	< 0.36	0.017 JB	0.014 J	< 0.36	0.93	0.62	0.2 JB	< 0.36	< 0.36
S-262D	22	12/12/2007	< 0.42	0.0055 JB	0.067 J	0.0089 JB	< 0.42	0.029 J	< 0.42	0.0072 JB	0.0046 J	< 0.42	0.38 J	0.31 J	0.22 JB	< 0.42	< 0.42
S-262D	26	12/12/2007	< 0.43	0.0021 JB	0.017 J	0.0055 JB	< 0.43	0.014 J	< 0.43	< 0.43	0.011 J	< 0.43	0.089 J	0.087 J	0.21 JB	< 0.43	< 0.43
S-262D	28	12/12/2007	< 0.4	0.019 JB	0.33 J	0.0085 JB	0.0028 JB	0.099 J	< 0.4	0.028 JB	0.024 J	< 0.4	1.7	1.7	0.22 JB	< 0.4	< 0.4
S-262D	30	12/12/2007	< 0.41	0.0029 JB	0.005 J	0.01 JB	0.0025 JB	0.0029 J	< 0.41	< 0.41	0.005 J	< 0.41	0.024 JB	0.014 J	0.2 JB	< 0.41	< 0.41
S-262D	32	12/12/2007	< 0.41	0.0016 JB	0.0037 JB	< 0.41	0.0024 JB	0.0032 J	< 0.41	< 0.41	0.002 JB	< 0.41	0.049 J	0.019 J	0.2 JB	< 0.41	< 0.41

Table 1c
8015M

Location ID	Depth	Sample Date	2,6,10 Trimethyltridecane (1470)	2,6,10-trimethyl-dodecane	D50 (n-Tetracosane-d50)	N-DECANE	n-Docosane (C22)	N-DODECANE	n-Dotriacontane (C32)	n-Eicosane (C20)	n-Heneicosane (C21)	n-Hentriacontane (C31)	n-Heptacosane (C27)	n-Heptadecane (C17)	n-Heptatriacontane (C37)	n-Hexacosane (C26)	N-HEXADECANE	n-Hexatriacontane (C36)	n-Nonacosane (C29)	n-Nonadecane (C19)	n-nonatriacontane (C39)	n-Octacosane (C28)	n-Octadecane (C18)	n-Octatriacontane (C38)	NONANE	Norpristane (1650)	n-Pentacosane (C25)	n-Pentatriacontane (C35)	n-Tetracontane (C40)
			mg/Kg	mg/Kg	%	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
S-262D	33.5	12/12/2007	0.0053 J	0.005 J	90	0.044 JB	0.004 JB	0.014 J	0.0016 JB	0.002 JB	0.0017 JB	0.003 JB	0.0027 JB	0.00058 JB	0.0016 J	0.0016 JB	0.0022 JB	0.0037 JB	0.0035 JB	0.0015 J	< 0.12	0.0042 JB	0.00092 JB	< 0.12	0.046 J	0.0057 J	0.057 JB	0.0023 JB	< 0.12
S-262D	34.5	12/12/2007	0.0017 J	0.0013 J	91	0.0095 JB	0.033 J	< 0.1	0.034 J	0.0047 JB	0.03 J	0.57	2.1	0.0056 J	0.018 J	0.097 J	0.0022 JB	0.04 J	0.7	0.007 J	0.019 J	0.11	0.0019 JB	0.011 J	0.0056 JB	0.0016 J	0.32 B	0.22	< 0.1
S-262D	35.25	12/12/2007	0.0079 J	0.0066 J	89	0.061 JB	0.025 J	0.023 J	0.023 J	0.0044 JB	0.023 J	0.38	1.5	0.0046 J	< 0.09	0.079 J	0.0031 JB	0.024 J	0.51	0.0061 J	0.02 J	0.068 JB	0.0014 JB	< 0.09	0.067 J	0.0068 J	0.29 B	0.19	< 0.09
S-262D	40	12/14/2007	0.015 J	0.011 J	89	0.029 JB	0.27 J	0.012 J	0.22 J	0.029 J	0.19 J	3.2	12	0.038 J	0.093 J	0.91	0.011 J	0.21 J	4.4	0.037 J	0.1 J	0.7	0.0072 J	< 0.29	0.021 J	0.023 J	1.7	1	0.03 J
S-262D	46.5	12/12/2007	0.0065 J	0.0033 J	91	0.019 JB	0.22	0.0044 JB	0.21	0.031 J	0.19	3	12	0.043 J	0.13 J	0.77	0.0081 J	0.19 J	4.1	0.04 J	0.089 J	0.56	0.0094 J	< 0.19	0.0073 JB	0.0075 J	1.6	2.4	< 0.19
S-262D	48	12/13/2007	0.029 J	0.029 J	88	0.12 J	0.15	0.079 J	0.16	0.025 J	0.14 J	2.1	8.7	0.035 J	0.076 J	0.7	0.0099 J	0.16	3.1	0.038 J	0.082 J	0.46	0.0091 J	< 0.14	0.11 J	0.035 J	1	0.99	< 0.14
S-262D	50	12/13/2007	0.0039 J	0.0066 J	89	0.016 JB	0.092 J	0.0027 J	0.1 J	0.012 J	0.1 J	1.3	6.4	0.028 J	< 0.14	0.48	0.005 J	0.11 J	2	0.034 J	0.065 J	0.28	0.005 J	< 0.14	0.0054 JB	0.0053 J	0.8	0.55	< 0.14
S-262D	52	12/13/2007	0.0071 J	0.011 J	92	0.079 J	0.34	0.12 J	0.18	0.2	0.18	2.4	11	0.034 J	0.076 J	1	0.16	0.39	3.8	0.21	0.1 J	0.85	0.17	0.061 J	0.033 J	0.0099 J	1.3	1.1	< 0.14
S-262D	54	12/13/2007	0.0032 J	0.0055 J	88	0.0099 JB	0.086 J	0.0023 J	0.1 J	0.012 J	0.085 J	1.3	5.9	0.022 J	0.07 J	0.45	0.0047 J	0.1	1.9	0.025 J	0.055 J	0.33	0.0049 J	< 0.1	0.0029 JB	0.005 J	0.71	0.44	< 0.1
S-262D	56	12/13/2007	0.0033 J	0.0047 J	86	0.0093 JB	0.061 J	0.002 J	0.081 J	0.0071 J	0.064 J	1.1	6	0.016 J	0.057 J	0.4	0.0042 JB	0.07 J	1.5	0.016 J	0.045 J	0.23	0.0036 J	< 0.1	0.0022 JB	0.0038 J	0.6	0.49	< 0.1
S-262D	58	12/13/2007	0.00077 J	< 0.11	86	0.0084 JB	0.0041 JB	0.0012 J	0.0054 J	0.0014 JB	0.0033 JB	0.047 J	0.14	0.002 JB	< 0.11	0.011 J	0.0013 JB	0.0057 J	0.06 J	0.0024 J	< 0.11	0.013 J	0.0012 JB	< 0.11	0.0021 JB	0.0045 J	0.084 JB	0.017 J	< 0.11
S-262D	62	12/13/2007	0.00055 J	0.001 J	89	0.0072 JB	0.0025 JB	0.001 J	< 0.092	0.0021 JB	0.0015 JB	< 0.092	0.011 J	0.0015 JB	< 0.092	0.0017 JB	0.0012 JB	< 0.092	0.0056 J	0.0019 JB	< 0.092	0.0057 J	0.0015 JB	< 0.092	0.0013 JB	0.0026 J	0.05 JB	< 0.092	< 0.092
S-262D	64	12/13/2007	0.00079 J	< 0.087	88	0.0072 JB	0.0019 JB	0.00096 J	< 0.087	0.0013 JB	0.0013 JB	0.0048 J	0.013 J	0.001 JB	< 0.087	0.0017 JB	0.00087 JB	< 0.087	0.0059 J	0.0014 JB	< 0.087	0.0019 JB	0.00087 JB	< 0.087	0.0016 JB	0.0038 J	0.047 JB	< 0.087	< 0.087
S-263D	6	12/13/2007	15	10	80	4.8	4.4	5.9	0.15 J	5.2	4.9	< 0.51	< 0.51	3.2	< 0.51	< 0.51	12	< 0.51	0.38 J	7.7	0.015 J	< 0.51	2.6	< 0.51	3	13	< 0.51	< 0.51	< 0.51
S-263D	11	12/13/2007	16	11	80	< 0.51	< 0.51	4.5	< 0.51	2.4	< 0.51	< 0.51	< 0.51	3.4	< 0.51	< 0.51	< 0.51	< 0.51	0.75	6.8	< 0.51	< 0.51	2.8	< 0.51	0.48 J	13	< 0.51	0.32 J	< 0.51
S-263D	17	12/14/2007	19	8.6	72	0.58	1.6	2.2	0.022 J	4.4	1.8	< 0.43	< 0.43	31	< 0.43	< 0.43	12	< 0.43	0.028 J	3.9	< 0.43	< 0.43	1.8	< 0.43	0.38 J	20	0.33 J	< 0.43	< 0.43
S-263D	19	12/13/2007	9.4	6	78	< 0.3	< 0.3	0.94	< 0.3	1.7	< 0.3	< 0.3	< 0.3	0.51	< 0.3	< 0.3	< 0.3	< 0.3	0.016 J	0.83	< 0.3	< 0.3	< 0.3	< 0.3	0.18 J	8.2	0.18 JB	< 0.3	< 0.3
S-263D	21	12/13/2007	5.6	3.7	84	0.22 J	< 0.36	< 0.36	0.0061 J	1.2	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	0.78	0.0057 J	< 0.36	< 0.36	< 0.36	0.11 J	5.2	0.23 JB	< 0.36	< 0.36
S-263D	23	12/13/2007	3	2.3	85	0.35	< 0.26	1	0.0066 J	0.2 J	< 0.26	0.0042 J	0.004 JB	< 0.26	< 0.26	0.0079 J	< 0.26	< 0.26	0.0032 JB	0.093 J	< 0.26	< 0.26	< 0.26	< 0.26	0.36	2	0.14 JB	< 0.26	< 0.26
S-263D	25	12/13/2007	12	8.9	85	10	0.15 J	9.2	0.024 J	0.19 J	< 0.39	0.028 J	0.027 J	0.23 J	0.0082 J	0.047 J	0.45	0.016 J	0.024 J	< 0.39	< 0.39	0.037 J	< 0.39	0.0082 J	12	6.5	0.26 JB	0.017 J	< 0.39
S-263D	27	12/13/2007	3	2.2	85	7.7	0.14 J	4.6	< 0.29	0.18 J	0.25 J	0.005 J	0.0073 J	0.099 J	< 0.29	0.013 J	< 0.29	0.0096 J	0.005 J	0.21 J	< 0.29	< 0.29	0.064 J	< 0.29	7.6	2.2	0.17 JB	< 0.29	< 0.29
S-263D	29	12/13/2007	0.98	0.69	88	1.6	0.062 J	2	< 0.48	0.16 J	0.084 J	0.016 J	0.019 J	0.52	< 0.48	0.017 J	0.96	< 0.48	0.016 J	0.27 J	< 0.48	0.06 J	0.29 J	< 0.48	0.99	0.62	0.28 J	0.0086 J	< 0.48
S-263D	31	12/13/2007	48	18	83	140 D	1.9	130 D	0.23 J	6.5	3.2	0.29 J	0.43 J	37	0.07 J	0.5	65	0.09 J	0.33 J	12	0.038 J	0.28 J	18	0.059 J	140 D	24	0.88	0.18 J	0.036 J
S-263D	33	12/14/2007	16	12	91	41	0.97	39	0.18 J	2.5	1.2	0.1 J	0.16 J	11	0.023 J	0.2 J	19	0.041 J	0.1 J	4.6	0.01 J	0.099 J	5.6	0.026 J	27	9.1	0.47	0.08 J	0.013 J
S-263D	35	12/14/2007	7.4	5	90	9.7	0.26 J	13	0.07 J	1	0.53	0.064 J	0.074 J	3.8	0.01 J	0.087 J	7.4	0.024 J	0.07 J	1.8	< 0.38	0.087 JB	1.8	< 0.38	5.2	4.4	0.39	0.031 J	< 0.38
S-263D	37	12/14/2007	1.8	1.2	84	0.75	0.18 J	1.5	0.011 J	0.44 J	0.27 J	0.0095 JB	0.014 JB	0.62	< 0.45	0.019 J	1.6	0.0055 JB	0.01 JB	0.4 J	< 0.45	0.02 JB	0.28 J	< 0.45	0.43 J	1.6	0.25 JB	0.0055 J	< 0.45
S-263D	39	12/14/2007	0.35 J	0.17 J	87	0.084 J	0.052 J	0.14 J	0.0043 JB	0.084 J	0.058 J	0.0039 JB	0.0052 JB	0.14 J	< 0.43	0.0069 JB	0.34 J	0.0091 JB	0.0056 JB	0.098 J	< 0.43	< 0.43	0.066 J	< 0.43	0.044 J	0.29 J	0.22 JB	< 0.43	< 0.43
S-263D	41	12/14/2007	0.032 J	0.014 J	86	0.015 JB	0.0082 JB	0.0094 J	0.0018 JB	0.016 J	0.01 JB	0.0025 JB	0.0028 JB	0.014 J	< 0.12	0.0029 JB	0.032 J	0.0039 JB	0.0027 JB	0.012 J	< 0.12	0.011 JB	0.0079 J	< 0.12	0.0062 JB	0.039 J	0.062 JB	0.00094 JB	< 0.12
S-263D	43	12/14/2007	0.016 J	0.0068 J	94	0.012 JB	0.0057 JB	0.0051 J	0.0016 JB	0.0094 J	0.006 JB	0.0024 JB	0.0031 JB	0.0087 J	< 0.12	0.003 JB	0.018 J	0.0029 JB	0.003 JB	0.0087 J	< 0.12	0.01 JB	0.0056 J	< 0.12	0.0042 JB	0.023 J	0.061 JB	0.00097 JB	< 0.12
S-263D	45	12/14/2007	0.03 J	0.013 J	87	0.012 JB	0.4	0.0086 J	0.0015 JB	0.013 J	0.0071 JB	0.0017 JB	0.0042 JB	0.016 J	< 0.11	0.0018 JB	0.032 J	0.0026 JB	0.0028 JB	0.013 J	< 0.11	0.017 JB	0.0093 J	< 0.11	0.005 JB	0.038 J	0.059 JB	< 0.11	< 0.11
S-263D	47	12/14/2007	0.23	0.13	87	0.06 J	0.029 J	0.099 J	0.0055 JB	0.064 J	0.041 J	0.006 JB	0.0073 JB	0.089 J	0.0012 J	0.0068 JB	0.22	0.0033 JB	0.0063 JB	0.061 J	< 0.12	0.013 JB	0.039 J	< 0.12	0.041 J	0.22	0.067 JB	0.0024 JB	< 0.12
S-263D	49	12/14/2007	0.053 J	0.025 J	89	0.015 JB	0.01 JB	0.014 J	0.0015 JB	0.022 J	0.013 J	0.0018 JB	0.0023 JB	0.019 J	< 0.11	0.0022 JB	0.05 J	0.003 JB	0.0024 JB	0.016 J	< 0.11	0.0041 JB	0.009 J	< 0.11	0.0065 JB	0.06 J	0.058 JB	0.00091 JB	< 0.11
S-263D	51	12/14/2007	0.25	0.15	83	0.1 J	0.025 J	0.17	0.0026 JB	0.062 J	0.037 J	0.0024 JB	0.0038 JB	0.09 J	0.00083 J	0.0046 JB	0.23	0.0046 JB	0.0027 JB	0.054 J	< 0.12	0.0049 JB	0.042 J	< 0.12	0.07 J	0.19	0.062 JB	0.0013 JB	< 0.12
S-263D	53	12/14/2007	0.14	0.073 J	81	0.035 JB	0.019 J	0.062 J	0.0036 JB	0.044 J	0.026 J	0.0047 JB	0.0097 JB	0.056 J	0.0018 J	0.02 J	0.13	0.029 J	0.0054 JB	0.035 J	0.0015 J	0.012 JB	0.025 J	0.0017 J	0.02 J	0.14	0.082 JB	0.0021 JB	0.0011 J
S-263D	55	12/14/2007	0.43 J	0.24 J	86	0.13 J	0.053 J	0.26 J	0.0061 JB	0.1 J	0.059 J	0.013 J	0.013 JB	0.16 J	< 0.43	0.0069 JB	0.39 J	0.011 JB	0.0056 JB	0.098 J	< 0.43	0.025 JB	0.081 J	< 0.43	0.076 J	0.35 J	0.22 JB	< 0.43	< 0.43
S-263D	57	12/14/2007	0.29	0.16	89	0.079 J	0.028 J	0.17	0.003 JB	0.073 J	0.042 J	0.0029 JB	0.0036 JB	0.11 J	< 0.12	0.0042 JB	0.27	0.0028 JB	0.003 JB	0.058 J	< 0.12	0.012 JB	0.053 J	< 0.12	0.044 J	0.24	0.064 JB	0.0012 JB	< 0.12

Table 1c
8015M

Location ID	Depth	Sample Date	2,6,10 Trimethyltridecane (1470)	2,6,10-trimethyl-dodecane	D50 (n-Tetracosane-d50)	N-DECANE	n-Docosane (C22)	N-DODECANE	n-Dotriacontane (C32)	n-Eicosane (C20)	n-Heneicosane (C21)	n-Hentriacontane (C31)	n-Heptacosane (C27)	n-Heptadecane (C17)	n-Heptatriacontane (C37)	n-Hexacosane (C26)	N-HEXADECANE	n-Hexatriacontane (C36)	n-Nonacosane (C29)	n-Nonadecane (C19)	n-nonatriacontane (C39)	n-Octacosane (C28)	n-Octadecane (C18)	n-Octatriacontane (C38)	NONANE	Norpristane (1650)	n-Pentacosane (C25)	n-Pentatriacontane (C35)	n-Tetracontane (C40)
			mg/Kg	mg/Kg	%	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
S-263D	58.75	12/14/2007	1.1	0.78	86	0.43	0.1 J	1.1	0.01 J	0.23 J	0.13 J	0.0071 JB	0.0096 JB	0.43	< 0.42	0.013 JB	1	0.04 J	0.0067 JB	0.24 J	< 0.42	0.068 JB	0.2 J	< 0.42	0.21 J	0.82	0.23 JB	0.0037 J	< 0.42
S-263D	61	12/14/2007	0.59	0.35 J	78	0.17 J	0.06 J	0.45	0.0095 J	0.12 J	0.07 J	0.0095 JB	0.015 JB	0.22 J	< 0.38	0.011 JB	0.53	0.0069 JB	0.011 JB	0.12 J	< 0.38	0.059 JB	0.1 J	< 0.38	0.092 J	0.43	0.21 JB	0.0038 J	< 0.38
S-263D	63	12/14/2007	0.42 J	0.23 J	78	0.08 J	0.055 J	0.23 J	0.0063 JB	0.092 J	0.054 J	0.0041 JB	0.0063 JB	0.16 J	< 0.45	0.0068 JB	0.37 J	0.0068 JB	0.0045 JB	0.086 J	< 0.45	0.03 JB	0.074 J	< 0.45	0.051 J	0.33 J	0.24 JB	< 0.45	< 0.45
S-263D	65	12/14/2007	1.8	1.2	85	1.3	0.32 J	2.2	0.017 J	0.35 J	0.21 J	0.0078 JB	0.017 JB	0.67	0.0037 J	0.02 J	1.6	0.0067 JB	0.013 JB	0.37 J	< 0.37	0.046 JB	0.3 J	0.045 J	0.72	1.3	0.22 JB	0.0085 J	< 0.37
S-264D	15	12/19/2007	0.23	0.18	89	0.013 JB	0.018 JB	0.021 J	0.012 JB	0.022 JB	0.021 J	0.015 JB	0.015 JB	0.022 JB	0.005 JB	0.019 JB	0.036 JB	0.0052 JB	0.016 JB	0.019 JB	0.0014 JB	0.018 JB	0.016 JB	0.002 JB	0.0059 JB	0.22	0.042 JB	0.011 JB	< 0.12
S-264D	17	12/19/2007	0.0047 J	0.0031 J	83	0.005 JB	0.006 JB	0.00066 J	0.0027 JB	0.0084 JB	0.0045 J	0.0032 JB	0.006 JB	0.009 JB	0.00085 JB	0.0062 JB	0.0073 JB	0.0034 JB	0.0055 JB	0.0092 JB	< 0.095	0.0064 JB	0.01 JB	< 0.095	0.0019 JB	0.011 JB	0.0073 JB	0.0014 JB	< 0.095
S-264D	19	12/19/2007	0.1	0.086 J	84	0.015 JB	0.038 JB	0.0098 J	0.0089 JB	0.0094 JB	0.0068 J	0.014 JB	0.015 JB	0.0082 JB	0.002 JB	0.014 JB	0.018 JB	0.0041 JB	0.015 JB	0.0085 JB	0.0018 JB	0.042 JB	0.0066 JB	0.0051 JB	0.0031 JB	0.097 J	0.02 JB	0.0081 JB	0.0016 J
S-264D	21	12/19/2007	0.0056 J	0.0038 J	82	0.0049 JB	0.092 B	0.001 J	0.0031 JB	0.0098 JB	0.0054 J	0.0035 JB	0.0069 JB	0.01 JB	0.0012 JB	0.0076 JB	0.0094 JB	0.0018 JB	0.0053 JB	0.0093 JB	< 0.078	0.011 JB	0.012 JB	< 0.078	0.0015 JB	0.0081 JB	0.0076 JB	0.0016 JB	< 0.078
S-264D	23	12/19/2007	0.025 J	0.017 J	83	0.0048 JB	0.11 B	0.0013 J	0.0035 JB	0.07 JB	< 0.082	0.0043 JB	0.0085 JB	0.011 JB	0.0016 JB	0.011 JB	0.011 JB	0.0029 JB	0.0072 JB	0.0082 JB	< 0.082	0.042 JB	0.011 JB	< 0.082	0.0022 JB	0.038 J	0.022 JB	0.0032 JB	< 0.082
S-264D	25	12/19/2007	0.3	0.26	87	0.0087 JB	0.037 JB	0.027 J	0.0083 JB	0.013 JB	< 0.063	0.0051 JB	0.0079 JB	0.025 JB	0.0011 JB	0.0087 JB	0.033 JB	0.0032 JB	0.0067 JB	0.011 JB	< 0.063	0.031 JB	0.0086 JB	0.0011 JB	0.0019 JB	0.28	0.022 JB	0.0031 JB	< 0.063
S-264D	27	12/19/2007	5.7	5.5	87	0.63	< 0.21	0.79	0.12 J	0.15 JB	0.018 J	0.015 JB	< 0.21	0.17 J	< 0.21	0.094 J	0.57	< 0.21	0.025 JB	0.1 J	< 0.21	< 0.21	< 0.21	< 0.21	0.12 J	4.4	0.19 J	< 0.21	< 0.21
S-264D	29	12/19/2007	20	20	92	2.4	< 0.39	2.8	0.45	0.64	0.078 J	< 0.39	< 0.39	0.48	< 0.39	0.39	2.1	< 0.39	< 0.39	0.27 J	< 0.39	< 0.39	< 0.39	< 0.39	1.1	16	0.64	< 0.39	< 0.39
S-264D	31	12/19/2007	6.9	6.6	94	0.63	< 0.4	0.79	0.17 J	0.21 JB	0.06 J	0.042 J	< 0.4	0.15 J	< 0.4	0.14 J	0.66	< 0.4	0.035 JB	0.12 J	< 0.4	0.09 J	< 0.4	< 0.4	0.29 J	5.7	0.3 J	< 0.4	< 0.4
S-264D	33	12/19/2007	12	12	96	0.9	< 0.41	1.6	0.22 J	0.35 J	0.048 J	0.055 J	< 0.41	0.27 J	< 0.41	0.21 J	1.3	< 0.41	0.054 J	0.14 J	< 0.41	< 0.41	< 0.41	< 0.41	0.25 J	9.3	0.39 J	< 0.41	< 0.41
S-264D	35	12/19/2007	11	11	91	1.3	< 0.42	1.3	0.18 J	0.23 JB	0.04 J	< 0.42	< 0.42	0.25 J	< 0.42	0.17 J	1.2	< 0.42	0.025 JB	0.17 J	< 0.42	< 0.42	< 0.42	< 0.42	0.37 J	8.3	0.34 J	< 0.42	< 0.42
S-264D	37	12/19/2007	25	24	88	3.7	< 0.42	3	0.4 J	0.51	0.083 J	< 0.42	< 0.42	0.53	< 0.42	< 0.42	2.1	< 0.42	< 0.42	0.36 J	< 0.42	< 0.42	< 0.42	< 0.42	0.57	18	0.59	0.052 J	< 0.42
S-264D	39	12/19/2007	8.8	8.5	87	0.76	< 0.42	1.5	0.18 J	0.21 JB	0.035 J	< 0.42	< 0.42	0.2 J	< 0.42	< 0.42	0.87	< 0.42	0.029 JB	< 0.42	< 0.42	< 0.42	< 0.42	< 0.42	0.21 J	6.8	0.34 J	< 0.42	< 0.42
S-264D	41	12/19/2007	3.3	3.2	90	0.17 J	< 0.38	0.36 J	0.077 J	0.075 JB	< 0.38	0.018 JB	< 0.38	0.086 J	< 0.38	0.063 JB	0.28 J	0.014 JB	0.017 JB	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	0.053 J	2.6	0.26 J	< 0.38	< 0.38
S-264D	43	12/19/2007	0.053 J	0.038 J	82	0.0035 JB	0.021 JB	0.0028 J	0.0071 JB	0.013 JB	< 0.12	0.0086 JB	0.0092 JB	0.011 JB	< 0.12	0.0092 JB	0.013 JB	0.0045 JB	0.012 JB	0.01 JB	< 0.12	0.083 J	0.013 JB	< 0.12	0.00093 JB	0.062 J	0.016 JB	0.0053 JB	< 0.12
S-264D	45	12/20/2007	0.47	0.38	84	0.017 JB	0.027 J	0.015 J	0.013 J	0.014 J	0.0048 J	0.01 J	< 0.34	0.016 J	< 0.34	0.0093 J	0.039 J	0.011 J	< 0.34	0.011 J	< 0.34	< 0.34	< 0.34	< 0.34	0.0089 JB	0.45	< 0.34	< 0.34	< 0.34
S-264D	47	12/20/2007	0.22	0.17	82	0.007 JB	0.0072 JB	0.009 J	0.013 J	0.0077 J	0.0016 JB	0.019 J	0.017 J	0.0074 J	< 0.11	0.01 J	0.021 J	0.0035 JB	0.025 J	0.0063 J	< 0.11	0.015 J	< 0.11	< 0.11	0.0039 JB	0.23	0.055 J	0.01 J	< 0.11
S-264D	49	12/20/2007	0.44	0.38	88	0.02 JB	0.022 JB	0.022 J	0.012 J	0.011 J	< 0.23	0.0018 JB	< 0.23	0.014 J	< 0.23	0.0069 J	0.035 J	< 0.23	0.0021 J	0.0098 J	< 0.23	< 0.23	< 0.23	< 0.23	0.0053 JB	0.41	< 0.23	< 0.23	< 0.23
S-264D	51	12/20/2007	0.087 J	0.065 J	81	0.0085 JB	0.012 JB	0.0043 J	0.0046 J	0.0022 J	< 0.097	0.0018 JB	0.0028 JB	0.0033 J	< 0.097	0.0027 J	0.0072 J	0.0024 JB	0.0024 J	0.0033 J	< 0.097	< 0.097	< 0.097	< 0.097	0.0035 JB	0.095 J	< 0.097	0.0017 J	< 0.097
S-264D	53	12/20/2007	0.0086 J	0.0049 J	83	0.0046 JB	< 0.088	< 0.088	0.0008 J	< 0.088	< 0.088	0.0019 JB	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088	0.0017 JB	< 0.088	0.0014 J	< 0.088	< 0.088	< 0.088	< 0.088	0.0023 JB	0.017 J	< 0.088	< 0.088	< 0.088
S-264D	55	12/20/2007	0.03 J	0.023 J	84	0.0055 JB	< 0.092	0.0018 J	0.0018 J	< 0.092	< 0.092	< 0.092	< 0.092	0.0013 J	< 0.092	< 0.092	0.0025 J	0.00092 JB	0.0014 J	0.003 J	< 0.092	< 0.092	< 0.092	< 0.092	0.003 JB	0.04 J	< 0.092	< 0.092	< 0.092
S-264D	57	12/20/2007	0.091 J	0.066 J	83	0.0068 JB	< 0.094	0.0029 J	0.0026 J	0.0028 J	< 0.094	0.00075 JB	< 0.094	0.0036 J	< 0.094	0.0024 J	0.0079 J	0.0015 JB	0.0011 J	0.0027 J	< 0.094	< 0.094	< 0.094	< 0.094	0.0022 JB	0.1	< 0.094	< 0.094	< 0.094
S-264D	59	12/20/2007	0.37	0.32	86	0.012 JB	0.014 JB	0.018 J	0.009 J	< 0.23	< 0.23	0.002 JB	< 0.23	0.014 J	< 0.23	0.0054 J	0.027 J	0.005 JB	0.0025 J	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	0.0054 JB	0.33	< 0.23	< 0.23	< 0.23
S-264D	61	12/20/2007	0.02 J	0.011 J	73	0.0044 JB	0.0026 JB	< 0.089	0.00089 J	< 0.089	< 0.089	< 0.089	< 0.089	0.0012 J	< 0.089	< 0.089	< 0.089	0.0013 JB	< 0.089	0.0012 J	< 0.089	< 0.089	< 0.089	< 0.089	0.0024 JB	0.04 J	< 0.089	< 0.089	< 0.089
S-264D	63	12/20/2007	0.045 J	0.031 J	89	0.0086 JB	0.013 JB	0.0015 J	0.0013 J	< 0.21	< 0.21	0.0077 J	< 0.21	0.0019 J	< 0.21	< 0.21	< 0.21	0.0051 J	< 0.21	0.0041 J	< 0.21	< 0.21	< 0.21	< 0.21	0.0051 JB	0.06 J	< 0.21	< 0.21	< 0.21
S-264D	65	12/20/2007	0.11 J	0.081 J	86	0.013 JB	0.027 J	0.0051 J	0.0033 J	0.0058 J	0.0016 JB	< 0.23	0.0037 JB	0.0049 J	< 0.23	< 0.23	< 0.23	0.0033 JB	< 0.23	0.0044 J	< 0.23	< 0.23	< 0.23	< 0.23	0.0088 JB	0.15 J	< 0.23	< 0.23	< 0.23
S-264D	67	12/20/2007	0.0027 J	0.0023 J	75	0.0065 JB	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	0.0056 JB	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	0.0037 JB	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	0.004 JB	0.0044 JB	< 0.19	< 0.19	< 0.19
S-264D	68.5	12/20/2007	0.093 J	0.069 J	79	0.0059 JB	< 0.11	0.0034 J	0.0072 J	0.0023 J	< 0.11	0.0029 JB	0.0069 J	0.0036 J	< 0.11	0.0072 J	0.0082 J	0.0019 JB	0.0032 J	0.003 J	< 0.11	< 0.11	< 0.11	< 0.11	0.0031 JB	0.11 J	< 0.11	< 0.11	< 0.11
S-264D	70.25	12/20/2007	0.24 J	0.18 J	92	0.018 JB	0.03 J	0.016 J	0.0071 J	0.0058 J	0.0077 J	0.067 J	0.11 J	0.0067 J	< 0.31	0.026 J	0.017 J	0.0031 JB	0.16 J	0.0071 J	< 0.31	0.037 J	< 0.31	< 0.31	0.0098 JB	0.25 J	< 0.31	0.024 J	< 0.31
S-264D	75	12/20/2007	0.021 J	0.016 J	77	0.0041 JB	0.0068 JB	0.0012 J	0.0028 J	< 0.082	0.0013 JB	0.0099 J	0.018 J	0.00066 J	< 0.082	0.0043 J	< 0.082	0.00082 JB	0.024 J	0.0012 J	< 0.082	0.0058 J	< 0.082	< 0.082	0.0022 JB	0.027 J	< 0.082	0.0042 J	< 0.082
S-264D	77	12/20/2007	0.03 J	0.023 J	83	0.0043 JB	0.0018 JB	0.0017 J	0.00057 J	0.00076 J	< 0.064	0.0023 JB	< 0.064	0.0011 J	< 0.064	0.0019 J	0.0027 J	0.0011 JB	0.0045 J	0.0012 J	< 0.064	0.002 J	< 0.064	< 0.064	0.0027 JB	0.036 J	< 0.064	0.0013 J	< 0.064
S-264D	79	12/20/2007	0.27	0.22	84	0.012 JB	0.0077 JB	0.015 J	0.013 J	0.0093 J	0.0046 J	0.031 J	0.031 J	0.019 J	< 0.089	0.013 J	0.05 J	< 0.089	0.045 J	0.014 J	< 0.089	0.012 J	0.0074 J	< 0.089	0.0059 JB	0.26	0.037 J	0.012 J	< 0.089

Table 1c
8015M

Location ID	Depth	Sample Date	2,6,10 Trimethyltridecane (1470)	2,6,10-trimethyl-dodecane	D50 (n-Tetracosane-d50)	N-DECANE	n-Docosane (C22)	N-DODECANE	n-Dotriacontane (C32)	n-Eicosane (C20)	n-Heneicosane (C21)	n-Hentriacontane (C31)	n-Heptacosane (C27)	n-Heptadecane (C17)	n-Heptatriacontane (C37)	n-Hexacosane (C26)	N-HEXADECANE	n-Hexatriacontane (C36)	n-Nonacosane (C29)	n-Nonadecane (C19)	n-nonatriacontane (C39)	n-Octacosane (C28)	n-Octadecane (C18)	n-Octatriacontane (C38)	NONANE	Norpristane (1650)	n-Pentacosane (C25)	n-Pentatriacontane (C35)	n-Tetracontane (C40)
			mg/Kg	mg/Kg	%	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
S-264D	81	12/20/2007	0.19	0.15	81	0.0092 JB	0.018 JB	0.012 J	0.0068 J	0.0048 J	< 0.06	0.013 J	0.0039 JB	0.007 J	< 0.06	0.0044 J	0.023 J	0.0013 JB	0.0056 J	0.0058 J	< 0.06	0.003 J	< 0.06	< 0.06	0.0042 JB	0.18	0.017 J	< 0.06	< 0.06

Table 1c
8015M

Location ID	Depth	n-Tetracosane (C24)	N-TETRADECANE	n-Tetratriacontane (C34)	n-Triacontane (C30)	n-Tricosane (C23)	N-TRIDECANE	n-Tritriacontane (C33)	N-UNDECANE	OTP	PENTADECANE	Phytane	Pristane
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	mg/Kg	mg/Kg	mg/Kg
S-261D	15	0.0013 J	< 0.099	0.012 J	0.00069 JB	0.0018 JB	0.018 JB	< 0.099	< 0.099	71	< 0.099	0.0011 JB	0.0019 JB
S-261D	16.75	0.0044 J	0.00089 J	0.0018 J	0.0053 JB	0.0053 JB	0.018 JB	0.0036 J	0.0018 JB	71	0.0018 J	0.0027 JB	0.0018 JB
S-261D	19	0.014 J	< 0.1	< 0.1	0.021 J	0.016 JB	0.015 JB	0.034 J	0.002 JB	70	< 0.1	0.001 JB	0.002 JB
S-261D	21.5	0.0055 J	0.024 J	< 0.092	0.0028 JB	0.0092 JB	0.033 JB	0.0028 J	0.0083 J	72	0.036 J	0.014 J	0.026 J
S-261D	23	0.059 J	1.1	0.0042 J	0.0084 JB	0.13 J	1.8	0.0042 J	0.48	75	1.1	0.22 J	0.43
S-261D	25	< 0.36	2.4	< 0.36	0.061 J	< 0.36	2.2	0.028 J	4.6	81	2.7	6.3	18
S-261D	27	< 0.27	0.6	0.0054 J	0.021 J	< 0.27	1.3	0.008 J	1.7	86	0.84	1.8	4.9
S-261D	29	< 0.29	0.59	0.0072 J	0.027 J	< 0.29	1.2	0.013 J	1.1	78	1	2.3	6.3
S-261D	31	< 0.24	0.38	0.0057 J	0.027 J	< 0.24	0.78	0.011 J	0.87	78	0.6	1.1	3.3
S-261D	33	< 0.3	0.8	0.0076 J	0.035 J	< 0.3	1.2	0.015 J	1.3	77	1.2	3.1	8.4
S-261D	34.5	0.032 J	3.7	0.012 J	0.033 J	0.033 J	5.6	0.016 J	4.1	81	3	2.6	6.8
S-261D	36.25	< 0.35	1.3	0.008 J	0.032 J	< 0.35	2.2	0.016 J	1.6	76	1.2	3.7	10
S-261D	38.5	< 0.11	0.79	0.0047 J	0.021 J	0.016 J	1.1	0.0091 J	1.9	86	0.91	2.4	6.6
S-261D	41	0.003 JB	0.004 J	0.0014 JB	0.0037 JB	0.0037 JB	0.03 JB	0.0037 JB	0.0032 JB	80	0.006 J	0.015 J	0.038 J
S-261D	43	0.0039 JB	0.0072 J	0.0017 JB	0.0056 JB	0.0035 JB	0.037 JB	0.0021 JB	0.0048 J	79	0.0078 J	0.018 J	0.043 J
S-261D	45	0.0021 JB	0.0073 J	0.00097 JB	0.0024 JB	0.0029 JB	0.044 JB	0.0015 JB	0.0055 J	86	0.012 J	0.031 J	0.082 J
S-261D	47	0.0025 JB	0.012 J	0.0012 JB	0.0029 JB	0.0031 JB	0.046 JB	0.0023 JB	0.016 J	81	0.017 J	0.05 J	0.13
S-261D	49	0.0046 JB	0.085 J	0.0022 JB	0.0058 JB	0.0047 JB	0.13 B	0.0038 JB	0.089 J	83	0.08 J	0.2	0.56
S-261D	51	0.0038 JB	0.015 J	0.0019 JB	0.0042 JB	0.0044 JB	0.061 JB	0.0031 JB	0.022 J	87	0.017 J	0.048 J	0.13
S-261D	53	0.0029 JB	0.034 J	0.0021 JB	0.0042 JB	0.0031 JB	0.073 JB	0.002 JB	0.043 J	87	0.037 J	0.096	0.26
S-261D	55	0.0062 J	0.0044 J	0.0013 JB	0.0032 JB	0.0034 JB	0.062 JB	0.0042 JB	0.0026 JB	85	0.0056 J	0.016 J	0.04 J
S-261D	57	0.0035 JB	0.0086 J	0.0022 JB	0.005 JB	0.0035 JB	0.033 JB	0.0029 JB	0.0032 JB	77	0.011 J	0.036 J	0.097
S-261D	59	0.0065 JB	0.44	< 0.22	0.02 JB	0.022 JB	0.89	0.0054 JB	0.49	94	0.7	1.3	3.6
S-261D	61.75	0.0043 JB	0.072 J	0.0041 JB	0.0074 JB	0.0068 JB	0.086 J	0.0086 JB	0.046 J	97	0.12	0.27	0.72
S-261D	63	0.0079 JB	0.0038 J	0.0026 JB	0.0067 JB	0.0099 JB	0.014 JB	0.0037 JB	0.002 J	93	0.0092 JB	0.03 JB	0.066 JB
S-261D	64.5	0.013 JB	0.049 J	0.004 JB	0.0095 JB	0.019 JB	0.061 J	0.0063 JB	0.024 J	90	0.083 J	0.21	0.53
S-262D	6	0.01 JB	0.056 J	0.01 J	0.015 JB	0.037 J	1.5	0.012 JB	0.63	98	0.067 J	0.015 J	0.04 J
S-262D	11.835	0.0052 JB	0.11 J	0.0043 JB	0.0056 JB	0.034 J	1.7	0.0078 JB	0.72	101	0.04 J	0.031 J	0.081 J
S-262D	16.25	0.013 JB	0.26 J	0.0078 JB	0.0085 JB	0.049 J	2.4	0.011 JB	6.2	100	0.16 J	0.46	0.84
S-262D	18	0.012 JB	0.35 J	< 0.44	0.014 JB	0.053 J	3	< 0.44	9.4	102	0.14 J	0.74	1.3
S-262D	20	0.022 JB	0.18 J	< 0.36	0.0093 JB	0.037 J	1.7	< 0.36	1.1	99	< 0.36	0.55	1.2
S-262D	22	< 0.42	0.083 J	< 0.42	0.0059 JB	0.029 JB	1.5	< 0.42	0.51	100	< 0.42	0.24 J	0.5
S-262D	26	0.0026 JB	0.02 J	< 0.43	0.0026 JB	0.029 JB	1	< 0.43	0.068 J	99	0.015 J	0.096 J	0.14 J
S-262D	28	< 0.4	0.6	< 0.4	0.01 JB	< 0.4	2.5	0.0056 JB	2.7	92	0.34 J	1.2	3.2
S-262D	30	0.0025 JB	0.0041 J	< 0.41	0.0021 JB	0.024 JB	0.89	< 0.41	0.015 J	100	0.0074 J	0.0095 J	0.014 J
S-262D	32	0.002 JB	0.0069 J	< 0.41	0.002 JB	0.026 JB	0.84	< 0.41	0.032 J	98	0.0093 J	0.014 J	0.031 J

Table 1c
8015M

Location ID	Depth	n-Tetracosane (C24)	N-TETRADECANE	n-Tetratriacontane (C34)	n-Triacontane (C30)	n-Tricosane (C23)	N-TRIDECANE	n-Tritriacontane (C33)	N-UNDECANE	OTP	PENTADECANE	Phytane	Pristane
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	mg/Kg	mg/Kg	mg/Kg
S-262D	33.5	0.0016 JB	0.0027 JB	0.0012 JB	0.0014 JB	0.004 JB	0.1 JB	0.0044 JB	0.025 J	95	0.0029 J	0.0044 J	0.0073 J
S-262D	34.5	0.047 J	0.00083 JB	0.072 J	0.07 J	0.13	0.077 JB	0.23	0.0025 JB	95	< 0.1	0.0012 J	0.0012 J
S-262D	35.25	0.034 J	0.0034 J	0.039 J	0.047 J	0.11	0.08 JB	0.15	0.033 J	94	0.0025 J	0.0067 J	0.0098 J
S-262D	40	0.32	0.0097 J	0.22 J	0.45	0.85	0.13 JB	1.3	0.017 J	91	0.019 J	0.014 J	0.021 J
S-262D	46.5	0.31	< 0.19	0.32	0.41	0.88	0.86	1.3	0.0063 JB	92	0.0077 J	0.0052 J	0.0052 J
S-262D	48	0.25	0.0099 J	0.083 J	0.31	0.59	0.097 JB	0.6	0.1 J	91	0.0093 J	0.026 J	0.04 J
S-262D	50	0.18	< 0.14	0.15	0.2	0.42	0.055 JB	0.4	0.0049 JB	92	< 0.14	0.0028 J	0.0039 JB
S-262D	52	0.48	0.14 J	0.27	0.00043 J	0.74	0.059 JB	0.86	0.0033 JB	95	< 0.14	0.0043 J	0.0066 J
S-262D	54	0.17	< 0.1	0.081 J	0.19	0.38	0.037 JB	0.43	0.0033 JB	90	< 0.1	0.0021 J	0.0042 JB
S-262D	56	0.15	< 0.1	0.04 J	0.16	0.3	0.038 JB	0.36	0.0027 JB	88	< 0.1	0.0018 J	0.0029 JB
S-262D	58	0.0066 J	0.0016 JB	0.0016 J	0.011 J	0.011 J	0.036 JB	0.016 J	0.0018 JB	87	0.0012 J	0.00077 J	0.0013 JB
S-262D	62	0.0019 JB	0.0011 JB	< 0.092	< 0.092	0.0029 JB	0.034 JB	< 0.092	0.0016 JB	90	0.001 J	0.00092 J	0.001 JB
S-262D	64	0.0016 JB	0.00096 JB	< 0.087	0.0013 J	0.0026 JB	0.033 JB	< 0.087	0.0011 JB	89	0.00079 J	0.0007 J	0.00087 JB
S-263D	6	< 0.51	4.8	< 0.51	< 0.51	2.8	5.3	< 0.51	6.8	87	< 0.51	12	30
S-263D	11	0.76	5.4	< 0.51	< 0.51	< 0.51	3	< 0.51	< 0.51	87	< 0.51	14	36
S-263D	17	0.31 J	5.1	< 0.43	0.018 J	1	6.6	0.0082 J	1.4	76	22	22	25
S-263D	19	0.078 J	2.2	< 0.3	0.023 J	0.43	4.3	< 0.3	< 0.3	85	< 0.3	10	24
S-263D	21	0.031 J	1.2	< 0.36	0.0061 J	0.16 J	3.3	< 0.36	0.71	90	< 0.36	6.5	16
S-263D	23	< 0.26	0.39	< 0.26	0.0053 J	0.045 J	1.4	0.0032 J	0.75	89	< 0.26	1.7	4.4
S-263D	25	0.029 J	2.5	0.017 J	0.024 J	0.094 J	8.4	0.022 J	8	89	1.9	4.4	12
S-263D	27	0.025 J	1.7	0.0026 J	0.011 J	0.077 J	4.4	0.005 J	5.4	89	0.92	2	4.9
S-263D	29	0.021 J	1.6	< 0.48	0.01 J	0.05 J	3	0.14 J	1.9	92	1.4	0.46 J	1.2
S-263D	31	0.7	92 D	0.17 J	0.29 J	1	120 D	0.19 J	150 D	88	97 D	14	42
S-263D	33	0.25 J	32	0.071 J	0.12 J	0.38 J	40	0.078 J	42	95	31	6	17
S-263D	35	0.11 J	12	0.058 J	0.05 J	0.19 J	15	0.16 J	12	95	13	3.2	8.9
S-263D	37	0.034 J	1.8	< 0.45	0.0082 JB	0.093 J	3.1	0.014 J	1.1	88	2	1.5	3.7
S-263D	39	0.0078 JB	0.33 J	< 0.43	0.0043 JB	0.034 J	1.1	0.0039 JB	0.091 J	90	0.42 J	0.33 J	0.78
S-263D	41	0.0034 JB	0.022 J	< 0.12	0.0018 JB	0.0061 JB	0.049 JB	0.0012 JB	0.0089 J	89	0.035 J	0.054 J	0.11 J
S-263D	43	0.0023 JB	0.011 J	0.00073 JB	0.0022 JB	0.0044 JB	0.043 JB	0.0012 JB	0.0051 JB	98	0.018 J	0.031 J	0.06 J
S-263D	45	0.0032 JB	0.025 J	< 0.11	0.0014 JB	0.005 JB	0.048 JB	< 0.11	0.0068 J	89	0.04 J	0.035 J	0.077 J
S-263D	47	0.0075 JB	0.21	0.0021 JB	0.0058 JB	0.018 JB	0.22	0.0044 JB	0.067 J	93	0.11 J	0.24	0.56
S-263D	49	0.0024 JB	0.038 J	< 0.11	0.0013 JB	0.0065 JB	0.063 JB	0.0011 JB	0.011 J	93	0.051 J	0.074 J	0.16
S-263D	51	0.0063 JB	0.26	< 0.12	0.0031 JB	0.015 JB	0.3	0.002 JB	0.12	87	0.29	0.21	0.5
S-263D	53	0.016 J	0.13	0.0019 JB	0.0044 JB	0.015 JB	0.15 B	0.003 JB	0.041 J	86	0.16	0.14	0.33
S-263D	55	0.0082 JB	0.47	< 0.43	0.0039 JB	0.032 J	1.3	0.0043 JB	0.15 J	89	0.54	0.35 J	0.86
S-263D	57	0.0068 JB	0.3	0.0011 JB	0.0023 JB	0.017 JB	0.32	0.0021 JB	0.11 J	95	0.37	0.25	0.61

Table 1c
8015M

Location ID	Depth	n-Tetracosane (C24)	N-TETRADECANE	n-Tetratriacontane (C34)	n-Triacontane (C30)	n-Tricosane (C23)	N-TRIDECANE	n-Tritriacontane (C33)	N-UNDECANE	OTP	PENTADECANE	Phytane	Pristane
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	mg/Kg	mg/Kg	mg/Kg
S-263D	58.75	0.017 J	1.4	0.0033 JB	0.0062 JB	0.057 J	2.4	0.0071 J	0.7	90	1.5	0.77	1.9
S-263D	61	0.012 J	0.69	0.0046 JB	0.0092 JB	0.037 J	1.5	0.0069 J	0.29 J	82	0.78	0.41	1
S-263D	63	0.0081 JB	0.45 J	< 0.45	0.0045 JB	0.034 J	1.2	< 0.45	0.12 J	81	0.53	0.32 J	0.78
S-263D	65	0.03 J	2.3	0.0044 JB	0.011 JB	< 0.37	3.5	0.01 J	1.6	88	2.5	1.2	3.1
S-264D	15	0.015 JB	0.041 J	0.0069 JB	0.012 JB	0.04 JB	0.059 J	0.014 JB	0.037 J	93	0.062 J	0.17	0.4
S-264D	17	0.0051 JB	0.0018 JB	0.0047 JB	0.0049 JB	0.006 JB	0.0081 JB	< 0.095	< 0.095	93	0.0076 JB	0.015 JB	0.026 JB
S-264D	19	0.012 JB	0.022 J	0.0059 JB	0.01 JB	0.011 JB	0.038 JB	0.0089 JB	0.019 J	92	0.025 JB	0.072 J	0.19
S-264D	21	0.0062 JB	0.0018 JB	0.0021 JB	0.005 JB	0.0078 JB	0.0093 JB	0.003 JB	< 0.078	92	0.0072 JB	0.016 JB	0.029 JB
S-264D	23	0.0082 JB	0.0029 J	0.0022 JB	0.0054 JB	0.033 JB	0.0098 JB	0.0035 JB	0.0011 J	88	0.01 JB	0.03 JB	0.06 JB
S-264D	25	0.0081 JB	0.042 J	0.0042 JB	0.0058 JB	0.012 JB	0.054 J	0.006 JB	0.045 J	93	0.082	0.17	0.4
S-264D	27	< 0.21	1	0.035 J	0.048 J	< 0.21	1.5	0.046 J	1.9	89	0.85	3.5	8.4
S-264D	29	< 0.39	3.4	0.14 J	0.18 J	< 0.39	4.8	0.14 J	7.1	95	6.1	13	31
S-264D	31	< 0.4	1.1	0.043 J	0.081 J	< 0.4	2	0.076 J	1.8	95	1.3	4.6	10
S-264D	33	< 0.41	1.9	0.064 J	0.1 J	< 0.41	3.2	0.082 J	3.4	97	2.2	7	16
S-264D	35	< 0.42	2.1	0.051 J	0.069 J	< 0.42	3.2	0.077 J	3.8	92	2	6.1	14
S-264D	37	< 0.42	4.6	0.1 J	0.15 J	< 0.42	5.3	0.15 J	8.3	89	5	14	34
S-264D	39	< 0.42	1.3	0.041 J	0.071 J	< 0.42	2.7	0.069 J	2.6	88	1.5	5.1	13
S-264D	41	< 0.38	0.67	< 0.38	0.034 JB	< 0.38	1.3	0.023 JB	0.76	91	0.54	2	4.9
S-264D	43	0.016 JB	0.0065 J	0.0028 JB	0.0068 JB	0.0094 JB	0.017 JB	0.011 JB	0.0041 J	90	0.015 JB	0.061 JB	0.13
S-264D	45	< 0.34	0.055 J	0.0027 J	< 0.34	0.019 J	0.38	0.0048 J	0.012 J	86	0.058 J	0.38	0.87
S-264D	47	< 0.11	0.026 J	< 0.11	0.0084 J	0.0074 JB	0.039 J	0.028 J	0.014 J	91	0.029 J	0.19	0.43
S-264D	49	< 0.23	0.069 J	0.0021 J	0.0039 J	< 0.23	0.33	0.0053 J	0.027 J	89	0.05 J	0.34	0.77
S-264D	51	< 0.097	0.01 J	0.0011 J	< 0.097	0.003 JB	0.02 J	0.01 J	0.0069 J	92	0.0082 J	0.075 J	0.17
S-264D	53	< 0.088	0.00053 J	< 0.088	< 0.088	0.0024 JB	< 0.088	0.0012 J	< 0.088	92	< 0.088	0.014 J	0.029 J
S-264D	55	< 0.092	0.0036 J	< 0.092	< 0.092	0.0019 JB	0.0093 J	0.0027 J	0.0032 J	90	0.0096 J	0.032 J	0.071 J
S-264D	57	< 0.094	0.01 J	0.00075 J	< 0.094	0.0024 JB	0.018 J	0.0028 J	0.0064 J	92	0.011 J	0.086 J	0.2
S-264D	59	< 0.23	0.055 J	0.0016 J	< 0.23	< 0.23	0.3	0.007 J	0.024 J	86	0.042 J	0.27	0.63
S-264D	61	< 0.089	0.0015 J	< 0.089	< 0.089	0.002 JB	0.0025 J	< 0.089	< 0.089	93	< 0.089	0.03 J	0.064 J
S-264D	63	< 0.21	0.0041 J	< 0.21	< 0.21	< 0.21	0.12 J	< 0.21	0.0024 J	90	0.015 J	0.051 J	0.11 J
S-264D	65	< 0.23	0.012 J	< 0.23	< 0.23	< 0.23	0.57	0.0046 J	0.0072 J	85	0.03 J	0.12 J	0.28
S-264D	67	< 0.19	< 0.19	< 0.19	< 0.19	0.0027 JB	< 0.19	< 0.19	< 0.19	91	< 0.19	0.0046 J	0.01 J
S-264D	68.5	< 0.11	0.011 J	0.0016 J	0.0064 J	0.0038 JB	0.014 J	0.0056 J	0.0045 J	92	0.021 J	0.086 J	0.19
S-264D	70.25	< 0.31	0.031 J	0.0052 J	0.011 J	0.063 J	0.34	0.038 J	0.031 J	94	0.029 J	0.19 J	0.44
S-264D	75	< 0.082	0.0025 J	0.00099 J	0.0027 J	0.0069 JB	0.0054 J	0.0062 J	0.0018 J	92	0.0065 J	0.021 J	0.045 J
S-264D	77	< 0.064	0.004 J	< 0.064	0.0012 J	0.0025 JB	0.0076 J	0.0024 J	0.0028 J	92	0.0077 J	0.03 J	0.066
S-264D	79	< 0.089	0.046 J	< 0.089	0.0088 J	0.01 JB	0.052 J	0.018 J	0.031 J	95	0.097	0.19	0.47

Table 1c
8015M

Location ID	Depth	n-Tetracosane (C24)	N-TETRADECANE	n-Tetratriacontane (C34)	n-Triacontane (C30)	n-Tricosane (C23)	N-TRIDECANE	n-Tritriacontane (C33)	N-UNDECANE	OTP	PENTADECANE	Phytane	Pristane
		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	mg/Kg	mg/Kg	mg/Kg
S-264D	81	< 0.06	0.03 J	< 0.06	0.0029 J	0.0024 JB	0.046 J	0.0063 J	0.022 J	93	0.026 J	0.14	0.33

Table 2
Groundwater Analytical

Location ID	Sample Date	Benzene	Toluene	Ethylbenzene	Xylene (Total)	Methyl tert-butyl ether	Total BTEX	Comments
		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	Units
S-261D	6/1/2008	5	U	3	6	U	14	S-261()_(NA-NA)_39600_GW_()___DS-56_Aquaterra 2008
S-262D	6/1/2008	670	8	260	720	12	1658	S-262()_(NA-NA)_39600_GW_()___DS-56_Aquaterra 2008
S-263D	6/1/2008	5200	140	1100	3400	260	9840	S-263()_(NA-NA)_39600_GW_()___DS-56_Aquaterra 2008
S-264D	6/1/2008	U	U	U	U	U	U	S-264()_(NA-NA)_39600_GW_()___DS-56_Aquaterra 2008

U = Below Detection Limits

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Integrated Science & Technology, Inc., 1998, Non-aqueous phase liquid (NAPL) source study at Defense Supply Center Philadelphia, Philadelphia, Pennsylvania. March.

Uhler, Allen D., 2003, Geochemical testing techniques for petroleum hydrocarbons and other contaminants: GC, GC/MS, GC-IRMS. ISEF Workshop, San Diego, California, November 4-5, 2003.

Appendix A

Aquaterra Technologies, Inc.

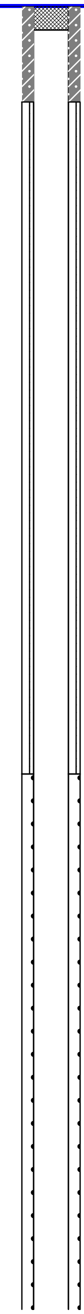
SUBSURFACE LOG: S-261D
AND WELL CONSTRUCTION : S-261

PROJECT:	Sunoco-Philadelphia Refinery	DRILLING CO.:	Parratt-Wolffe
SITE LOCATION:	AOI-1	DRILLING METHOD:	Hollow Stem Auger
LOGGED BY:	Tiffani Doerr	SAMPLING METHOD:	Split Spoon
DATES DRILLED:	18 & 19 December 2007	SCREEN/RISER DIAMETER:	4-inch
TOTAL BORING DEPTH:	66'	WELLBORE DIAMETER:	8-inch
BORING ELEVATION	25.485 feet	TOC (inner) ELEVATION:	27.412 feet (ASML)

NOTE: Well S-261 drilled within 5 feet of boring S-261D. Screen=0.010 slot; "0" sand; 2' stickup finish. Screen (15'-30'); Riser (2' stickup - 15'); Sand (13'-30'); Bentonite (11'-13'); Grout (surface to 11')

Depth (feet)	Blow Counts	OVM (ppm)	USCS	LITHOLOGY	COMMENTS
0					Boring location pre-cleared by Mobile Dredge to 4'
	4'-6'	0.0		Fill, brown slightly plastic sand with rock fragments, brick and cinders	
-5					Auger to 10'
-10	10'-12'	0.0		Top 6" fill Laminated orange and gray, very slightly plastic stiff silt, no sand	
					Auger to 14'

WELL DIAGRAM



Aquaterra Technologies, Inc.

SUBSURFACE LOG: S-261D
AND WELL CONSTRUCTION: S-261

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
	14'-16'	0.0		Sandy clay with round gravel to 15'. At 15.5', wet, orange loose silty sand with few gravels	Sample (14'-16') submitted for laboratory analysis	
-15						
	16'-18'	0.0		Same, loose, wet sand to 17'	Sample (16'-17.5') submitted for laboratory analysis	
				(17'-17.5') Gravel with sand and silt		
				(17.5'-18') Orange-gray clay		
	18'-20'	0.0		Orange and gray stiff clay, wet, with few gravels	Sample (18'-20') submitted for laboratory analysis	
				At 19.5' Sandy clay with gravel, moist		
-20	20'-22'	2.5		(20'-21') Wet orange-gray mottled clay with few gravels		
				Sand and gravel, moist	Sample (21'-22') submitted for laboratory analysis	
	22'-24'	109		Moist, brown sand and fine to coarse gravel of varying composition (mudstone, sandstone, quartzite)	Sample (22'-24') submitted for laboratory analysis	
	24'-26'	1849		Same as above, saturated	Sample (24'-26') submitted for laboratory analysis	
-25						
	26'-28'	436		Same as above	Sample (26'-28') submitted for laboratory analysis	
	28'-30'	1635		Same as above with layers having less gravel, more med sand	Sample (28'-30') submitted for laboratory analysis	
-30	30'-32'	722		Same as above, 31.5' - 32' less gravel more sand	Sample (30'-32') submitted for laboratory analysis	

SUBSURFACE LOG: S-261D
AND WELL CONSTRUCTION: S-261

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
	32'-24'	1550		Same as above, sand and gravel to 33', less gravel, more sand 33'-34'	Sample (32'-34') submitted for laboratory analysis	
	34'-36'	877		Through shelby tube: top few inches are gravel, remainder looks like clay	Shelby Tube sample (34'-36') and laboratory sample	
-35						
	36'-36.5'	720		Gravel with sand	Sample (36'-36.5') submitted for laboratory analysis	
	36.5'-38'	7.7		Clayey sand to fine sandy clay	Sample (36.5'-38') accidentally discarded before collection	
	38'-40'	84.7		Med-coarse sand 20% gravel to 39'	Sample (38'-39') submitted for laboratory analysis	
				Medium sand, no gravel, 1-inch clay layer at 39'		
-40	40'-42'	162		Medium sand with gravel in top 1-inch, clay lenses	Sample (40'-42') submitted for laboratory analysis	
	42'-44'	7.0			Shelby Tube sample (42'-44') and laboratory sample	
	44'-46'	4.0		Brown medium-fine sand, no gravel	Sample (44'-46') submitted for laboratory analysis	
-45						
	46'-48'	6.6		Same as above with sandy clay lenses	Sample (46'-48') submitted for laboratory analysis	
	48'-50'	6.1		Medium-coarse sand, thin sandy clay lenses with clay	Sample (48'-50') submitted for laboratory analysis	
-50	50'-52'	2.4		Brown, fine to med sand (bottom 4"-medium-coarse	Sample (50'-52')	

SUBSURFACE LOG: S-261D
AND WELL CONSTRUCTION: S-261

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
				sand)	submitted for laboratory analysis	
	52'-54'	2.3		Fining upward sequence- medium-coarse sand with gravel fining upward to dark brown medium sand	Sample (52'-54') submitted for laboratory analysis	
	54'-56'	15.4			Shelby Tube sample (54'-56') and laboratory sample	
-55						
	56'-58'	16.6		Medium-coarse sand and gravel to 56' 4", grading into med sand with some gravel, dark brown	Sample (56'-58') submitted for laboratory analysis	
	58'-60'	176		Loose fine to med sandy clay. Bottom 4-inches coarse sand with fine gravels.	Sample (58'-60') submitted for laboratory analysis	
-60	60'-62'	33		Same clayey sand with fine gravel to 61.5	Sample (61.5'-62') submitted for laboratory analysis	
				At 61.5' gravels with sand, large red sandstone gravel in bottom of sample		
	62'-64'	5.6		Brown fine to med sand with occassional fine and coarse gravel	Sample (62'-64') submitted for laboratory analysis	
	64'-66'	70.2		Med to coarse sand and gravel	Sample (64'-66') submitted for laboratory analysis	
-65						
					Borehole complete to 66'	

SUBSURFACE LOG: S-262D
AND WELL CONSTRUCTION : S-262

Aquaterra Technologies, Inc.

PROJECT:	Sunoco-Philadelphia Refinery	DRILLING CO.:	Parrat Wolffe
SITE LOCATION:	AOI-1	DRILLING METHOD:	Hollow Stem Auger
LOGGED BY:	Tiffani Doerr	SAMPLING METHOD:	Split Spoon
DATES DRILLED:	12 & 13 December 2007	SCREEN/RISER DIAMETER:	4-inch
TOTAL BORING DEPTH:	65'	WELLBORE DIAMETER:	8-inch
BORING ELEVATION	17.559 feet	TOC (inner) ELEVATION:	19.443 feet (ASML)

NOTE: Well S-262 drilled within 5 feet of boring S-262D. Screen=0.010 slot; "0" sand; 2' stickup finish. Screen (15'-30'); Riser (2' stickup to 15'); Sand (13'-30); Bentonite (11'-13'); Grout (surface to 11').

Depth (feet)	Blow Counts	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
0						
					Boring location pre-cleared by Mobile Dredge to 4.5'	
					Perched water in hole at 3'	
-5	5'-7'	1735		Gravel (5'-5.5')	Sample (5'-7') submitted for laboratory analysis	
				Gray clay with some yellow-brown mottling, wet, very little fine sand; grades to silt with fine sand at bottom.		
					Auger to 7' to 10'	
-10	10'-12'	2900		Very slightly plastic fine sand to 11' 8"		
				Medium sand (11' 8" to 12')	Sample (11'8" -12') submitted for laboratory analysis	
					Auger 12' to 15'	

SUBSURFACE LOG: S-262D
AND WELL CONSTRUCTION: S-262

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
-15	15'-17'	2745		Coarse sand and 1" subround gravel. Large gravel at bottom of spoon (2")	Sample (16' -16.5') submitted for laboratory analysis	
	17'-19'			Purple and gray-brown sand	Shelby Tube sample (17'-19') and laboratory sample	
	19'-21'	1210		Saturated sand and gravel of variable colors.	Sample (19' -21') submitted for laboratory analysis	
-20						
	21'-23'	3145		Same as above	Sample (21' -23') submitted for laboratory analysis	
	23'-25'				Shelby Tube sample (23'-25')	
-25	25'-27'	632		Same as above with few large gravels	Sample (25' -27') submitted for laboratory analysis	
	27'-29'	1335		Same as above with medium-fine sand at botton 3"	Sample (27' -29') submitted for laboratory analysis	
	29'-31'	266		Top 1-inch fissil shale (shattered cobble). 1" gravel with fine-med sand		
-30						
	31'-33'	318		Same to 32'		

Aquaterra Technologies, Inc.

SUBSURFACE LOG: S-262D
AND WELL CONSTRUCTION: S-262

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
				Medium-coarse sand with some gravel with large gravels at bottom	Sample (32' -33') submitted for laboratory analysis	
	33'-35'	222		Yellow-gray fine sand	Sample (33' -34') submitted for laboratory analysis	
		34.0		Yellow-gray silty clay to brown silty clay in bottom 6" with few very fine sands.	Sample (34' -35') submitted for laboratory analysis	
-35	35'-37'	119		Medium sand top 8-inches. Remainder of spoon is alternating layers of clay with 1-2 inch layers of fine sand.	Sample (35' -35.5') submitted for laboratory analysis	
		12.3				
	37'-39'	25.4		Dark brown silty clay with few fine sands	Sample (37' -39') submitted for laboratory analysis	
	39'-41'	23.8		Dark gray clay	Shelby Tube sample and laboratory sample (37'-39')	
-40						
	41'-43'	146		Dark brown-gray silty clay with few fine sands		
	43'-45'	250		Same as above with few thin (1"-2") layers of fine sand		
-45	45'-46'	18.2		Same as above, very stiff		
					Sample (46' -47') submitted for laboratory analysis	
	47'-49'	43.7		Stiff, dark gray silty clay with fine sand. Loose, saturated clay fine sand layer (47'6" - 47'10")	Sample (47' -49') submitted for laboratory analysis	
	49'-51'	7.8		Same as above, very silty, very stiff clay with fine sand.	Sample (49' -51') submitted for laboratory analysis	
-50						

Aquaterra Technologies, Inc.

SUBSURFACE LOG: S-262D
AND WELL CONSTRUCTION: S-262

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
	51'-53'	1.4		Same as above	Sample (51' -53') submitted for laboratory analysis	
	53'-55'	6.4		Clayey silt with sand, plastic. Loose silty sand layer (53.5'-54')	Sample (53' -55') submitted for laboratory analysis	
-55	55'-57'	3.8		Same as above-clayey silt with sand	Sample (55' -57') submitted for laboratory analysis	
	57'-59'	13.3		Dark gray medium-fine sand with few round gravels. Large gravel at bottom, little bit of orange color.	Sample (57' -59') submitted for laboratory analysis	
	59'-61'				Shelby Tube sample (59'-61')	
-60						
	61'-63'	9.1		Medium dense, orange, medium to coarse grained sand. No gravel	Sample (61' -63') submitted for laboratory analysis	
	63'-65'	6.5		Same as above	Sample (63' -65') submitted for laboratory analysis Borehole complete to 65'	
-65						

SUBSURFACE LOG: S-263D
AND WELL CONSTRUCTION : S-263

PROJECT:	**Sunoco-Philadelphia Refinery**	DRILLING CO.:	**Parratt-Wolffe**
SITE LOCATION:	**AOI-1**	DRILLING METHOD:	**Hollow Stem Auger**
LOGGED BY:	**Tiffani Doerr**	SAMPLING METHOD:	**Split Spoon**
DATES DRILLED:	**13 & 14 December 2007**	SCREEN/RISER DIAMETER:	**4-inch**
TOTAL BORING DEPTH:	**66'**	WELLBORE DIAMETER:	**8-inch**
BORING ELEVATION	**17.114 feet**	TOC (inner) ELEVATION:	**16.785 feet (ASML)**

NOTE: Well S-263 drilled within 5 feet of boring S-263D. Screen=0.010 slot; "0" sand; flushmount finish. Screen (15'-30'); Riser (0'-15'); Sand (13'-30'); Bentonite (11'-13'); Grout (surface to 11')

Depth (feet)	Blow Counts	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
0					Boring location pre-cleared by Mobile Dredge to 4'	
-5	5'-7'	877		Stiff dark gray clay with large chunk of wood (fill), saturated (water from dredging)	Sample (5'-7') submitted for laboratory analysis	
					Auger to 10'	
-10	10'-12'	232		Clay with organics, dark gray. Sheen on outside of spoon	Sample (10'-12') submitted for laboratory analysis	
					Auger to 16'	

Aquaterra Technologies, Inc.

SUBSURFACE LOG: S-263D
AND WELL CONSTRUCTION: S-263

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
-15						
	16'-18'	232		Gravel and sand matrix	Shelby Tube sample (16'-18') and lab sample	
	18'-20'	261		Gravels of variable composition and size in clayey-sandy matirx, moist	Sample (18'-20') submitted for laboratory analysis	
-20	20'-22'	1147		Same as above	Sample (20'-22') submitted for laboratory analysis	
	22'-24'	1371		Same as above	Sample (22'-24') submitted for laboratory analysis	
	24'-26'	1516		Medium brown, Medium sand Sand with fine gravel.	Sample (24'-26') submitted for laboratory analysis	
-25						
	26'-28'	1445		Same as above-sand and gravel (larger and more gravel at bottom of sample, less gravel and more sand at top-fining upward)	Sample (26'-28') submitted for laboratory analysis	
	28'-30'	1347		Mottled gray and orange clay, very little sand, saturated. Bottom 2" of spoon very fine light gray and orange sand	Sample (28'-30') submitted for laboratory analysis	
-30	30'-32'	1411		Same as above to 31'8". Medium coarse sand, no gravel, light brown	Sample (30'-32') submitted for laboratory analysis	

Aquaterra Technologies, Inc.

SUBSURFACE LOG: S-263D
AND WELL CONSTRUCTION: S-263

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
	32'-34'	1520		In shelby tube: looks like light brown, med coarse sand; product visible in air bubbles inside of tube (LNAPL).	Shelby Tube sample (32'-34') and lab sample	
	34'-36'	440		Soft clay with medium coarse sand, no gravel, saturated, light brown	Sample (34'-36') submitted for laboratory analysis	
-35						
	36'-38'	277		Light brown, med sand with few coarse sands, no gravel, saturated	Sample (36'-38') submitted for laboratory analysis	
	38'-40'	109		Light brown medium sand, no gravel	Sample (38'-40') submitted for laboratory analysis	
-40	40'-42'	55.3		Light brown med-coarse sand, medium dense	Sample (40'-42') submitted for laboratory analysis	
	42'-44'	101		Same as above, more orange in color in last 4" of spoon	Sample (42'-44') submitted for laboratory analysis	
	44'-46'	35.8		From tube look like same as above-bottom of tube was clay	Shelby Tube sample (44'-46') and lab sample	
-45						
	46'-48'	96.6		Light brown medium-coarse sand with fine sand at 47'-47.5'	Sample (46'-48') submitted for laboratory analysis	
	48'-50'	64.9		Light brown med-coarse sand, orange at bottom of spoon	Sample (48'-50') submitted for laboratory analysis	
-50	50'-52'	14.4		Orange brown med-coarse grained sand	Sample (50'-52')	

SUBSURFACE LOG: S-263D
AND WELL CONSTRUCTION: S-263

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
					submitted for laboratory analysis	
	52'-54'	194		Same as above	Sample (52'-54') submitted for laboratory analysis	
	54'-56'	209		Same as above	Sample (54'-56') submitted for laboratory analysis	
-55						
	56'-58'	81.7		Same as above, very little gravel at bottom	Sample (56'-58') submitted for laboratory analysis	
				Same as above to 59.5		
	58'-60'	151			Sample (58'-59.5') submitted for laboratory analysis	
				At 59.5' sand; orange very weathered sandstone rock at bottom		
-60	60'-62'	154			Sample (60'-62') submitted for laboratory analysis	
				Same as above-orange brown med-coarse grained sand to 61.5		
	62'-64'	375		At 61.5' Orange coarse grained sand; few fine gravels (sub-angular) <1cm	Sample (62'-64') submitted for laboratory analysis	
				Orange, coarse sand with few small gravels ranging up to 2 cm		
	64'-66'	134		Sand	Shelby Tube sample (64'-66') and lab sample	
-65						
					Borehole complete to 66'	

SUBSURFACE LOG: S-264D
AND WELL CONSTRUCTION : S-264D

Aquaterra Technologies, Inc.

PROJECT:	Sunoco-Philadelphia Refinery	DRILLING CO.:	Parratt-Wolffe
SITE LOCATION:	AOI-1	DRILLING METHOD:	Hollow Stem Auger
LOGGED BY:	Tiffani Doerr	SAMPLING METHOD:	Split Spoon
DATES DRILLED:	19 & 20 December 2007	SCREEN/RISER DIAMETER:	4-inch
TOTAL BORING DEPTH:	82'	WELLBORE DIAMETER:	8-inch
BORING ELEVATION	25.097 feet (AMSL)	TOC (inner) ELEVATION:	26.63 feet

NOTE: Well S-264D drilled within 5 feet of boring S-264D. Screen= 0.010 slot; "0" sand; 2' stickup finish. Screen (71'-81'); Riser (0'-71'); Sand (69'-81'); Bentonite (64'-69'); Grout (surface-64')

Depth (feet)	Sample Int.	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
0					Boring location pre-cleared by Mobile Dredge to 8'	
-5						
	8'-10'	0.3		Gray silty clay with few orange laminations and some vey fine sand, slightly moist, no odors	No Sample	
-10						
	14'-16'	37.2		Same as above with large gravel in bottom of spoon	Sample (14'-16') submitted for laboratory analysis	

Aquaterra Technologies, Inc.

SUBSURFACE LOG: S-264D
AND WELL CONSTRUCTION: S-264D

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
-15						
	16'-18'	5.2		Med to coarse sand and gravel (variable size and color, gravels subrounded & subangular)	Sample (16'-18') submitted for laboratory analysis	
	18'-20'	6.9		In shelby tube: gravel appears to continue to 18.5 Gray clay with organics	Shelby Tube sample (18'-20') and laboratory sample	
-20	20'-22'	1.6		Same as 16'-18' interval	Sample (20'-22') submitted for laboratory analysis	
	22'-24'	28.6		Same as above, gravel and coarse sand. Top 1' less gravel/smaller gravel, green and red sandstone and quartzite frags	Sample (22'-24') submitted for laboratory analysis	
	24'-26'	115		Same as above, Larger gravels up to 2", bottom wet.	Sample (24'-26') submitted for laboratory analysis	
-25						
	26'-28'	1805		Same as above, wet, sheen visible on gravel surfaces.	Sample (26'-28') submitted for laboratory analysis	
	28'-30'	1810		Sand and gravel	Shelby Tube sample (28'-30') and laboratory sample	
-30	30'-32'	1262		Coarse sand with less gravel, color changing with depth (gray then orange then multicolored) (31.5'-32') Med-coarse sand, gray brown with occassional gravel	Sample (30'-32') submitted for laboratory analysis	
	32'-24'	1560		Same as above, gray-brown, med to coarse sand with fne gravel	Sample (32'-34') submitted for laboratory analysis	
	34'-36'	1746		Same as above, bottom 4-inch with coarser gravels	Sample (34'-36') submitted for laboratory analysis	
-35						

SUBSURFACE LOG: S-264D
AND WELL CONSTRUCTION: S-264D

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
	36'-38'	1555		Same as above, less gravel	Sample (36'-38') submitted for laboratory analysis	
	38'-40'	1566		Same to 39.5	Sample (38'-40') submitted for laboratory analysis	
				Gray fine to med sand, no gravel. 2" caliche layer		
-40	40'-42'	829		Same as above to 41'.	Sample (40'-42') submitted for laboratory analysis	
				Same as above, increased gravel content (41'-41.5')		
				(41.5'-42') Orange & dark orange laminated clay then gray-orange clay at bottom, no sand.		
	42'-44'	30.3		(42'-43') Fine sand layers with orange clay plug	Sample (42'-44') submitted for laboratory analysis	
				(43'-44') Orange clay w/ brown organic laminations in bottom 4"		
	44'-46'	297		Brown medium coarse sand	Sample (44'-46') submitted for laboratory analysis	
-45						
				(45.5'-46') Light brown medium coarse sand with some gravel		
	46'-48'	38.1		Medium to coarse sand with some gravel	Sample (46'-48') submitted for laboratory analysis	
	48'-50'	37.2		Light brown medium sand with occassional gravel	Sample (48'-50') submitted for laboratory analysis	
-50	50'-52'	291		Brown medium sand with occassional gravel,	Sample (50'-52') submitted for laboratory analysis	
				(51.5'-51.8') Reddish-brown plastic clay		
				Very coarse medium sand and gravel		
	52'-54'	3.4		Fine-med grained sand (fining grading upward sequence) to med-coarse sand with large gravel	Sample (52'-54') submitted for laboratory analysis	
	54'-56'	18.6		Medium sand to 55.3'	Sample (54'-56') submitted for laboratory analysis	
-55						

SUBSURFACE LOG: S-264D
AND WELL CONSTRUCTION: S-264D

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
				Sandy silt to 55.9'		
	56'-58'	16.8		Reddish-orange silty clay Medium coarse sand with gravel (56.5' - 57'), Fine-med sand, gray color (57' - 57.5')	Sample (56'-58') submitted for laboratory analysis	
	58'-60'	105		(57.5'-57.8') Reddish-brown sandy silt, gravel present at 57.8' Medium to very coarse sand and gravel	Sample (58'-60') submitted for laboratory analysis	
-60	60'-62'	6.3		(60'-60.5') Clayey sand. (60.5'- 61') Medium to coarse sand with some gravel. (61'-62) Coarse to very coarse sand and gravel	Sample (60'-62') submitted for laboratory analysis	
	62'-64'	33.3		(62.5'-63.5') Medium to coarse sand with very little gravel. At 63'-very sandy clay (2")	Sample (62'-64') submitted for laboratory analysis	
	64'-66'	216		Medium to coarse sand with some gravel	Sample (64'-66') submitted for laboratory analysis	
-65				(65.5'-66') Fine to medium sand		
	66-68'	6.1		Orange medium sand	Sample (66'-68') submitted for laboratory analysis	
	68'-70'	61.8		Spoon refusal at 69', gravel with clayey sand matrix at 68.5'-69'	Sample (68'-69') submitted for laboratory analysis Auger to 70'	
-70	70'-72'	7.2		Same as above, saturated, less gravel to 70.5' Dark brown fine sandy clay	Sample (70'-70.5') submitted for laboratory analysis	
	72'-74'	-		6-inch recovery: clayey sand to sandy clay to rock	No Sample	
	74'-76	15.5		Orange coarse sand with few gravel at top	Sample (74'-76') submitted for laboratory analysis	
-75				Milky white coarse sand and gray fine gravel		

Aquaterra Technologies, Inc.

SUBSURFACE LOG: S-264D
AND WELL CONSTRUCTION: S-264D

Depth (feet)	Sample Int	OVM (ppm)	USCS	LITHOLOGY	COMMENTS	WELL DIAGRAM
	76'-78'	27.6		6" recovery. Same as above, bottom 1-inch orange coarse sand and coarse gravel	Sample (76'-78') submitted for laboratory analysis	
	78'-80'	11.6		Coarse sand with gravel	Sample (78'-80') submitted for laboratory analysis	
				Coarse gravel with sand		
-80	80'-82'	25.6		Same as above, bottom 3-inches = round cobble with white sandy clay matrix	Shelby Tube sample (80'-82') and laboratory sample	
					Borehole complete to 82'	

Appendix B

PTS File No: 371138
Client: Integrated Science & Technology

PTS Laboratories

PHYSICAL PROPERTIES DATA - HYDRAULIC CONDUCTIVITY PACKAGE

PROJECT NAME: Sun-Philly Refinery
PROJECT NO: N/A

		METHODS:	API RP 40 / ASTM D2216	API RP 40		API RP 40		API RP 40	API RP 40; ASTM D5084; EPA 9100	
									25 PSI CONFINING STRESS	
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	MOISTURE CONTENT, % weight	DENSITY		POROSITY, %Vb (2)		TOTAL PORE FLUID SATURATIONS (3), % Pv	EFFECTIVE (4,5) PERMEABILITY TO WATER, millidarcy	HYDRAULIC CONDUCTIVITY (4,5), cm/s
				BULK, g/cc	GRAIN, g/cc	TOTAL	AIR FILLED			
S261D	34.2	V	12.7	1.93	2.64	26.7	9.1	65.9	66.0	6.16E-05
S261D	42.2	V	18.4	1.80	2.68	32.7	4.7	85.7	2.09	1.96E-06
S261D	54.2	V	20.4	1.83	2.68	31.6	1.7	94.4	1.39	1.29E-06
S264D	18.2	V	6.6	1.82	2.66	31.6	6.4	79.6	35.1	3.25E-05
S264D	28.2	V	26.1	1.95	2.66	26.9	4.6	82.7	1.37	1.28E-06
S264D	80.2	V	10.2	2.07	2.64	21.7	2.7	87.6	18.6	1.75E-05

(1) Sample Orientation: H = horizontal; V = vertical (2) Total Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids (3) Water = 0.9996 g/cc (4) Native State or Effective = With as-received pore fluids in place (5) Permeability to water and hydraulic conductivity measured at saturated conditions; Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

PTS File No: 371115
Client: Integrated Science & Technology, Inc.

PTS Laboratories

PHYSICAL PROPERTIES DATA - HYDRAULIC CONDUCTIVITY PACKAGE

PROJECT NAME: Sun DSCP
PROJECT NO: SUN-0001-A

		METHODS:	API RP 40 / ASTM D2216	API RP 40		API RP 40		API RP 40	API RP 40; ASTM D5084; EPA 9100	
									25 PSI CONFINING STRESS	
SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	MOISTURE CONTENT, % weight	DENSITY		POROSITY, %Vb (2)		TOTAL PORE FLUID SATURATIONS (3), % Pv	EFFECTIVE (4,5) PERMEABILITY TO WATER, millidarcy	HYDRAULIC CONDUCTIVITY (4,5), cm/s
				BULK, g/cc	GRAIN, g/cc	TOTAL	AIR FILLED			
S262D	17.15	V	10.8	1.95	2.60	24.9	0.4	98.6	7.88	7.34E-06
S262D	24.3	V	13.0	1.91	2.64	27.8	4.7	83.1	1.06	9.84E-07
S262D	39.3	V	33.8	1.36	2.57	47.3	2.5	94.7	0.933	8.71E-07
S262D	59.3	V	16.0	1.66	2.64	36.9	4.7	87.3	163	1.51E-04
S263D	16.3	V	22.5	1.61	2.63	38.7	8.2	78.7	0.433	4.01E-07
S263D	32.3	V	14.4	1.55	2.62	40.7	1.9	95.3	788	7.34E-04
S263D	44.3	V	19.4	1.76	2.65	33.8	3.8	88.7	1.02	9.36E-07
S263D	64.3	V	15.8	1.60	2.64	39.4	3.9	90.2	1212	1.12E-03

(1) Sample Orientation: H = horizontal; V = vertical (2) Total Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids (3) Water = 0.9996 g/cc (4) Native State or Effective = With as-received pore fluids in place (5) Permeability to water and hydraulic conductivity measured at saturated conditions; Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected