



Allen, Pam, NMENV

From: Cobrain, Dave, NMENV
Sent: Tuesday, August 19, 2014 4:55 PM
To: McDonald, William, NMENV; Wear, Benjamin, NMENV; Brandwein, Sid, NMENV; McQuillan, Dennis, NMENV; Turner, Jill, NMENV; Reuter, Stephen, NMENV; Shean, Frederic (flshean@abcwua.org); Gallegos, William A. (bagallegos@cabq.gov); Torcoletti.Paul@epa.gov; Laurie King; hubner.tara@epa.gov
Cc: Allen, Pam, NMENV
Subject: FW: AS/SVE pilot study - July monthly report KAFB Air Sparge Pilot test
Attachments: KAFB-014-0029_Air Sparge-SVE Monthly Report July 2014.pdf

Just received. This is the monthly report for the air sparge pilot test located north of the BTEX plume.

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From: Amdurer, Mike [<mailto:mike.amdurer@CBIFederalServices.com>]
Sent: Tuesday, August 19, 2014 4:21 PM
To: Blaine, Tom, NMENV; Kieling, John, NMENV; Cobrain, Dave, NMENV
Cc: Wayne Bitner; CLARK, MELISSA B GS-12 USAF AFMC 377 MSG/CZO; BRANSON, VICTORIA ; Cooper, Thomas; Agnew, Diane; Fenton, Ryan; Shealy, Stuart
Subject: AS/SVE pilot study - July monthly report

This email is to satisfy the requirement of NMED's 30 May 2014 letter requesting monthly updates on the status of the Air Sparge/SVE system at wells KAFB-106211 and KAFB-10617, south of Ridgecrest Rd. Please see the attached report.

Thanks,

Mike Amdurer


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August 19, 2014

**Subject: Kirtland Air Force Base Bulk Fuel Facility – Air Sparge and Soil-Vapor Extraction
Monthly Report for July 2014**

This Kirtland Air Force Base (AFB) Air Sparge (AS)/Soil-Vapor Extraction (SVE) Pilot Monthly Report has been prepared by CB&I Federal Services LLC (CB&I) for the New Mexico Environment Department (NMED) in accordance with the NMED letter dated May 12, 2014, titled “Kirtland Air Force Base – Air Sparge and SVE Pilot Implementation Work Plan.” This monthly report outlines all activities conducted at the AS/SVE system from July 1 through July 31, 2014.

Activities Conducted

The AS/SVE system began operation on June 30, 2014 and has been fully operational for the month of July with the following exception:

July 25, 2014—System shutdown at 1114 and remained down until 1040 on July 26, 2014 in response to an over-voltage alarm. The over-voltage alarm was triggered by the generator supplying too little or too much power to the system. This issue will be avoided when permanent power is installed from the nearby PNM power line (to be done during the next month).

Field Measurements and Observations

Total hydrocarbons, percent oxygen, carbon monoxide, and carbon dioxide are monitored at the wellhead, and inlet and outlet of the carbon beds on a daily basis using a field Horiba MEXA 584L emissions analyzer. Photoionization detection (PID) readings are also collected from the wellhead, and inlet and outlet of the carbon beds using a hand-held MiniRAE 2000 PID instrument. Field Horiba and PID measurements collected for this reporting period are provided as Table 1.

The average hydrocarbon readings, using the Horiba field instrument, generally range from 2 to 4 ppm. In “clean” air the Horiba frequently shows 3 to 5 ppm of hydrocarbon. The data indicate that the hydrocarbons coming from the SVE well and the carbon beds are certainly below 5 ppm and below the reliable quantification limit for the Horiba instrument. Analytical results from the method TO-15 sampling of the soil vapor gas and carbon outlet will be available next month and are expected to confirm that the hydrocarbons in these samples are low.

Elevated PID readings, ranging from 10.1 to 43.3 parts per million (ppm), were observed at the outlet of the first carbon bed. To determine whether the elevated PID readings were a result of the first carbon bed, atmospheric air was pulled through the bed while the SVE system was shut off and PID readings were collected from both the inlet and outlet of the bed. During this test, PID readings were measured below 3 ppm at both the inlet and outlet of the first carbon bed. CB&I is currently investigating the cause of the elevated outlet PID readings. The PID instrument is sensitive to numerous compounds besides hydrocarbons, including sulfides and other sulfur compounds. PID readings from the second carbon bed are below 3 ppm, indicating that the final discharge is clean.

Operational data, including temperature, vacuum, humidity, and differential pressure, were collected at least four times per week while the AS/SVE system was running. Air sparge and SVE operational readings are provided as Table 2. Flow rates for the SVE well and the dilution air were calculated and are provided in Table 3.

Water levels were collected prior to sampling well Kirtland Air Force Base (KAFB)-106017 on a weekly basis for the first 4 weeks of operation. Water levels were measured between 480.30 and 480.63 feet below top of casing, approximately 4.61 feet above the top of the well screen (484.91 feet below top of casing). A groundwater level time-series graph is presented on Figure 1. Based on Figure 1, water levels at KAFB-106017 unexpectedly rose approximately 3.77 feet from Fourth Quarter calendar year (CY) 2013 to Second Quarter CY 2014, thus resulting in the top of screen being flooded and below the current water table. A smaller rise in the water table was seen at nearby groundwater monitoring well clusters 4 and 19, where the water levels rose approximately 2 feet from Fourth Quarter CY 2013 to Second Quarter CY 2014. Water-level measurements and groundwater field quality measurements collected prior to sampling well KAFB-106017 are included in Table 4.

Analytical Results

Prior to startup of the AS/SVE system, two baseline groundwater samples (GW1682 and GW1683) were collected from KAFB-10617 on June 19 and June 30, 2014, respectively. Baseline samples were analyzed for volatile organic compounds; 1,2-dibromoethane (EDB), total petroleum hydrocarbons (TPH)-diesel range organics, TPH-gasoline range organics, iron, and sulfide/sulfate. KAFB-10617 was also sampled on a weekly basis for the first 4 weeks after system startup and analyzed for the same parameters listed above in accordance with the NMED-approved Air Sparge and Soil-Vapor Extraction Pilot Implementation Work Plan (USACE, 2014). Groundwater results were compared to the more conservative screening level between the U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs) (EPA, 2013) and the NMED Groundwater Protection Standards (New Mexico Administrative Code 20.6.2.3103). The EPA regional screening level for tap water was used where there was no MCL or NMED Groundwater Protection Standard established for a given parameter.

One analyte, EDB, was detected in all four groundwater samples at concentrations exceeding the EPA MCL of 0.05 microgram per liter. The maximum detected concentration of EDB was 0.284 microgram per liter collected on July 16, 2014 from KAFB-10617 as part of the second weekly groundwater sample (GW1685). Sulfate and 1,2-dichloroethane were detected at concentrations well below respective screening levels in all four of the groundwater samples collected from KAFB-10617 (two baseline and first two weekly samples). TPH-diesel range organics, TPH-gasoline range organics, acetone, and tetrachloroethene were detected in one or more of the baseline and first two weekly groundwater samples at concentrations well below respective screening levels. Chlorobenzene was detected in one baseline sample at a concentration of 0.508 micrograms per liter; however, this analyte was not detected in the first two weekly groundwater samples. The analytical results for the baseline, first weekly, and second weekly groundwater samples collected from KAFB-10617 are provided in Table 5. Data from the second and third weekly groundwater samples at KAFB-10617 have not been received and will be included in the next monthly report.

A baseline soil-vapor sample (VA9133) was collected from KAFB-106211 on June 21, 2014 prior to system startup, using pre-evacuated Bottle-Vac™ canister sampled through the SVE wellhead. The baseline soil-vapor sample was analyzed for air-phase hydrocarbons, volatile organic compounds, EDB, and fixed gases (carbons dioxide, carbon monoxide, methane, nitrogen, and oxygen) in accordance with the NMED-approved Air Sparge and Soil-Vapor Extraction Pilot Implementation Work Plan (USACE, 2014).

EDB was detected in the baseline soil-vapor sample collected from the SVE wellhead with a concentration of 8.5 parts per billion by volume. TPH (C5-C8), TPH (C9-C10), and TPH (C9-C12) were detected at concentrations of 65,000, 180, and 5,000 micrograms per cubic meter, respectively. Seventeen VOCs were also detected in the baseline soil-vapor sample. There are no regulatory values for soil-vapor. Analytical results for the baseline soil-vapor sample are provided in Table 6. The monthly soil-vapor sample for July was collected from the SVE system wellhead on July 30, 2014; however, a soil-vapor sample was not collected from the granular-activated carbon exhaust. Therefore, a second set of soil-vapor samples were collected from both the SVE wellhead and granular-activated carbon exhaust on August 7, 2014 to represent the July soil-vapor sample. Analytical results for these samples have not been received and will be included in the next monthly report.

References

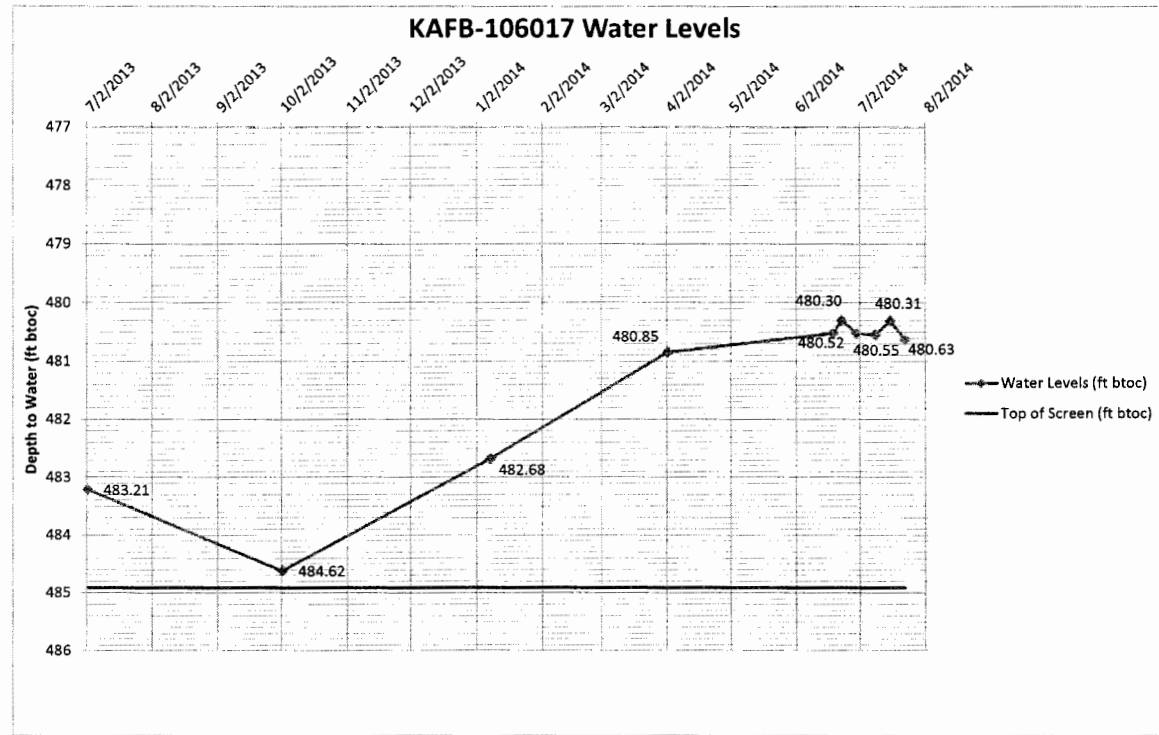
EPA, 2013. National Primary Drinking Water Standards, EPA 816-F-09-0004, U.S. Environmental Protection Agency, Washington, D.C., May.

USACE, 2014. Kirtland Air Force Base – *Air Sparge and Soil-Vapor Extraction Pilot Implementation Work Plan*, Prepared by CB&I Federal Services, LLC. For the USACE Albuquerque District under USACE Contract No. W912DY-10-D-0014, Delivery Order 0002, May.

FIGURES

Figure 1
KAFB-10617 Groundwater Time-Series Graph

Date	GWL (ft btoc)	Screen Top (ft btoc)	GWL above screen (ft)
7/2/2013	483.21	484.91	1.7
10/2/2013	484.62	484.91	0.29
1/8/2014	482.68	484.91	2.23
4/2/2014	480.85	484.91	4.06
6/19/2014	480.52	484.91	4.39
6/23/2014	480.30	484.91	4.61
6/30/2014	480.52	484.91	4.39
7/9/2014	480.55	484.91	4.36
7/16/2014	480.31	484.91	4.6
7/23/2014	480.63	484.91	4.28



TABLES

Table 1
Horiba Field Readings

Date and Time	SVE Well ^a					Pre-Carbon Bed					Post 1st Carbon Bed					Post 2nd Carbon Bed (Exhaust)				
	HC ^b	CO ₂	O ₂	CO	PID	HC ^b	CO ₂	O ₂	CO	PID ^c	HC ^b	CO ₂	O ₂	CO	PID ^c	HC ^b	CO ₂	O ₂	CO	PID ^c
	ppm	% vol	% vol	% vol	ppm	ppm	% vol	% vol	% vol	ppm	ppm	% vol	% vol	% vol	ppm	ppm	% vol	% vol	% vol	ppm
7/1/2014 8:07	< 5	0.02%	21.32%	0.00%	NA	< 5	0.08%	21.32%	0.00%	< 3	6	0.02%	21.25%	0.00%	5.2	< 5	0.02%	21.07%	0.00%	< 3
7/2/2014 13:25	8	0.18%	20.28%	0.00%	NA	< 5	0.16%	20.71%	0.00%	< 3	8	0.18%	20.60%	0.00%	12.5	< 5	0.16%	20.58%	0.00%	< 3
7/3/2014 9:45	7	0.18%	20.43%	0.00%	NA	< 5	0.18%	22.27%	0.00%	< 3	9	0.18%	21.23%	0.00%	8.7	< 5	0.20%	20.56%	0.00%	< 3
7/7/2014 10:48	7	0.18%	20.45%	0.00%	NA	< 5	0.18%	21.12%	0.00%	< 3	< 5	0.20%	20.88%	0.00%	43.3	< 5	0.20%	20.38%	0.00%	< 3
7/8/2014 8:27	< 5	0.20%	20.55%	0.00%	NA	< 5	0.16%	21.82%	0.00%	< 3	< 5	0.16%	21.22%	0.00%	12.7	< 5	0.22%	20.37%	0.00%	< 3
7/9/2014 11:57	< 5	0.20%	20.41%	0.00%	NA	< 5	0.16%	21.27%	0.00%	< 3	< 5	0.16%	20.88%	0.00%	29.0	< 5	0.18%	20.41%	0.00%	< 3
7/10/2014 11:00	8	0.20%	20.59%	0.00%	NA	< 5	0.14%	21.06%	0.00%	< 3	< 5	0.16%	20.63%	0.00%	19.0	6	0.22%	20.95%	0.00%	< 3
7/14/2014 9:14	< 5	0.20%	20.55%	0.00%	NA	< 5	0.18%	21.07%	0.00%	< 3	< 5	0.18%	20.91%	0.00%	20.3	< 5	0.22%	20.53%	0.00%	< 3
7/15/2014 8:33	< 5	0.18%	20.44%	0.00%	NA	8	0.18%	20.81%	0.00%	NR	< 5	0.14%	20.82%	0.00%	NR	< 5	0.14%	20.76%	0.00%	NR
7/16/2014 14:40	< 5	0.18%	20.57%	0.00%	NA	< 5	0.16%	20.52%	0.00%	< 3	6	0.18%	20.38%	0.00%	5.3	< 5	0.18%	20.84%	0.00%	< 3
7/17/2014 9:50	< 5	0.20%	20.84%	0.00%	NA	< 5	0.16%	21.52%	0.00%	< 3	< 5	0.16%	20.98%	0.00%	15.9	< 5	0.22%	20.48%	0.00%	< 3
7/21/2014 9:35	< 5	0.18%	20.37%	0.00%	NA	< 5	0.16%	20.99%	0.00%	< 3	< 5	0.16%	20.88%	0.00%	18.0	< 5	0.20%	20.59%	0.00%	< 3
7/22/2014 8:37	6	0.20%	20.72%	0.00%	NA	< 5	0.16%	21.10%	0.00%	< 3	< 5	0.22%	21.91%	0.00%	15.8	6	0.28%	21.63%	0.00%	< 3
7/23/2014 8:13	< 5	0.22%	20.54%	0.00%	NA	< 5	0.16%	20.86%	0.00%	< 3	< 5	0.22%	21.73%	0.00%	9.8	< 5	0.24%	21.31%	0.00%	< 3
7/24/2014 10:31	8	0.18%	20.93%	0.00%	NA	6	0.16%	21.10%	0.00%	< 3	6	0.16%	20.92%	0.00%	6.2	< 5	0.18%	20.36%	0.00%	< 3
7/28/2014 11:00	< 5	0.18%	20.52%	0.00%	NA	< 5	0.20%	20.48%	0.00%	< 3	< 5	0.16%	20.96%	0.00%	10.1	< 5	0.18%	21.56%	0.00%	< 3
7/29/2014 9:47	< 5	0.18%	20.54%	0.00%	NA	< 5	0.18%	20.83%	0.00%	< 3	< 5	0.16%	20.78%	0.00%	11.8	< 5	0.16%	20.72%	0.00%	< 3
7/30/2014 8:20	< 5	0.20%	20.58%	0.00%	NA	< 5	0.18%	20.97%	0.00%	< 3	< 5	0.18%	20.72%	0.00%	8.3	< 5	0.30%	21.13%	0.00%	< 3
7/31/2014 10:12	< 5	0.16%	20.52%	0.00%	NA	< 5	0.20%	20.73%	0.00%	< 3	< 5	0.18%	20.48%	0.00%	6.4	< 5	0.20%	20.30%	0.00%	< 3

Notes:

Readings for HC, CO₂, O₂, and CO were collected using a Horiba MEXA 584L emissions analyzer. PID readings were collected using a hand-held MiniRAE 2000 PID instrument.

^a Soil-vapor analytical results for hydrocarbons, using Method TO-15, are provided in Table 6 of the Air Sparge/SVE Monthly Report.

^b Field readings were detected between 0 and 5 ppm and were reported as "< 5 ppm." Readings below 5 ppm are considered to be below the background detection capability of the instrument.

^c Field readings were detected between 0 and 3 ppm and were reported as "< 3 ppm." Readings below 3 ppm are considered to be below the background detection capability of the instrument.

% = percent

CO = carbon monoxide

CO₂ = carbon dioxide

HC = total hydrocarbons

NA = not applicable

NR = not recorded

O₂ = oxygen

PID = photoionization detector

ppm = parts per million

SVE = soil-vapor extraction

VOC = volatile organic compound

vol = volume

Table 2
Air Sparge/SVE System Operational Data

Time/Date	Air Sparge						SVE															Hours Operational			SVE			Calculated Flows (See Flow Calc Table)				DRE		THC	
	Flow Meter	Correction Factor	Corrected Flow	Compressor Pressure	Regulator Pressure	Temperature	Well Valve % Open	Vacuum	Differential Pressure	Temperature	Humidity	Vacuum Gauge Pre Knockout	Differential Pressure Pre Knockout	Differential Pressure for Blower Filter	Dilution				Pre Carbon Vessels			SVE	Air Sparge	Output Frequency	SVE Well				Post 1st Bed	Total	Pre Carbon	Exhaust			
															Vacuum	Differential Pressure	Temperature	Humidity	Vacuum Post Blower	Temperature Pre HX	Temperature Post HX				SVE Well	Dilution	Total Flow	Sparge Flow							
	FI-101	FI-101	FI-101	PI-101	PI-102	TI-101						PI-201	PI-201	PI-202					PI-202	TI-201	TI-202				SCFM	SCFM	SCFM	SCFM	%	%	lb/hr	lb/hr			
	SCFM		SCFM	psi	psi	°F	%	InWC	InWC	°F	%	InWC	InWC	InWC	InWC	InWC	°F	%	InWC	°F	°F	hrs	hrs	%	SCFM	SCFM	SCFM	SCFM	%	%	lb/hr	lb/hr			
7/17/2014 8:07	9.5	1.108	10.53	105	6	86	100%	31.22	0.09	79.3	32.1	32	0.15	0.0	0.12	>0.01	76.1	39.8%	27.5	100	95	31.2	24.3	30%	91	Minimal	91	10.53	-50.00%	75.00%	0.00	0.00			
7/22/2014 13:25	9	1.108	9.97	110	6	90	100%	31.3	0.08	93.6	19.8	32	0.14	0.0	0.11	>0.01	91.4	21.2%	27.5	108	110	56.9	31.8	30%	85	Minimal	85	9.97	40.00%	100.00%	0.01	0.00			
7/22/2014 9:45	9	1.108	9.97	115	6	90	100%	32.58	0.08	87.4	27.6	33	0.17	0.0	0.11	>0.01	97.4	41.3%	27.5	104	105	77.0	51.8	30%	90	Minimal	90	9.97	-50.00%	33.33%	0.01	0.00			
7/17/2014 10:48	8	1.135	9.08	115	7	90	100%	30.85	0.09	97.2	23.7	31	0.15	0.0	0.13	>0.01	83.3	37.3%	28.0	104	105	174.0	148.8	30%	90	Minimal	90	9.08	-100.00%	-100.00%	0.00	0.00			
7/8/2014 8:27	8	1.108	8.96	100	6	88	100%	30.94	0.10	88.2	27.1	31	0.17	0.0	0.13	>0.01	81.3	32.5%	28.0	101	100	195.8	170.6	30%	97	Minimal	97	8.96	-200%	-400%	0.00	0.01			
7/6/2014 11:57	8.75	1.108	9.70	100	6	93	100%	30.64	0.10	95.4	23.1	31	0.14	0.0	0.12	>0.01	86.4	32.9%	28.0	104	110	222.8	197.6	30%	95	Minimal	95	9.70	-400%	-400%	0.00	0.01			
7/10/2014 11:00	8.75	1.108	9.70	107	6	90	100%	30.37	0.10	98.4	19.1	31	0.15	0.0	0.11	>0.01	87.1	30.4%	27.5	104	108	245.9	220.7	30%	94	Minimal	94	9.70	NA	NA	0.00	0.01			
7/14/2014 9:14	10	1.108	11.08	105	6	87	100%	31.19	0.10	86.7	33.5	31.5	0.15	0.0	0.11	>0.01	76.6	48.2%	27.5	100	103	338.2	313.5	30%	96	Minimal	96	11.08	NA	NA	0.00	0.00			
7/15/2014 8:33	11	1.108	12.19	115	6	72	100%	32.07	0.09	66.0	74.7	32	0.14	0.0	0.12	>0.01	64.2	84.9%	28.0	92	90	361.6	336.9	30%	92	Minimal	92	12.19	38%	100%	0.01	0.00			
7/16/2014 14:40	9	1.108	9.97	105	6	90	100%	28.49	0.09	94.1	26.8	29	0.14	0.0	0.12	>0.01	73.2	29.5%	28.0	105	114	301.8	367.1	30%	90	Minimal	90	9.97	200%	100%	0.00	0.00			
7/17/2014 9:50	9.5	1.108	10.53	110	6	86	100%	29.42	0.10	89.6	32.3	30	0.14	0.0	0.10	0.02	75.9	54.0%	28.0	100	102	411.0	386.3	30%	95	45	140	10.53	NA	NA	0.00	0.00			
7/21/2014 9:35	11.25	1.108	12.47	105	6	92	100%	30.32	0.09	88.9	25.3	30	0.14	0.0	0.11	0.02	82.6	33.9%	28.0	104	110	506.7	482.0	30%	90	45	135	12.47	NA	NA	0.00	0.00			
7/22/2014 8:37	11.5	1.108	12.74	110	6	110	100%	30.69	0.08	90.5	26.6	30.5	0.13	0.0	0.11	0.04	83.6	34.5%	27.5	104	110	529.7	505.0	30%	85	64	149	12.74	-67%	-100%	0.01	0.01			
7/23/2014 8:13	12.0	1.108	13.30	115	6	87	100%	32.2	0.10	84.4	39.2	32.5	0.135	0.0	0.08	0.04	77.9	52.5%	27.5	100	105	553.4	528.7	30%	96	64	160	13.30	NA	NA	0.00	0.01			
7/24/2014 10:31	11.75	1.108	13.02	110	6	94	100%	31.16	0.09	96.3	20.0	32	0.13	0.0	0.08	0.04	86.2	28.2%	27.5	107	115	578.6	554.9	30%	90	63	153	13.02	0%	17%	0.01	0.01			
7/28/2014 11:00	12.5	1.138	14.23	115	7	93	100%	31.98	0.07	92.7	27.1	32	0.16	0.0	0.08	0.04	84.2	38.0%	27.5	104	110	661.0	636.3	30%	90	54	143	14.23	100%	100%	0.01	0.00			
7/30/2014 9:47	12.5	1.108	13.85	115	6	86	100%	34.73	0.11	79.5	51.0	35	0.17	0.0	>0.01	>0.01	75.00	62.3%	27.5	99	105	683.1	658.4	30%	100	Minimal	100	13.85	0%	100%	0.00	0.00			
7/30/2014 8:20	11.5	1.108	12.74	105	6	82	100%	34.79	0.11	81.9	44.8	35.5	0.21	0.0	0.00	0.00	77.00	56.8%	27.0	99	105	705.2	680.6	30%	100	0	100	12.74	0%	-50%	0.00	0.00			
7/31/2014 10:12	11	1.108	12.19	115	6	86	100%	35.09	0.11	81.1	41.5	35.5	0.185	0.0	0.00	0.00	78.20	72.2%	27.5	103	110	730.9	706.4	30%	100	0	100	12.19	40%	60%	0.01	0.00			

Notes:
 % = Percent
 °F = degrees Fahrenheit
 DRE = destruction removal efficiency
 In WC = inches of water column
 lb/hr = pounds per hour
 psi = pounds per square inch
 SCFM = standard cubic feet per minute
 SVE = soil-vapor extraction
 THC = total hydrocarbons

Table 3
Flow Calculations

Date and Time	SVE Well												Dilution											
	Relative Humidity (%)	Temperature (°F)	Barometric Pressure (inHg)	Well Vacuum (inWC)	Well Head Absolute Pressure (inHg)	Differential Pressure (inWC)	Correction factor	Density (lbs/ft ³)	Area (ft ²)	Velocity (ft/min)	Flow Rate (ACFM)	Flow Rate (SCFM)	Relative Humidity (%)	Temperature (°F)	Barometric Pressure (inHg)	Pipe Vacuum (inWC)	Well Head Absolute Pressure (inHg)	Differential Pressure (inWC)	Correction factor	Density (lbs/ft ³)	Area (ft ²)	Velocity (ft/min)	Flow Rate (ACFM)	Flow Rate (SCFM)
7/1/2014 8:07	32.10	79.30	30.09	31.22	22.43	0.09	0.996	0.055	0.09	1404	124	91	39.8%	76.1	30.09	0.12	24.72	>0.01	0.996	0.061	0.09	Minimal	Minimal	Minimal
7/2/2014 13:25	18.80	93.60	30.21	31.3	22.54	0.08	0.996	0.054	0.09	1338	118	85	21.2%	91.4	30.21	0.11	24.84	>0.01	0.996	0.059	0.09	Minimal	Minimal	Minimal
7/3/2014 9:45	27.60	87.40	30.29	32.58	22.53	0.09	0.994	0.054	0.09	1413	125	90	41.3%	97.4	30.29	0.11	24.92	>0.01	0.989	0.059	0.09	Minimal	Minimal	Minimal
7/7/2014 10:48	23.70	97.20	30.20	30.85	22.56	0.09	0.993	0.053	0.09	1425	126	90	37.3%	83.30	30.20	0.13	24.83	>0.01	0.994	0.060	0.09	Minimal	Minimal	Minimal
7/8/2014 8:27	27.10	88.20	31.20	30.94	23.56	0.10	0.994	0.057	0.09	1458	129	97	32.5%	81.30	31.20	0.13	25.83	>0.01	0.996	0.063	0.09	Minimal	Minimal	Minimal
7/9/2014 11:57	23.10	95.40	30.22	30.64	22.60	0.10	0.995	0.054	0.09	1497	132	95	32.9%	86.40	30.22	0.12	24.85	>0.01	0.994	0.060	0.09	Minimal	Minimal	Minimal
7/10/2014 11:00	19.10	98.40	30.19	30.37	22.59	0.10	0.995	0.053	0.09	1502	133	94	30.4%	87.10	30.19	0.11	24.82	>0.01	0.994	0.060	0.09	Minimal	Minimal	Minimal
7/14/2014 9:14	33.50	86.70	30.32	31.19	22.66	0.10	0.995	0.055	0.09	1484	131	96	48.2%	76.60	30.32	0.11	24.95	>0.01	0.995	0.061	0.09	Minimal	Minimal	Minimal
7/15/2014 8:33	74.70	66.00	30.36	32.07	22.83	0.09	0.994	0.057	0.09	1382	122	92	84.9%	64.20	30.36	0.12	24.99	>0.01	0.993	0.063	0.09	Minimal	Minimal	Minimal
7/16/2014 14:40	26.80	94.10	30.07	28.49	22.61	0.09	0.994	0.054	0.09	1419	125	90	29.5%	73.20	30.07	0.12	24.70	>0.01	0.998	0.061	0.09	Minimal	Minimal	Minimal
7/17/2014 9:50	32.30	89.60	30.12	29.42	22.59	0.10	0.994	0.054	0.09	1491	132	95	54.0%	75.90	30.12	0.10	24.75	0.02	0.994	0.061	0.09	629	56	45
7/21/2014 9:35	25.30	88.90	30.25	30.32	22.65	0.09	0.995	0.054	0.09	1410	125	90	33.9%	82.80	30.25	0.11	24.88	0.02	0.996	0.060	0.09	631	56	45
7/22/2014 8:37	26.60	90.50	30.29	30.89	22.67	0.08	0.995	0.054	0.09	1331	118	85	34.5%	83.80	30.29	0.11	24.92	0.04	0.995	0.060	0.09	892	79	64
7/23/2014 8:13	39.20	84.40	30.37	32.2	22.64	0.10	0.993	0.055	0.09	1483	131	96	52.5%	77.90	30.37	0.08	25.00	0.04	0.993	0.061	0.09	887	78	64
7/24/2014 10:31	20.00	96.30	30.32	31.16	22.66	0.09	0.995	0.054	0.09	1420	126	90	28.2%	86.20	30.32	0.08	24.95	0.04	0.995	0.060	0.09	894	79	63
7/28/2014 11:00	27.10	92.70	30.41	31.98	22.69	0.07	0.994	0.054	0.09	1248	110	80	38.0%	84.20	30.41	0.08	25.04	0.04	0.993	0.061	0.09	891	79	64
7/29/2014 9:47	51.00	79.50	30.33	34.73	22.41	0.11	0.993	0.055	0.09	1556	138	100	62.3%	75.00	30.33	Minimal	Minimal	>0.01	0.993	NA	0.09	Minimal	Minimal	Minimal
7/30/2014 8:20	44.80	81.90	30.23	34.79	22.30	0.11	0.993	0.054	0.09	1563	138	100	56.8%	77.00	30.23	0.00	24.87	0.00	0.993	0.061	0.09	0	0	0
7/31/2014 10:12	41.50	81.10	30.28	35.09	22.33	0.11	0.993	0.054	0.09	1561	138	100	72.2%	79.20	30.28	0.00	24.92	0.00	0.993	0.061	0.09	0	0	0

Notes:
 % = percent
 °F = degrees Fahrenheit
 ACFM = actual cubic feet per minute
 ft = feet
 inHg = inches of mercury
 inWC = inches of water column
 lbs = pounds
 min = minute
 SCFM = standard cubic feet per minute

**Table 4
KAFB-106017 Groundwater Field Quality Parameter Measurements Prior to Sampling**

Location Name	Sample No.	Date	Time	Gallons Removed	Depth to Ground-water (ft btoc)	Temperature (°C)	pH (S.U.)	Spec Cond (µS/cm ²)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Alkalinity (mg/L as CaCO ₃)
Baseline Groundwater Samples												
KAFB-106017	GW1682	6/19/2014	1718	51	480.52	19.27	8.06	368.0	8.58	209	0.71	NA
KAFB-106017	NA*	6/23/2014	1657	51	480.30	19.54	7.37	381.8	8.68	243	0.41	NA
Weekly Groundwater Samples												
KAFB-106017	GW1683	6/30/2014	1215	51	480.52	20.22	7.65	397.2	6.08	203	1.17	160
KAFB-106017	GW1684	7/9/2014	1053	51	480.55	19.45	7.76	380.9	9.73	169	0.75	148
KAFB-106017	GW1685	7/16/2014	1123	51	480.31	18.85	7.82	375.9	7.8	182	0.88	140
KAFB-106017	GW1686	7/23/2014	1113	51	480.63	19.08	7.72	354.7	8.47	189	0.57	105

*Sample was not collected.

°C = degrees Celsius

µS/cm₂ = micro Siemens per square centimeter

CaCO₃ = calcium carbonate

DO = dissolved oxygen

ft btoc = feet below top of casing

KAFB = Kirtland Air Force Base

mg/L = milligram per liter

mV = millivolt

NA = not applicable

No. = number

NTU = Nephelometric Turbidity Unit

ORP = oxidation reduction potential

S.U. = standard unit

Table 5 Groundwater Analytical Results

Chemical Class & Analytical Method ^a				Sample Type		Baseline GW Samples								First Weekly GW Sample				Second Weekly GW Sample			
				Location Code		KAFB-106017				KAFB-106017				KAFB-106017				KAFB-106017			
				Sample Number		GW1682				GW1683				GW1684				GW1685			
				Sample Date		19-Jun-14				30-Jun-14				9-Jul-14				16-Jul-14			
				Sample Purpose		REG				REG				REG				REG			
				Sample Depth		482-507 FT				482-507 FT				482-507 FT							
Parameter		EPA MCL ^b	NMED Approved Background ^c	Groundwater Protection Standards (NMAC) 20.6.2.3103 ^d	EPA Tap Water RSLs	Result	VAL	LOQ	DL	Result	VAL	LOQ	DL	Result	VAL	LOQ	DL	Result	VAL	LOQ	DL
EDB (µg/L)	1,2-DIBROMOETHANE	0.05	NE	0.1	0.0075	0.248		0.0283	0.00942	0.223		0.0278	0.00928	0.263		0.0281	0.00938	0.284		0.0279	0.00931
Anions (mg/L)	SULFATE	NE	NE	600	NE	36.5		2.5	0.33	36.4		2.5	0.33	35.5		2.5	0.33	36.2		2.5	0.33
Method E300.0	SULFIDE, TOTAL	NE	NE	NE	NE	ND	U	3.51	0.702	ND	U	3.39	0.678	ND	U	4	0.8	ND	U	3.7	0.741
Metals (mg/L)	IRON	NE	NE	1	14	ND	U	0.1	0.03	ND	U	0.1	0.03	ND	U	0.1	0.03	ND	U	0.1	0.03
Method 6010B	IRON	NE	NE	1	14	ND	U	0.1	0.03	ND	U	0.1	0.03	ND	U	0.1	0.03	ND	U	0.1	0.03
TPH (mg/L)	DIESEL RANGE ORGANICS	NE	NE	0.55 ^e	NE	0.343	J	0.385	0.0962	ND	U	0.37	0.0926	ND	U	0.2	0.1	0.107	J	0.192	0.0962
Method 8015B	GASOLINE RANGE ORGANICS	NE	NE	0.55 ^e	NE	0.0962	J	0.15	0.05	ND	U	0.15	0.05	ND	U	0.15	0.05	ND	U	0.15	0.05
VOCs (µg/L)	1,1,1,2-TETRACHLOROETHANE	NE	NE	NE	0.57	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
Method 8260B	1,1,1-TRICHLOROETHANE	200	NE	60	8000	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	1,1,2,2-TETRACHLOROETHANE	NE	NE	10	0.078	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	1,1,2-TRICHLOROETHANE	5	NE	10	0.28	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	1,1-DICHLOROETHANE	NE	NE	25	2.7	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	1,1-DICHLOROETHENE	7	NE	5	280	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	1,1-DICHLOROPROPENE	NE	NE	NE	NE	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	1,2,3-TRICHLOROBENZENE	NE	NE	NE	7	ND	U	2	0.25	ND	U	2	0.25	ND	U	2	0.25	ND	U	2	0.25
	1,2,3-TRICHLOROPROPANE	NE	NE	NE	0.00075	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5
	1,2,4-TRICHLOROBENZENE	70	NE	NE	1.1	ND	U	2	0.25	ND	U	2	0.25	ND	U	2	0.25	ND	U	2	0.25
	1,2,4-TRIMETHYLBENZENE	NE	NE	NE	15	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	1,2-DIBROMO-3-CHLOROPROPANE	0.2	NE	NE	0.00033	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5
	1,2-DIBROMOETHANE	0.05	NE	0.1	0.0075	0.308	J	1	0.25	ND	U	1	0.25	ND	U	1	0.25	0.403	J	1	0.25
	1,2-DICHLOROBENZENE	600	NE	NE	300	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	1,2-DICHLOROETHANE	5	NE	10	0.17	0.497	J	1	0.25	0.334	J	1	0.25	0.318	J	1	0.25	0.574	J	1	0.25
	1,2-DICHLOROPROPANE	5	NE	NE	0.44	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	1,3,5-TRIMETHYLBENZENE	NE	NE	NE	120	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	1,3-DICHLOROBENZENE	NE	NE	NE	NE	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	1,3-DICHLOROPROPANE	NE	NE	NE	370	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	1,4-DICHLOROBENZENE	75	NE	NE	0.48	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	2,2-DICHLOROPROPANE	NE	NE	NE	NE	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	2-BUTANONE	NE	NE	NE	5600	ND	U	10	2.5	ND	U	10	2.5	ND	U	10	2.5	ND	U	10	2.5
	2-CHLOROTOLUENE	NE	NE	NE	240	ND	UJ	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	2-HEXANONE	NE	NE	NE	38	ND	U	5	1.25	ND	U	5	1.25	ND	U	5	1.25	ND	U	5	1.25
	4-CHLOROTOLUENE	NE	NE	NE	250	ND	UJ	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	4-METHYL-2-PENTANONE	NE	NE	NE	1200	ND	U	5	1.25	ND	U	5	1.25	ND	U	5	1.25	ND	U	5	1.25
	ACETONE	NE	NE	NE	14000	5.2	J	10	2.5	ND	U	10	2.5	3.4	J	10	2.5	6.36	J+	10	2.5
	BENZENE	5	NE	10	0.45	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	BROMOBENZENE	NE	NE	NE	62	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	BROMOCHLOROMETHANE	NE	NE	NE	83	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	BROMODICHLOROMETHANE	80	NE	NE	0.13	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	BROMOFORM	80	NE	NE	9.2	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	BROMOMETHANE	NE	NE	NE	7.5	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5
	CARBON DISULFIDE	NE	NE	NE	810	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25
	CARBON TETRACHLORIDE	5	NE	10	0.45	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25

Table 5 Groundwater Analytical Results

Chemical Class & Analytical Method ^a					Sample Type		Baseline GW Samples								First Weekly GW Sample				Second Weekly GW Sample			
					Location Code		KAFB-106017				KAFB-106017				KAFB-106017				KAFB-106017			
					Sample Number		GW1682				GW1683				GW1684				GW1685			
					Sample Date		19-Jun-14				30-Jun-14				9-Jul-14				16-Jul-14			
					Sample Purpose		REG				REG				REG				REG			
					Sample Depth		482-507 FT				482-507 FT				482-507 FT				482-507 FT			
Parameter	EPA MCL ^b	NMED Approved Background ^c	Groundwater Protection Standards (NMAC) 20.6.2.3103 ^d	EPA Tap Water RSLs	Result	VAL	LOQ	DL	Result	VAL	LOQ	DL	Result	VAL	LOQ	DL	Result	VAL	LOQ	DL		
VOCs (µg/L) Method 8260B	CHLOROETHANE	100	NE	NE	78	0.508	J	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	CHLOROETHANE	NE	NE	NE	21000	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5	
	CHLOROFORM	80	NE	100	0.22	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	CHLOROMETHANE	NE	NE	NE	190	ND	UJ	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	CIS-1,2-DICHLOROETHENE	70	NE	NE	36	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	CIS-1,3-DICHLOROPROPENE	NE	NE	NE	NE	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	DIBROMOCHLOROMETHANE	80	NE	NE	0.17	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	DIBROMOMETHANE	NE	NE	NE	8	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	DICHLORODIFLUOROMETHANE	NE	NE	NE	200	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5	
	ETHYLBENZENE	700	NE	750	1.5	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	HEXACHLOROBUTADIENE	NE	NE	NE	0.3	ND	U	2	0.25	ND	U	2	0.25	ND	U	2	0.25	ND	U	2	0.25	
	ISOPROPYLBENZENE	NE	NE	NE	450	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	METHYL TERT-BUTYL ETHER	NE	NE	NE	14	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	METHYLENE CHLORIDE	5	NE	100	11	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5	
	NAPHTHALENE	NE	NE	30	0.17	ND	U	2	0.25	ND	U	2	0.25	ND	U	2	0.25	ND	U	2	0.25	
	N-BUTYLBENZENE	NE	NE	NE	1000	ND	UJ	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	N-PROPYLBENZENE	NE	NE	NE	660	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	P-ISOPROPYLTOLUENE	NE	NE	NE	NE	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	SEC-BUTYLBENZENE	NE	NE	NE	2000	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	STYRENE	100	NE	NE	1200	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	TERT-BUTYLBENZENE	NE	NE	NE	690	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	TETRACHLOROETHENE	5	NE	20	11	0.313	J	1	0.25	0.262	J	1	0.25	ND	U	1	0.25	0.275	J	1	0.25	
	TOLUENE	1000	NE	750	1100	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	TRANS-1,2-DICHLOROETHENE	100	NE	NE	360	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	TRANS-1,3-DICHLOROPROPENE	NE	NE	NE	NE	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	TRICHLOROETHENE	5	NE	100	0.49	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	TRICHLOROFLUOROMETHANE	NE	NE	NE	1100	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5	ND	U	2	0.5	
	VINYL CHLORIDE	2	NE	1	0.019	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	ND	U	1	0.25	
	XYLENES	10000	NE	620	190	ND	U	3	0.75	ND	U	3	0.75	ND	U	3	0.75	ND	U	3	0.75	

- a. EPA analytical methods listed are for the most recent sampling event.
 - b. EPA National Primary Drinking Water Standards - Maximum Contaminant Levels (MCLs), or if more
 - c. NMED-HWB Approved Background Concentrations, SNL/Kirtland AFB, Chemical Constituents in
 - d. The WQCC regulation for PAHs of 30 µg/L is a total of the concentrations of naphthalene, 1-
 - e. NMED TPH screening guideline for kerosene and jet fuel for potable groundwater.
- Shading indicates the analyte was detected.
Bold indicated analyte detected greater than regulatory standard.
 J = Estimated value, concentration is less than LOQ but greater than laboratory method detection limit (DL).
 ND = Not detected.
 NE = Not established.
 RSL = Regional Screening Level.
 U = Analyte was not detected. The reported numerical value is at or below the LOQ.
 UJ = Analyte was tentatively not detected. The reported numerical value is at or below the LOQ.

Table 6 Soil-Vapor Analytical Results

		Location Code	KAFB-106211			
		Sample Number	VA9133*			
		Sample Date	21-Jun-14			
		Sample Purpose	REG			
		Sample Depth	0 - .01 FT			
Chemical Class and Analytical Method ^b	Parameter	Result	VAL QUAL	LOQ	DL	
EDB (ppbv)	1,2-DIBROMOETHANE	8.5		0.85	0.1	
Fixed Gases (percent) Method E3C	CARBON DIOXIDE	ND	U	0.17	0.17	
	CARBON MONOXIDE	ND	U	0.17	0.17	
	METHANE	ND	U	0.17	0.17	
	NITROGEN	78.1		0.17	0.17	
	OXYGEN	21.8		0.17	0.17	
TPH (µg/m ³) Method MADEP APH	C5-C8 ALIPHATIC HYDROCARBONS	65,000		1400	1400	
	C9-C10 AROMATIC HYDROCARBONS	180		170	170	
	C9-C12 ALIPHATIC HYDROCARBONS	5,000		680	680	
VOCs (ppbv) Method TO15	1,1,1-TRICHLOROETHANE	ND	U	6.2	2.1	
	1,1,2-TETRACHLOROETHANE	ND	U	5	1.5	
	1,1,2-TRICHLOROETHANE	ND	U	6.2	2	
	1,1-DICHLOROETHANE	ND	U	8.4	2.7	
	1,1-DICHLOROETHENE	ND	U	8.6	2.9	
	1,2,4-TRICHLOROBENZENE	ND	U	4.6	1.5	
	1,2,4-TRIMETHYLBENZENE	4.7	J	6.9	2.1	
	1,2-DIBROMOETHANE	5.5		4.4	1.4	
	1,2-DICHLOROBENZENE	ND	U	5.7	1.7	
	1,2-DICHLOROETHANE	ND	U	8.4	2.7	
	1,2-DICHLOROPROPANE	ND	U	7.4	2.4	
	1,3,5-TRIMETHYLBENZENE	3.6	J	6.9	2.2	
	1,3-DICHLOROBENZENE	ND	U	5.7	1.7	
	1,4-DICHLOROBENZENE	ND	U	5.7	1.6	
	2-BUTANONE	180		120	4.8	
	2-HEXANONE	ND	U	8.3	2.7	
	4-METHYL-2-PENTANONE	9.5		8.3	2.7	
	ACETONE	630		140	22	
	BENZENE	460		11	3.4	
	BENZENE, (CHLOROMETHYL)-	ND	U	6.6	1.4	
	BROMODICHLOROMETHANE	ND	U	5.1	1.5	
	BROMOFORM	ND	U	3.3	0.99	
	BROMOMETHANE	ND	U	8.8	3.3	
	CARBON DISULFIDE	10	J	110	3.3	
	CARBON TETRACHLORIDE	ND	U	5.4	1.6	
	CHLOROBENZENE	ND	U	7.4	2.4	
	CHLOROETHANE	ND	U	13	4.4	
	CHLOROFORM	ND	U	7	2.4	
	CHLOROMETHANE	ND	U	16	4.9	
	CIS-1,2-DICHLOROETHENE	ND	U	8.6	2.7	
	CIS-1,3-DICHLOROPROPENE	ND	U	7.5	2.1	
	CYCLOHEXANE	690		20	5.7	
	DIBROMOCHLOROMETHANE	ND	U	4	1.3	
	DICHLORODIFLUOROMETHANE	ND	U	6.9	2.3	
	ERYTHRENE	ND	U	15	6.8	
	ETHYL ACETATE	ND	U	19	6.6	
	ETHYLBENZENE	79		7.8	2.5	
	FREON 113 (1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE)	ND	U	4.4	1.5	
	HEPTANE	970		8.3	2.8	
	HEXACHLOROBTADIENE	ND	U	3.2	0.89	
	HEXANE	430		9.7	2.9	
	M,P-XYLENES	190		16	4.7	
	METHYL TERT-BUTYL ETHER	ND	U	9.4	3.2	
	METHYLENE CHLORIDE	ND	U	9.8	3.3	
	NAPHTHALENE	ND	U	6.5	2.3	
O-XYLENE	52		7.8	2.3		
PROPYLENE	ND	U	20	5.5		
STYRENE	ND	U	8	2.4		
TETRACHLOROETHENE	ND	U	5	1.4		
THF	11	J	12	4.6		
TOLUENE	1,500		9	3.1		
TRANS-1,2-DICHLOROETHENE	ND	U	8.6	3.3		
TRANS-1,3-DICHLOROPROPENE	ND	U	7.5	2.4		
TRICHLOROETHENE	ND	U	6.3	1.8		
TRICHLOROFLUOROMETHANE	ND	U	6.1	2.1		
VINYL ACETATE	ND	U	97	13		
VINYL CHLORIDE	ND	U	13	4.5		
XYLENES	240		16	4.7		

^a Baseline soil-vapor sample collected at the SVE wellhead.

^b EPA analytical methods listed are for the most recent sampling event.

Shading indicates the analyte was detected.

DL = Detection limit.

FT = Feet.

J = Estimated value, concentration is less than LOQ but greater than laboratory method detection limit (DL).

ND = Not detected.

LOQ = Reporting limit.

REG = Regular sample.

TPH = Total petroleum hydrocarbon.

U = Analyte was not detected. The reported numerical value is at or below the DL.

VAL QUAL = Validation qualifier.

VOC = Volatile organic compound.