

R0232



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October 15, 2004
Project No. 2007-0057-01

Mr. Amir Gholami
Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: Dual Phase Extraction Test Report
Former USA Service Station No. 57
10700 MacArthur Blvd.
Oakland, California

Dear Mr. Gholami:

Stratus Environmental, Inc (Stratus) has prepared this report, on behalf of USA Gasoline Corporation (USA), to present the results of a Dual Phase Extraction (DPE) feasibility test conducted at former USA Service Station No. 57, located at 10700 MacArthur Blvd, Oakland, California (see Figure 1). The DPE test was conducted in accordance with the details provided in the *Feasibility Test Work Plan*, dated March 15, 2004. This report presents the test procedures used, a summary of field observations, and a discussion of the feasibility testing results.

The purpose of the DPE test was to evaluate the feasibility of simultaneously extracting soil vapors and groundwater from beneath the site, and to reduce to the residual petroleum hydrocarbon mass in the subsurface. The DPE test was completed between July 6, and July 25, 2004.

Although the results of the DPE test indicate that the petroleum hydrocarbon concentrations declined during the later part of the testing period, the results from the recent quarterly monitoring event (August 2004, conducted subsequent to the DPE test) indicates that the residual mass continues to exist in the subsurface. Considering that property redevelopment is currently scheduled to start in late 2004 or early 2005, Stratus proposes to conduct DPE using wells S-1, S-2, and MW-3 to remove additional dissolved hydrocarbon mass before redevelopment activities restrict or eliminate access to the existing monitoring well network.

SITE BACKGROUND

The site is currently an undeveloped, partially paved parcel situated on the western corner of the intersection of 108th Avenue and Foothills Boulevard in Oakland, California,

adjacent to Interstate 580 (Figure 1). This parcel comprises the southeastern corner of the Foothills Square Shopping Center. The subject site previously operated as USA Gasoline Station No. 57. The station was closed and the gasoline underground storage tanks (UST's) were removed in July 1994. Approximately 775 cubic yards of impacted soil was excavated from the vicinity of the UST pit and product lines between August and October 1994. The approximate former locations of the UST's and dispenser islands are shown on Figure 2

The environmental impact investigation at this site included installation of eight groundwater monitoring wells (S-1, S-2, and MW-3 through MW-8) and twelve exploratory soil borings (A through D and B-1 through B-8). This work was completed between 1987 and 1995. The well network has been monitored and sampled on a quarterly basis since 1995.

GEOLOGIC AND HYDROGEOLOGIC CONDITIONS

Boring logs from subsurface investigations performed by others indicate from 10 to more than 40 feet of predominantly silty and clayey sand. A laterally continuous stratum of sandy and clayey gravel is encountered at approximately 25 feet below ground surface (bgs) beneath the northern portion of the site. Several lensoidal-shaped bodies (less than 5 feet thick and apparently without lateral continuity) were encountered in several borings. This sandy unit overlies bedrock consisting of deeply weathered, highly fractured, silty sandstone and siltstone. Gravel-sized clasts were encountered within the bedrock unit in some of the borings. Historical cross-sections are included in Appendix A.

Historical groundwater elevation data indicate that groundwater has fluctuated between approximately 7 and 21 feet bgs in the monitoring well network. During the most recent monitoring event (August 2004, subsequent to the DPE test), groundwater was measured between 12.62 and 20.98 feet bgs. A sheen was observed in well S-2 during this monitoring event, the first occurrence of free product or product sheen at the site. Historically, groundwater flow direction has been and towards the north, south, southwest, southeast, and radial around wells S-1, S-2, and MW-7.

EXTENT OF RESIDUAL IMPACT IN VADOSE ZONE SOIL

Petroleum hydrocarbons have impacted soil in the vicinity of the UST complex, and impact extends to the saturated zone. In the vicinity of the former UST pit, soil samples collected from 12 to 13 feet bgs on the western and southwestern pit walls were reported to contain up to 2,400 milligrams/kilogram (mg/Kg) of total petroleum hydrocarbons as gasoline (TPHG) and 9.6 mg/Kg of benzene. At the base of the former UST pit, TPHG and benzene were reported in soil samples collected from depths up to 20 feet bgs, at concentrations up to 620 and 1.1 mg/Kg, respectively.

TPHG and benzene were reported in five of the six soil samples collected beneath the former dispenser islands, at concentrations up to 1,800 and 0.72 mg/Kg, respectively. These samples were collected between 3 and 3.5 feet bgs. One sample from 3.5 feet bgs in the former product line trench contained TPHG at a concentration of 4,500 mg/Kg; limited excavation was performed in this area, and the concentration dropped to 15 mg/Kg at 9 feet bgs.

Near the former UST pit, soil samples collected from borings B-1 and MW-3 (west of the former UST pit) at depths between 10 and 21 feet bgs were reported to contain TPHG at concentrations up to 540 mg/Kg and benzene concentrations up to 2.6 mg/Kg. East of the former UST pit (boring B-2), TPHG was reported in soil samples collected between 16 and 26 feet bgs at concentrations of 16 to 240 mg/Kg. Benzene concentrations in these samples ranged from 0.057 to 0.96 mg/Kg. Soil analytical data from exploratory soil borings drilled adjacent to the former dispenser islands, former product line trench, and former UST pit suggest that the lateral extent of impact near the former dispenser islands and former product line trench has been adequately characterized.

EXTENT OF DISSOLVED PHASE HYDROCARBONS

Groundwater impact is observed primarily in the vicinity of wells S-1, S-2, and MW-3. During the recent quarterly monitoring event (third quarter 2004), TPHG was reported in wells S-1 (110 micrograms/liter [$\mu\text{g/L}$]), S-2 (10,000 $\mu\text{g/L}$), MW-3 (580 $\mu\text{g/L}$) and MW-5 (89 $\mu\text{g/L}$). Benzene was reported in wells S-1 (4.6 $\mu\text{g/L}$), S-2 (76 $\mu\text{g/L}$), and MW-3 (19 $\mu\text{g/L}$). Methyl tertiary butyl ether (MTBE) was reported in wells S-1 (73 $\mu\text{g/L}$), S-2 (92 $\mu\text{g/L}$), MW-3 (300 $\mu\text{g/L}$), and MW-7 (2.1 $\mu\text{g/L}$). Dissolved hydrocarbons were not reported in the other wells of the monitoring well network. Historically, free product has not been observed at this site.

DUAL PHASE EXTRACTION TESTS

Stratus conducted three short-term individual tests using wells S-1, S-2, and MW-3, and one long-term test using a combination of all the three wells (S-1, S-2, and MW-3). The first DPE test was conducted using well S-2 for approximately 22 hours, the second DPE test was conducted using well S-1 for approximately 2 hours, and the third DPE test was conducted using well MW-3 for approximately 2 hours. The combined long-term DPE test, using wells S-1, S-2, and MW-3, was conducted for approximately 18 days. The objective of the feasibility test was to determine the effectiveness of DPE, and if effective during the initial testing period, continue the DPE operation to remove petroleum hydrocarbon mass from the subsurface beneath the site. Details regarding procedures, equipment, analytical methods, and results are presented in the following sections.

Before beginning the tests, air discharge and sewer discharge authorizations were procured from Bay Area Air Quality Management District (BAAQMD) and East Bay

Municipal Utility District (EBMUD), respectively. A site-specific safety plan was developed and implemented before the DPE test was initiated.

DPE Equipment

A Solleco thermal oxidizer, rated at 400 standard cubic feet per minute (scfm) with a 25-horse power (hp) liquid-ring pump, was used to apply vacuum and extract soil vapors and groundwater (dual phase flow) from wells S-1, S-2, and MW-3. The trailer-mounted system included a 100-gallon water/condensate knockout tank and a 2 hp centrifugal discharge pump to transfer the groundwater from the knockout tank to a 21,000-gallon storage tank. The extracted groundwater was treated using two 500-pound virgin coconut shell carbon vessels in series, and the separated air from the knockout tank was abated in the thermal oxidizer of the DPE system. Liquid propane was used as supplemental fuel to maintain combustion temperatures in the thermal oxidizer. A 49 hp propane generator rated at 68 kilowatts was used to power the DPE unit. The site was secured by temporary construction fencing during the testing period to protect the testing equipment from tampering, and to protect the public from possible physical harm.

DPE Wells

The wellheads of extraction wells S-1, S-2, and MW-3 were temporarily modified to provide a seal for vacuum conditions and to facilitate insertion of a drop-tube (1.0-inch diameter) to extract soil vapors and groundwater. The total depth of wells S-1, S-2, and MW-3, measured at the time of the test, were approximately 40.80 feet bgs, 42.85 feet bgs, and 42.80 feet bgs, respectively. As originally installed, wells S-1, S-2, and MW-3 were screened approximately 20 to 40 feet bgs, 20 to 40 feet bgs, and 24 to 44 feet bgs, respectively.

DPE Test Field Procedures

The DPE tests were conducted by lowering a stinger into the extraction wells (S-1, S-2, and/or MW-3). The liquid ring pump was used to apply high vacuums to the stinger to extract groundwater and soil vapors from the well. Maximum available vacuum from the liquid ring pump was 28 inches mercury ("Hg), or approximately 380 inches water column ("WC). The depths of the stingers were adjusted in accordance with groundwater fluctuations throughout the duration of the DPE test, to maximize groundwater and soil vapor extraction rates.

Wells MW-4, MW-5, MW-6, MW-7, and MW-8, and the unused (non-extracting) extraction wells (S-1, S-2, and/or MW-3) were used as observation wells to monitor induced vacuum and depth to groundwater. Prior to the commencement of the tests, the extraction wellhead was temporarily modified with appropriate PVC fittings to facilitate insertion of the 1-inch-diameter drop tube to extract soil and groundwater samples. The

wellheads of the observation wells were also temporarily modified to monitor the induced vacuum during the DPE test. Magnehelic gages were used to measure induced vacuum in "WC, and a hand operated water level sounder was used to measure the depth to groundwater in feet bgs. Field data sheets used to record data during the tests are included in Appendix B. Field observations are summarized in Tables 1 through 4.

Laboratory Analytical Methods

All groundwater and air samples collected during the feasibility study were forwarded, with appropriate chain-of-custody documentation, to Alpha Analytical, Inc., a California state-certified laboratory (ELAP #2019) located in Sparks, Nevada. Groundwater samples were analyzed for TPHG using USEPA Method SW8015B DHS/LUFT Manual, and for benzene, toluene, ethylbenzene, and total xylenes (BTEX), MTBE, ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), and tertiary butyl alcohol (TBA) using USEPA Method SW8260B. Vapor samples were analyzed for TPHG using USEPA Method SW8015B, and for BTEX and MTBE by USEPA Method SW8260B. The analytical results of air samples are summarized in Table 5 and the groundwater analytical results are summarized in Table 6. Copies of the laboratory reports and chain-of-custody documentation for the samples collected during the DPE test are included in Appendix C.

Test 1 - DPE Using Well S-2

The DPE test using well S-2 was conducted for approximately 22.5 hours with the stinger depth held constant at approximately 39 feet bgs (total depth of the well is 42.85 feet bgs). During this approximately 22.5 hour DPE test, approximately 700 gallons of groundwater and 81,009 cubic feet (ft³) (based on average air flow of 86.75 cubic feet per minute [cfm]) of soil vapors were extracted from the subsurface. Field data collected from the extraction and observation wells during this test are summarized in Table 1. Results of the DPE test using well S-2 are summarized below:

- The average influent soil vapor flow rate was approximately 87 cfm, and the groundwater extraction rate was 0.5 gallons per minute (gpm), at an average applied vacuum of 25.44 "Hg (or 345.98 "WC).
- Induced vacuum in the range of 0.2 "WC to 1.30 "WC was measured only at well S-1, located approximately 50 feet from extraction well S-2. These induced vacuum observations were less than 1% of the applied vacuum.
- Decreases in groundwater elevations were observed only in wells S-1 (0.52 feet) and MW-7 (0.19 feet), located approximately 50 feet and 70, respectively, from extraction well S-2. A graphical illustration of the groundwater drawdown variation with time in observation wells is presented in Figure 3.

- Volatile organic compounds (measured using a photo ionization detector [PID]) in the influent vapor stream ranged from 2.9 parts per million by volume (ppmv) to 29 ppmv.
- An influent vapor stream sample was collected at the start of the test. TPHG, benzene, and MTBE were reported in this sample at concentrations of 660 milligrams per cubic meter (mg/m^3), $2.1 \text{ mg}/\text{m}^3$, and $1.0 \text{ mg}/\text{m}^3$, respectively.
- One sample of the influent groundwater stream was collected at the start of the test. TPHG ($2,200 \text{ }\mu\text{g}/\text{L}$), BTEX (benzene at $13 \text{ }\mu\text{g}/\text{L}$), MTBE ($66 \text{ }\mu\text{g}/\text{L}$), and TBA ($170 \text{ }\mu\text{g}/\text{L}$) were reported in this sample.
- Based on reported influent vapor stream and groundwater concentrations and measured flow rates, TPHG was extracted at an estimated rate of approximately 5.16 pounds/day (lbs/day) in vapor and 0.001 lbs/day in groundwater. Benzene was extracted at an estimated rate of approximately 0.01 lbs/day in vapor and 0.00001 lbs/day in groundwater. MTBE was extracted at an estimated rate of approximately 0.01 lbs/day in vapor and 0.00004 lbs/day in groundwater (Table 7).

Test 2 - DPE Using Well S-1

The DPE test using well S-1 was conducted for approximately 2 hours with the stinger depth held constant at approximately 39 feet bgs (total depth of the well is 40.80 feet bgs). The test using well S-1 was initiated within 15 minutes after discontinuing the test using well S-2. During the 2-hour DPE test, approximately 140 gallons of groundwater and $10,399 \text{ ft}^3$ (based on average air flow of 86.67 cfm) of soil vapors were extracted from the subsurface. This test was discontinued after approximately 2 hours due to low groundwater extraction rates, low PID readings from the influent vapor stream, and a lack of vapor or groundwater influence in the observation wells. Field data collected from the extraction and observation wells is summarized in Table 2. Results of the DPE test using well S-1 are summarized below:

- The average influent soil vapor flow rate was approximately 86.67 cfm , and the groundwater extraction rate was 1.17 gpm , at an average applied vacuum of 24 "Hg (or 326.30 "WC).
- Induced vacuum was not measured in any of the observation wells. However, an initial pressure of 7.4 "WC was observed at well S-2. This pressure decreased to 0.2 "WC in approximately 2 hours (coincident with a 7.92-foot increase in the water level), likely due to groundwater recharging the well following completion of Test 1. Groundwater elevations did not decrease in any of the observation wells during this test.

- Concentrations of volatile organic compounds (measured using a PID) in the influent vapor stream ranged from 0 ppmv to 1.5 ppmv during the test.
- One sample of the influent vapor stream was collected at the end of the test. TPHG, benzene, and MTBE were reported in this sample at concentrations of $<12 \text{ mg/m}^3$, $<0.12 \text{ mg/m}^3$, and 0.29 mg/m^3 , respectively (Table 7).
- Based on the reported concentrations in the influent vapor stream sample and the average flow rate, the estimated mass extraction rates for TPHG, benzene, and MTBE were $<0.09 \text{ lbs/day}$, $<0.001 \text{ lbs/day}$, and 0.002 lbs/day , respectively.

Test 3 - DPE Using Well MW-3

The DPE test using well MW-3 was conducted for approximately 2 hours with stinger depth held constant at approximately 42 feet bgs (total depth of the well is 42.80 feet bgs). The test using well MW-3 was initiated within 20 minutes after discontinuing the test using well S-1. During the 2-hour DPE test, less than 70 gallons of groundwater and $10,399 \text{ ft}^3$ (based on average flow of 87 cfm) of soil vapors were extracted from the subsurface and treated prior to discharge to the sanitary sewer and atmosphere. This test was discontinued after approximately 2 hours due to low groundwater extraction rates, low PID readings from the influent vapor stream, and a lack of vapor or groundwater influence in the observation wells. Field data collected from the extraction and observation wells is summarized in Table 3. Results of the DPE test using well MW-3 are summarized below:

- The average influent soil vapor flow rate was 87 cfm at an average applied vacuum of 25.33 "Hg (or 344.43 "WC).
- Induced vacuum was not measured in any of the observation wells. A pressure of 0.6 "WC was measured in well S-2 approximately 1 hour into the test. This pressure decreased to 0.2 "WC by the end of the testing period.
- Groundwater elevations did not decrease in any of the observation wells during Test 3. The water level at well S-2 continued to recharge, rising 1.25 feet by the end of Test 3.
- The PID did not record any measurable concentrations of volatile organic compounds (0 ppmv) during this test period.
- One sample of the influent vapor stream was collected at the end of the test. TPHG, benzene, and MTBE were reported in this sample at concentrations of $<12 \text{ mg/m}^3$, $<0.12 \text{ mg/m}^3$, and 0.13 mg/m^3 , respectively (Table 5).

- Based on the reported concentrations in the influent vapor stream sample and the average flow rate, the mass extraction rates for TPHG, benzene, and MTBE were <0.09 lbs/day, <0.001 lbs/day, and 0.001 lbs/day, respectively (Table 7).

Test 4 - Combined DPE Using Wells S-1, S-2, and MW-3

The combined DPE test using wells S-1, S-2, and MW-3 was conducted for approximately 18 days. This test was performed to remove residual hydrocarbon mass from the soil and groundwater beneath the site. All three of the extraction wells were utilized simultaneously to provide maximum hydrocarbon extraction rates. The stingers in extraction wells S-1, S-2, and MW-3 were maintained at constant depths of 39 feet bgs, 39 feet bgs, and 43 feet bgs, respectively. The objective of the combined DPE was to reduce the petroleum hydrocarbon mass in both vadose and saturated zones. During the approximately 18-day DPE test, approximately 34,760 gallons of groundwater and 2,262,741 ft³ (based on average flow of 87.5 cfm) of soil vapors were extracted from the subsurface. Field data collected from the extraction and observation wells is summarized in Table 4. Results of the combined DPE using wells S-1, S-2, and MW-3 are summarized below:

- The average influent vapor stream flow rate was 86 cfm, and the average groundwater extraction rate was 0.55 gpm, at an average applied vacuum of 22.66 "Hg (or 308.08 "WC).
- Induced vacuum was not measured in any of the observation wells during this test.
- Groundwater elevations decreased in all observation wells during this test. The greatest decrease in groundwater elevation was measured in well MW-8 (2.12 feet), located approximately 50 feet from the nearest extraction well (MW-3). Figure 4 presents the graphical illustration of depth to water variation with time during the combine DPE test.
- PID measurements of volatile organic compound concentrations in the influent vapor stream ranged from 2.3 ppmv to 4 ppmv.
- One sample of the influent vapor stream was collected near the end of the test. TPHG, benzene, and MTBE were reported in this sample at concentrations of 88 mg/m³, 0.26 mg/m³, and 0.25 mg/m³, respectively.
- One sample of the influent groundwater stream was collected near the end of the test. TPHG, benzene, MTBE, and TBA were reported in this sample at concentrations of <50 µg/L, <0.50 µg/L, 3.7 µg/L, and 56 µg/L, respectively.

- Based on the influent air concentrations and air flow rates, the mass extraction rates for TPHG, benzene, and MTBE were estimated to be approximately 0.68 lbs/day, 0.002 lbs/day and 0.002 lbs/day, respectively (Table 7).
- Based on the influent groundwater concentrations and groundwater extraction rates, the mass extraction rate for MTBE was estimated to be approximately 0.001 lbs/day (Table 7).

DISCUSSION AND RECOMMENDATION

During the DPE test, the concentrations reported in the influent soil vapor and groundwater samples were low and the groundwater extraction rates were low. However, the product sheen observed in well S-2 during the quarterly monitoring event, performed after the DPE test, indicates that DPE was successful in moving/desorbing residual petroleum hydrocarbons in the vadose zone and capillary fringe. Given the subsurface geologic conditions, groundwater extraction, soil vapor extraction, or air sparging alone do not appear to be technically or economically viable remedial options. Although the test data suggest that DPE is not economically viable, the appearance of the product sheen suggests that DPE is a technically viable remedial option for this site.

Because the redevelopment activities currently scheduled for this site will necessitate the temporary removal of the well network and will restrict access to this area, Stratus recommends that additional DPE be performed to continue hydrocarbon mass removal. Stratus proposes to perform the recommended DPE test for approximately 30 days, from in November and December 2004. The well network will be allowed to recover for approximately 1 week, and then samples will be collected to evaluate the effectiveness of the DPE test. Data from this sampling event will be used to decide if additional DPE will be performed during January and February 2005.


LIMITATIONS

This report was prepared in general accordance with accepted standards of care that existed at the time this work was performed. No other warranty, expressed or implied, is made. Conclusions and recommendations are based on field observations and data obtained from this work and previous investigations. It should be recognized that definition and evaluation of geologic conditions is a difficult and inexact art. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the subsurface conditions present. More extensive studies may be performed to reduce uncertainties. This report is solely for the use and information of our client unless otherwise noted.


If you have any questions or comments regarding this DPE test report, please call Steve Carter at (530) 676-6008.

Sincerely,

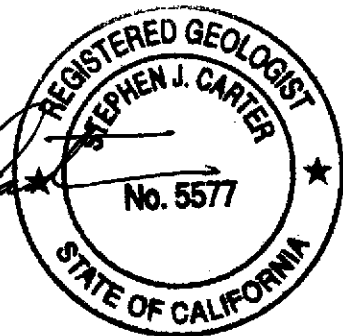
STRATUS ENVIRONMENTAL, INC.



Cowri S. Kowtha, P.E.
Senior Engineer



Stephen J. Carter, R.G.
Project Manager



Attachments:

- | | |
|------------|--|
| Table 1 | DPE Test Using Well S-2 |
| Table 2 | DPE Test Using Well S-1 |
| Table 3 | DPE Test Using Well MW-3 |
| Table 4 | Combined DPE Test Using Wells S-1, S-2, and MW-3 |
| Table 5 | Soil Vapor Analytical Results |
| Table 6 | Groundwater Analytical Results |
| Table 7 | Petroleum Hydrocarbon Mass Extraction Rates Summary |
| Figure 1 | Site Location Map |
| Figure 2 | Site Plan |
| Figure 3 | Depth to Water Variation with Time in Observation Wells, DPE Test at S-2 |
| Figure 4 | Depth to Water Variation with Time in Observation Wells, Combined DPE Test |
| Appendix A | Historical Cross-sections |
| Appendix B | Field Data Sheets |
| Appendix C | Certified Analytical Reports and Chain of Custody Documentation |

cc: Mr. Charles Miller, USA Gasoline Corporation
Mr. Ken Phares, Jay-Phares Corporation
Mr. Peter McIntyre, AEI Consultants

TABLE 1
DPE TEST USING WELL S-2
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date & Time	TE hh:mm	Appl Vac "Hg	Air Flow cfm	Totalizer Reading gallons	GW Ext Rate gpm	Inf PID ppmv	Oper Temp deg F	Induced Vacuum ("WC) &/or DTW (feet bgs) Data in Observation Wells															
								S-1			MW-3			MW-4		MW-5		MW-7			MW-8		
								Vac	DTW	DD	Vac	DTW	DD	DTW	DD	DTW	DD	Vac	DTW	DD	DTW	DD	
7/6/2004 7:00				42,120					18.13			15.70		12.26		18.07			18.19		19.55		
7/6/2004 8:30		Start Up Test using well S-2, DTW =20.26 feet bgs and DPE unit hour meter reading = 839.6																					
7/6/2004 9:00	00:30	25.50	87	42,120	--	2.9	1,450	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
7/6/2004 10:00	01:30	NM	NM	42,120	--	23.0	NM	0.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
7/6/2004 11:00	02:30	26.25	88	42,130	0.07	29.0	1,466	1.30	18.38	0.25	0.0	15.70	0.00	12.27	0.01	18.08	0.01	0.0	18.30	0.11	19.58	0.03	
7/6/2004 12:00	03:30	26.50	87	42,200	0.33	24.0	1,444	0.50	18.58	0.45	0.0	15.69	-0.01	12.25	-0.01	18.05	-0.02	0.0	18.35	0.16	19.51	-0.04	
7/7/2004 6:30	22:00	23.50	86	42,820	0.47	7.1	1,456	0.20	18.65	0.52	0.0	15.70	0.00	12.26	0.00	18.04	-0.03	0.0	18.38	0.19	19.55	0.00	
7/7/2004 6:50	22:20	Discontinue Test on S-2																					
Distance to Extraction Well S-2								50			60			135		170		70			100		
Screening Interval								20 - 40 (S-2)			24 - 44			10 - 40.5		10 - 40		10 - 40.5			10 - 35		
Notes: TE - Time Elapsed, hours: minutes Appl - Applied Oper - Operating Vac - Vacuum DTW - depth to groundwater " WC - Inches water column ppmv - parts per million by volume Temp - Temperature deg F - degree Fahrenheit Ext. - Extraction cfm - cubic feet per minute Inf - Influent DD - Drawdown GW Ext - Groundwater Extraction PID - Photo Ionization Detector All induced vacuum measured in observation wells were in "WC gpm - gallons per minute "Hg - Inches Mercury bgs - below ground surface NM - Not measured																							

TABLE 2
DPE TEST USING WELL S-1
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date & Time	TE hh:mm	Appl Vac "Hg	Air Flow cfm	Totalizer Reading gallons	GW Ext Rate gpm	Inf PID ppmv	Oper Temp. deg F	Induced Vacuum ("WC) &/or DTW (feet bgs) Data in Observation Wells																	
								S-2			MW-3			MW-4		MW-5		MW-7			MW-8				
								Vac	DTW	DD	Vac	DTW	DD	DTW	DD	DTW	DD	Vac	DTW	DD	DTW	DD			
7/7/2004 7:05	Start Up Test using Well S-1																								
7/7/2004 7:05	0.00	NM	NM	42,820	NM	NM	NM	NM	NM		NM	15.70		12.26		18.07			18.38		19.55				
7/7/2004 7:30	00:25	24.00	86	42,890	2.80	1.5	1,459	+7.4	30.08		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM		
7/7/2004 8:00	00:55	24.00	87	42,890	--	0.6	1,456	+4.4	25.35	-4.73	0.0	15.70	0.00	12.25	-0.01	18.06	-0.01	0.0	18.38	0.00	19.55	0.00			
7/7/2004 9:00	01:55	24.00	87	42,960	0.61	0.0	1,457	+0.2	22.16	-7.92	0.0	15.70	0.00	12.25	-0.01	18.07	0.00	0.0	18.38	0.00	19.55	0.00			
7/7/2004 9:05	02:00	Discontinue Test on S-1																							
Distance to Extraction Well S-1								50			60			110		170		80			105				
Screening Interval								20 - 40 (S-1)			20 - 40			24 - 44			10 - 40.5		10 - 40		10 - 40.5			10 - 35	
Notes: TE - Time Elapsed, hours: minutes Appl - Applied Oper - Operating Vac - Vacuum DTW - depth to groundwater " WC - Inches water column ppmv - parts per million by volume Temp - Temperature deg F - degree Fahrenheit Ext. - Extraction cfm - cubic feet per minute Inf - Influent DD - Drawdown GW Ext - Groundwater Extraction PID - Photo Ionization Detector All induced vacuum measured in observation wells were in "WC gpm - gallons per minute "Hg - Inches Mercury bgs - below ground surface NM - Not measured																									

TABLE 3
DPE TEST USING WELL MW-3
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date & Time	TE hh:mm	Appl Vac "Hg	Air Flow cfm	Totalizer Reading gallons	GW Ext Rate gpm	Inf PID ppmv	Oper Temp deg F	Induced Vacuum ("WC) &/or DTW (feet bgs) Data in Observation Wells															
								S-1			S-2			MW-4		MW-5		MW-7			MW-8		
								Vac	DTW	DD	Vac	DTW	DD	DTW	DD	DTW	DD	Vac	DTW	DD	DTW	DD	
7/7/2004 9:25								Start Up Test using Well MW-3															
7/7/2004 9:25	0:00	NM	NM	42,960	--	NM	NM	NM	NM	--	NM	22.16	--	12.26	--	18.07	--	NM	18.38	--	19.55	NM	
7/7/2004 10:00	00:35	24.50	87	42,960	--	0.0	1,450	0.0	NM	--	NM	NM	--	NM	--	NM	--	NM	NM	--	NM	NM	
7/7/2004 10:30	01:05	25.50	87	42,960	--	0.0	1,447	0.0	19.38	--	+0.6	21.00	-1.16	12.25	0.00	18.06	-0.01	0.0	18.36	-0.02	19.53	-0.02	
7/7/2004 11:30	02:05	26.00	87	42,960	--	0.0	1,456	0.0	19.11	-0.27	+0.2	20.91	-1.25	12.25	0.00	18.06	-0.01	0.0	18.35	-0.03	19.53	-0.02	
7/7/2004 11:35	02:10								Discontinue test on MW-3														
Distance to Extraction Well MW-3								60			60			170		220		120			50		
Screening Interval								20 - 40			20 - 40			10 - 40.5		10 - 40		10 - 40.5			10 - 35		
Notes: TE - Time Elapsed, hours: minutes Appl - Applied Oper - Operating Vac - Vacuum DTW - depth to groundwater " WC - Inches water column ppmv - parts per million by volume Temp - Temperature deg F - degree Fahrenheit Ext. - Extraction cfm - cubic feet per minute Inf - Influent DD - Drawdown GW Ext - Groundwater Extraction PID - Photo Ionization Detector All induced vacuum measured in observation wells were in "WC gpm - gallons per minute "Hg - Inches Mercury bgs - below ground surface NM - Not measured																							

TABLE 4
COMBINED DPE TEST USING WELLS S-1, S-2, AND MW-3
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date & Time	TE hh:mm	Appl Vac "Hg	Air Flow cfm	Totalizer Reading gallons	GW Ext Rate gpm	Inf PID ppmv	Oper Temp deg F												
								MW-4		MW-5		MW-6		MW-7			MW-8		
								DTW	DD	DTW	DD	Vac	DTW	Vac	DTW	DD	Vac	DTW	DD
7/7/2004 11:35	Start Test on S-1, S-2 and MW-3																		
7/7/2004 11:35	0.00	NM	NM	42,960	NM	NM	NM	12.25	--	18.06	--	NM	DRY	NM	18.35	--	NM	19.53	--
7/8/2004 6:15	18:40	22.25	87	44,610	1.47	4.0	1,460	12.25	0.00	18.11	0.05	0.0	DRY	0.0	18.63	0.28	0.0	19.70	0.17
7/9/2004 6:00	42:25	23.00	86	46,960	0.92	2.3	1,440	12.33	0.08	18.18	0.12	0.0	DRY	0.0	18.72	0.37	0.0	20.02	0.49
7/10/2004 6:00	66:25	23.00	86	48,690	0.43	3.5	1,460	12.41	0.16	18.26	0.2	0.0	DRY	0.0	18.78	0.43	0.0	20.32	0.79
7/11/2004 6:00	90:25	21.00	86	50,760	0.38	3.2	1,456	12.41	0.16	18.27	0.21	0.0	DRY	0.0	18.81	0.46	0.0	20.58	1.05
7/12/2004 6:30	114:55	22.50	86	52,780	0.29	3.0	1,453	12.42	0.17	18.32	0.26	0.0	DRY	0.0	18.84	0.49	0.0	20.75	1.22
7/15/2004 6:00	186:25	22.50	86	58,760	0.53	4.0	1,446	12.27	0.02	18.36	0.3	0.0	DRY	0.0	18.90	0.55	0.0	21.17	1.64
7/19/2004 5:45	282:10	23.25	86	66,320	0.45	3.2	1,459	11.67	-0.58	18.23	0.17	0.0	DRY	0.0	18.98	0.63	0.0	21.50	1.97
7/22/2004 5:45	354:10	23.25	86	71,870	0.26	3.0	1,458	12.05	-0.20	18.33	0.27	0.0	DRY	0.0	19.03	0.68	0.0	21.65	2.12
7/25/2004 10:36	431:01			77,720	0.23	Discontinue DPE Test. DPE unit hour meter reading = 1,297.7													
Distance to Nearest Extraction Well								110		170		110		70			50		
Screening Interval								10 - 40.5		10 - 40		10 - 40.5		10 - 40.5			10 - 35		
Notes: TE - Time Elapsed, hours: minutes Appl - Applied Oper - Operating Vac - Vacuum DTW - depth to groundwater " WC - Inches water column ppmv - parts per million by volume Temp - Temperature deg F - degree Fahrenheit Ext. - Extraction cfm - cubic feet per minute Inf - Influent DD - Drawdown GW Ext - Groundwater Extraction PID - Photo Ionization Detector All induced vacuum measured in observation wells were in "WC gpm - gallons per minute "Hg - Inches Mercury bgs - below ground surface NM - Not measured																			

TABLE 5
SOIL VAPOR ANALYTICAL RESULTS
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	Sample Type	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
07/06/04	1030	Eff Air	Air	<12	<0.12	<0.12	<0.12	<0.12	<0.12
07/06/04	1032	Inf Cat Air	Air	660	2.1	0.38	1.2	1.1	1.0
07/07/04	0904	Inf Cat Air S-1	Air	<12	<0.12	<0.12	<0.12	<0.12	0.29
07/07/04	1126	Inf Cat Air MW-3	Air	<12	<0.12	<0.12	<0.12	<0.12	0.13
07/19/04	0641	Eff Air	Air	<12	<0.12	<0.12	<0.12	<0.12	<0.12
07/19/04	0644	Inf Cat Air	Air	88	0.26	<0.12	<0.12	0.19	0.25

All air sample values reported in milligrams per cubic meter (mg/m³)

Analytical Laboratory

Alpha Analytical, Inc. (ELAP #2019)

TPHG = Total petroleum hydrocarbons as gasoline

BTEX = Benzene, toluene, ethylbenzene, and total xylenes

MTBE = Methyl tertiary butyl ether

Analytical Methods

TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual

BTEX and MTBE analyzed by EPA Method SW8260B

TABLE 6
GROUNDWATER ANALYTICAL RESULTS
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Sample Date	Sample Time	Sample ID	Sample Type	TPHG	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TBA	DIPE	ETBE	TAME	Methanol	Ethanol
07/06/04	1050	S-2	Water	2200	13	1.8	10	26.9	66	170	<1.0	<1.0	<1.0	<5,000	<5,000
07/08/04	0854	Influent	Water	<100[1]	<0.50	<0.50	0.66	4.4	16	NA	NA	NA	NA	NA	NA
07/08/04	0905	GAC Influent	Water	110	<0.50	<0.50	<0.50	1.89	17	NA	NA	NA	NA	NA	NA
07/08/04	1030	Effluent	Water	<50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA
07/19/04	0623	Effluent	Water	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0	NA	NA
07/19/04	0630	Influent	Water	<50	<0.50	<0.50	<0.50	0.52	3.7	56	<1.0	<1.0	<1.0	NA	NA
07/27/04	1118	Effluent	Water	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1.0	<1.0	<1.0	NA	NA

All water sample values reported in micrograms per liter (µg/L)

TPHG = Total petroleum hydrocarbons as gasoline

BTEX = Benzene, toluene, ethylbenzene, and total xylenes

MTBE = Methyl tertiary butyl ether

TBA = Tertiary butyl alcohol

DIPE = Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

NA = Not analyzed

[1] Reporting limits were increased due to sample foaming

Analytical Laboratory

Alpha Analytical, Inc. (ELAP #2019)

Analytical Methods

TPHG analyzed by EPA Method SW8015B/DHS LUFT Manual

BTEX, MTBE, TBA, DIPE, ETBE, & TAME analyzed by EPA Method SW8260B

Methanol & Ethanol analyzed by EPA Method SW8260B-DI

**TABLE 7
PETROLEUM HYDROCARBON MASS EXTRACTION RATES SUMMARY**

Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

Date	Test Well ID	Flowrate (cfm)	Influent Concentration (mg/m ³)			Soil Vapor Extraction Rate from Wells (lbs/day)			Cumulative Mass (TPHG) Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	Period ¹	Total
									lbs	lbs
07/06/04	S-2	87.0	660	2.1	1.0	5.16	0.01	0.01	5.16	5.16
07/07/04	S-1	87.0	<12	<0.12	0.29	<0.09	<0.001	0.002	0.01	5.17
07/07/04	MW-3	87.0	<12	<0.12	0.13	<0.09	<0.001	0.001	0.01	5.18
07/19/04	S-1, S-2, MW-3	86.0	88	0.26	0.25	0.68	0.002	0.002	8.16	13.34

Date	Test Well ID	Volume of groundwater extracted ² , gallons	Influent Concentration (µg/L)			Mass Extracted from groundwater (lbs)			Cumulative Mass (TPHG) Removed	
			TPHG	Benzene	MTBE	TPHG	Benzene	MTBE	Period	Total
									lbs	lbs
07/06/04	S-2	80	2,200	13	66	0.001	0.00001	0.00004	0.001	0.001
07/08/04	S-1, S-2, MW-3	2,490	<100	<0.50	16	<0.002	<0.00001	0.0003	0.012	0.014
07/19/04	S-1, S-2, MW-3	21,710	<50	<0.50	4	<0.01	<0.0001	0.001	0.008	0.015

Sample Calculations

$$\text{Ext. Rate from Wells (vapor)} = \frac{40 \text{ cu ft} \times 8,400 \text{ mg}}{\text{min} \times \text{cu meter}} \times \frac{1 \text{ lb}}{453593 \text{ mg}} \times \frac{1.440 \text{ min}}{\text{day}} \times \frac{1 \text{ cu meter}}{35.314 \text{ cu ft}} = 30.21 \text{ lbs/day}$$

$$\text{Mass removed from groundwater} = \text{concentration (µg/L)} \times \text{gallons extracted} \times (2.2046 \times 10^{-9}) \text{ (lb/mg)} / 0.26418 \text{ (gal/L)}$$

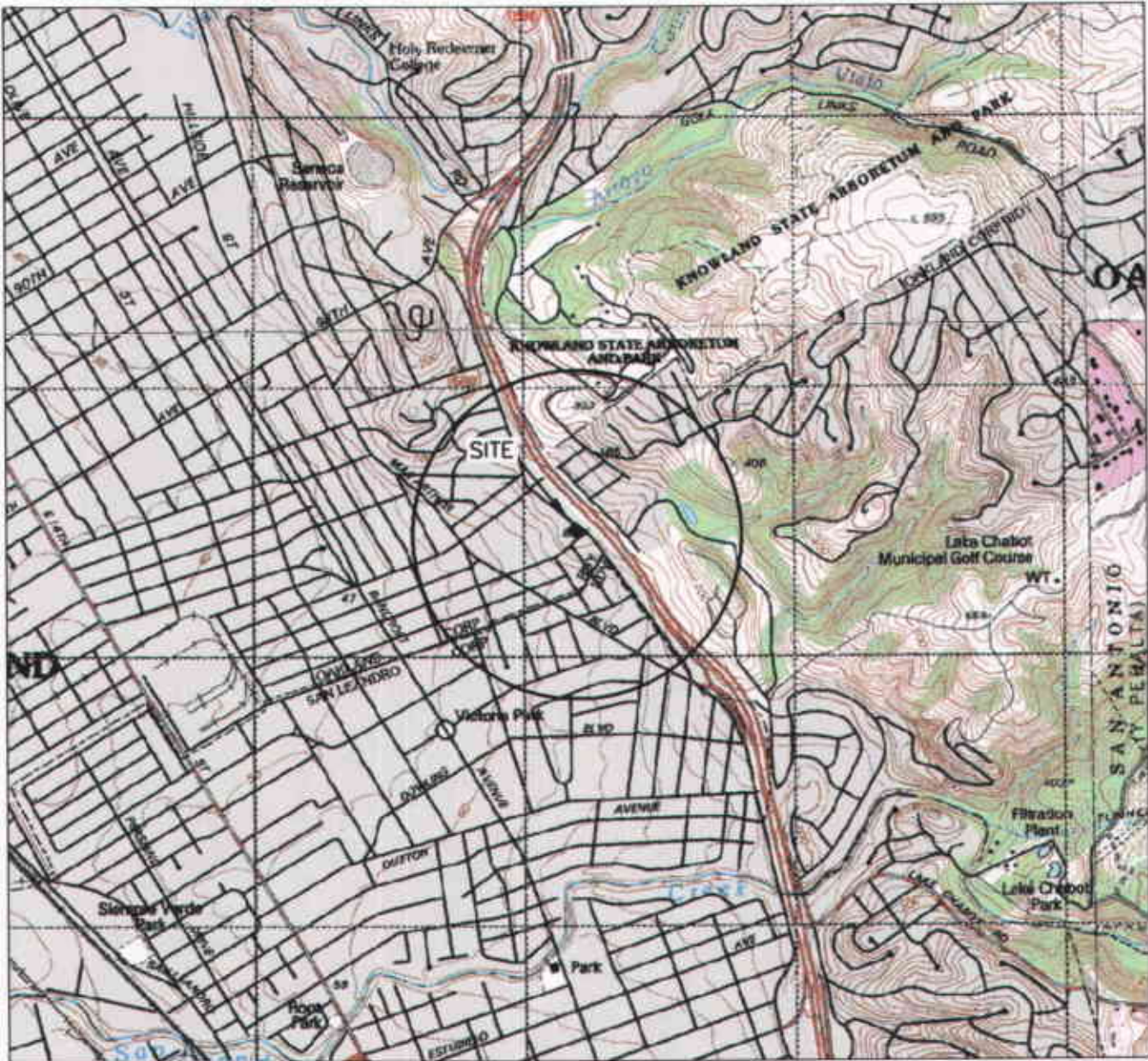
¹ For mass estimates between the sampling dates, average mass extraction rate and time elapsed (operational uptime) between the sampling events were used

² Volume estimated based on flow totalizer measurements taken on the sampling days

Based on average groundwater extraction rate of 0.63 gpm and the average concentrations, the mass extraction rate for is calculated using:

$$\text{Mass removed from groundwater (lbs/day)} = \text{concentration (µg/L)} \times \text{average flowrate (gpm)} \times (2.2046 \times 10^{-9}) \text{ (lb/mg)} / 0.26418 \text{ (gal/L)} \times 60 \text{ (mins/hr)} \times 24 \text{ (hr/day)}$$

TPHG = 0.017 lbs/day
 Benzene = 0.0001 lbs/day
 MTBE = 0.0002 lbs/day



GENERAL NOTES:
 BASE MAP FROM U.S.G.S.
 OAKLAND, CA
 7.5 MINUTE TOPOGRAPHIC
 PHOTOREVISED 1980



QUADRANGLE LOCATION



SCALE 1:24,000

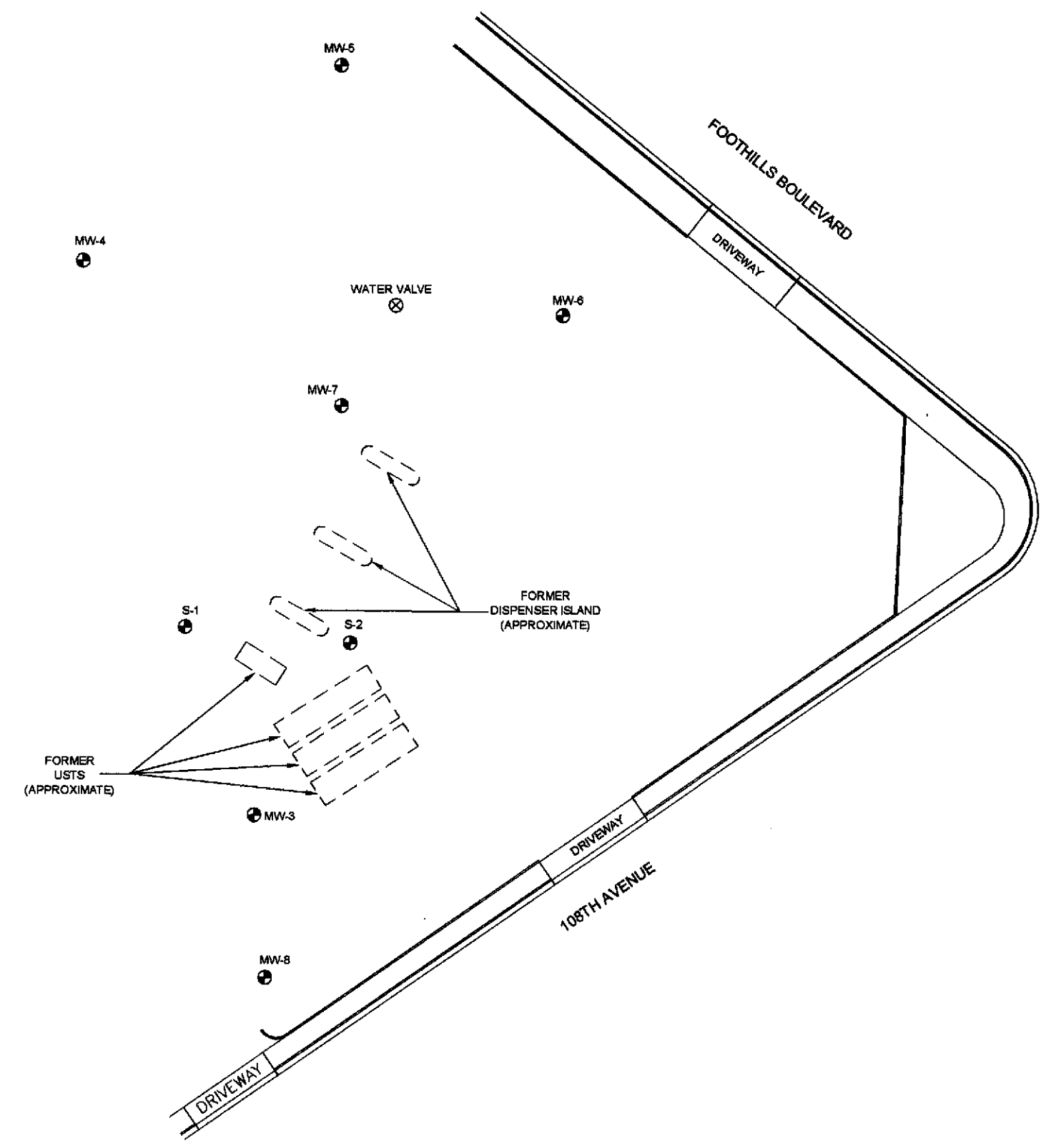
STRATUS
 ENVIRONMENTAL, INC.

FORMER USA SERVICE STATION NO. 57
 10700 MACARTHUR BOULEVARD
 OAKLAND, CALIFORNIA
 SITE LOCATION MAP

FIGURE
1
 PROJECT NO.
 2007-0057-01



LEGEND
 ⊕ MW-1 MONITORING WELL LOCATION
 ⊗ WATER VALVE LOCATION



USA 57 Site Plan.dwg
 Sep 05, 2004
 REV
 JMP

STRATUS
 ENVIRONMENTAL, INC.



FORMER USA STATION NO. 57
 10500 MACARTHUR BOULEVARD
 OAKLAND, CALIFORNIA

SITE PLAN

FIGURE
2
 PROJECT NO.
 2007-0057-01

Figure 3
Depth to Water Variation with Time in Observation Wells - DPE Test at S-2
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, California

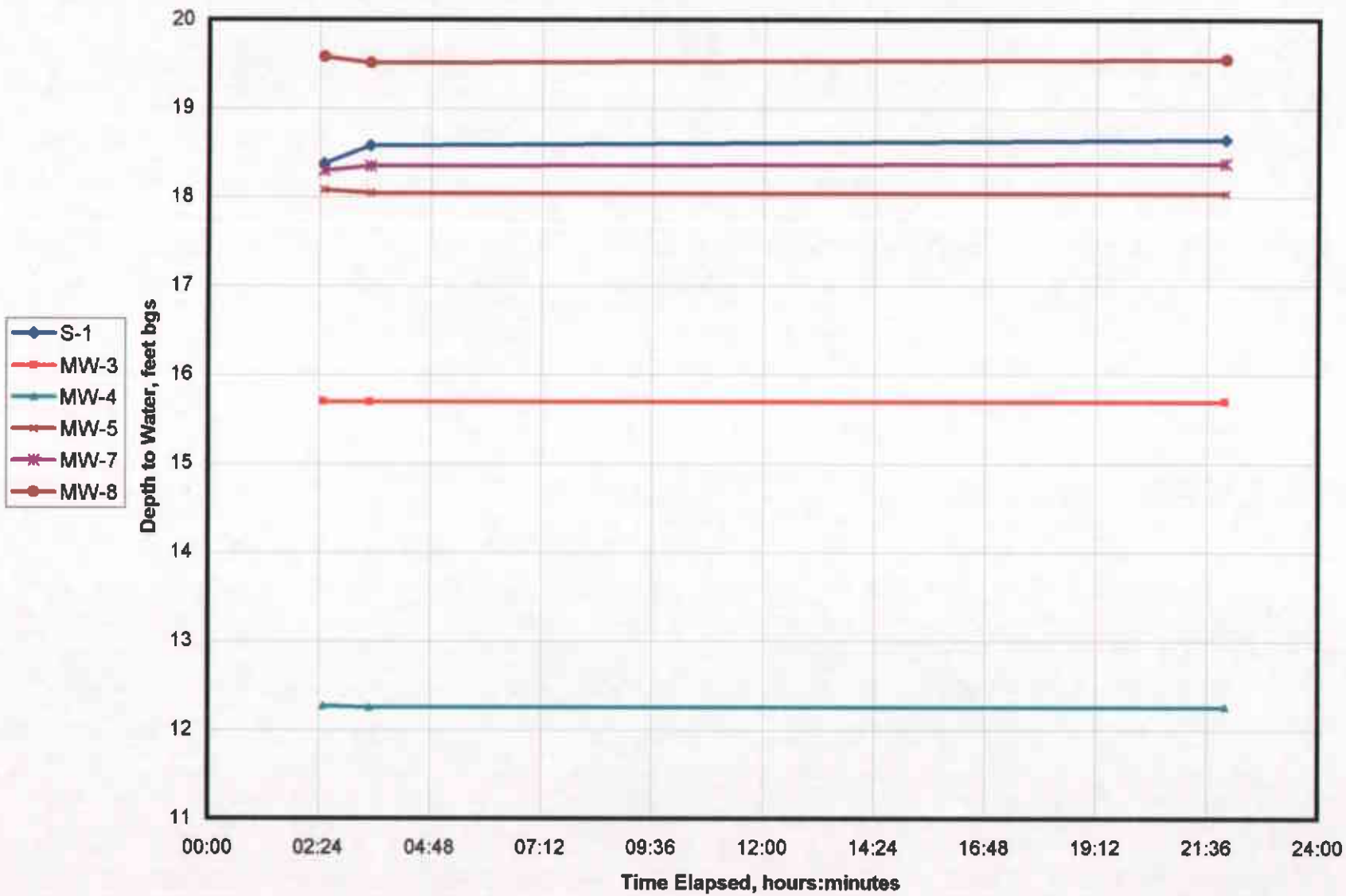
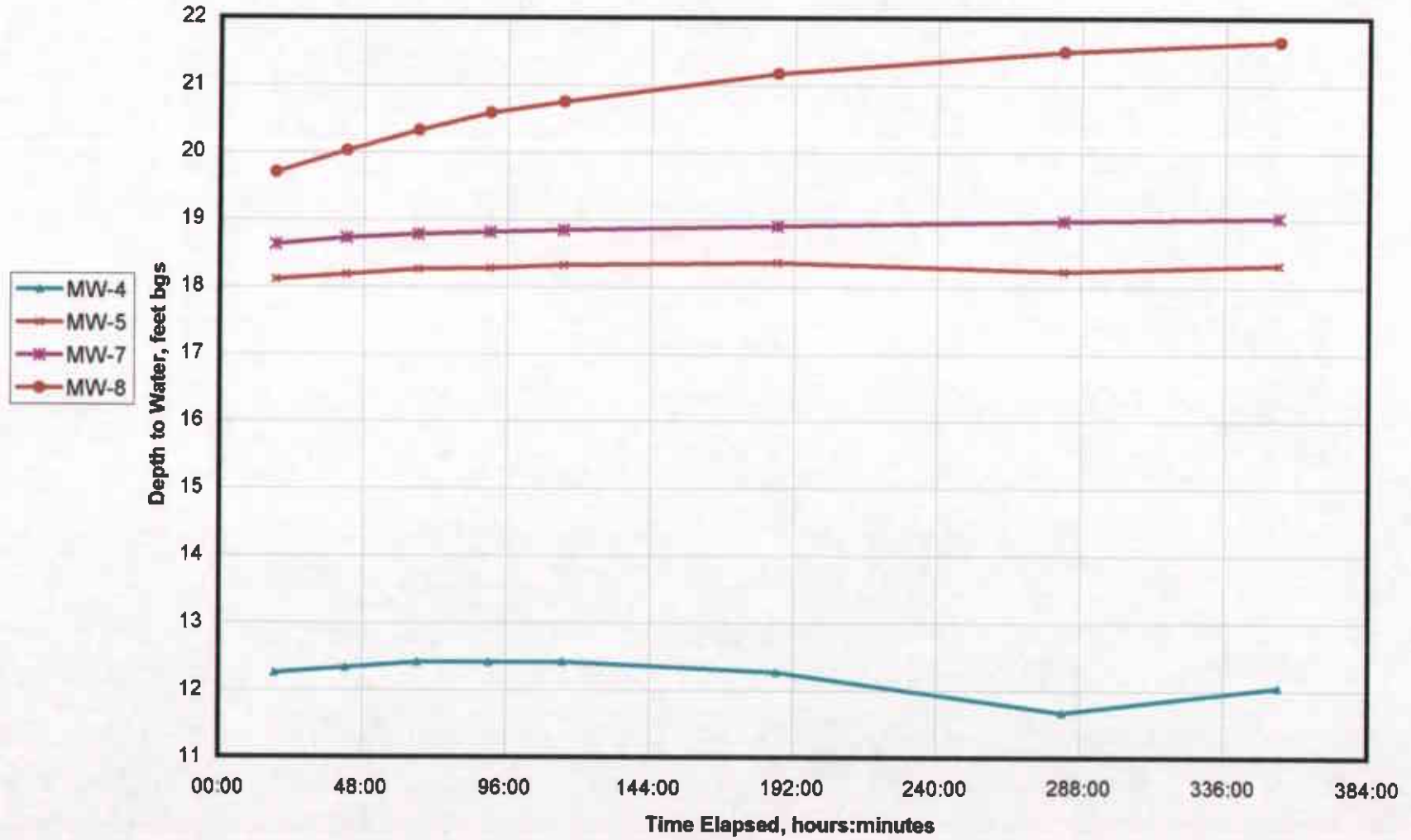






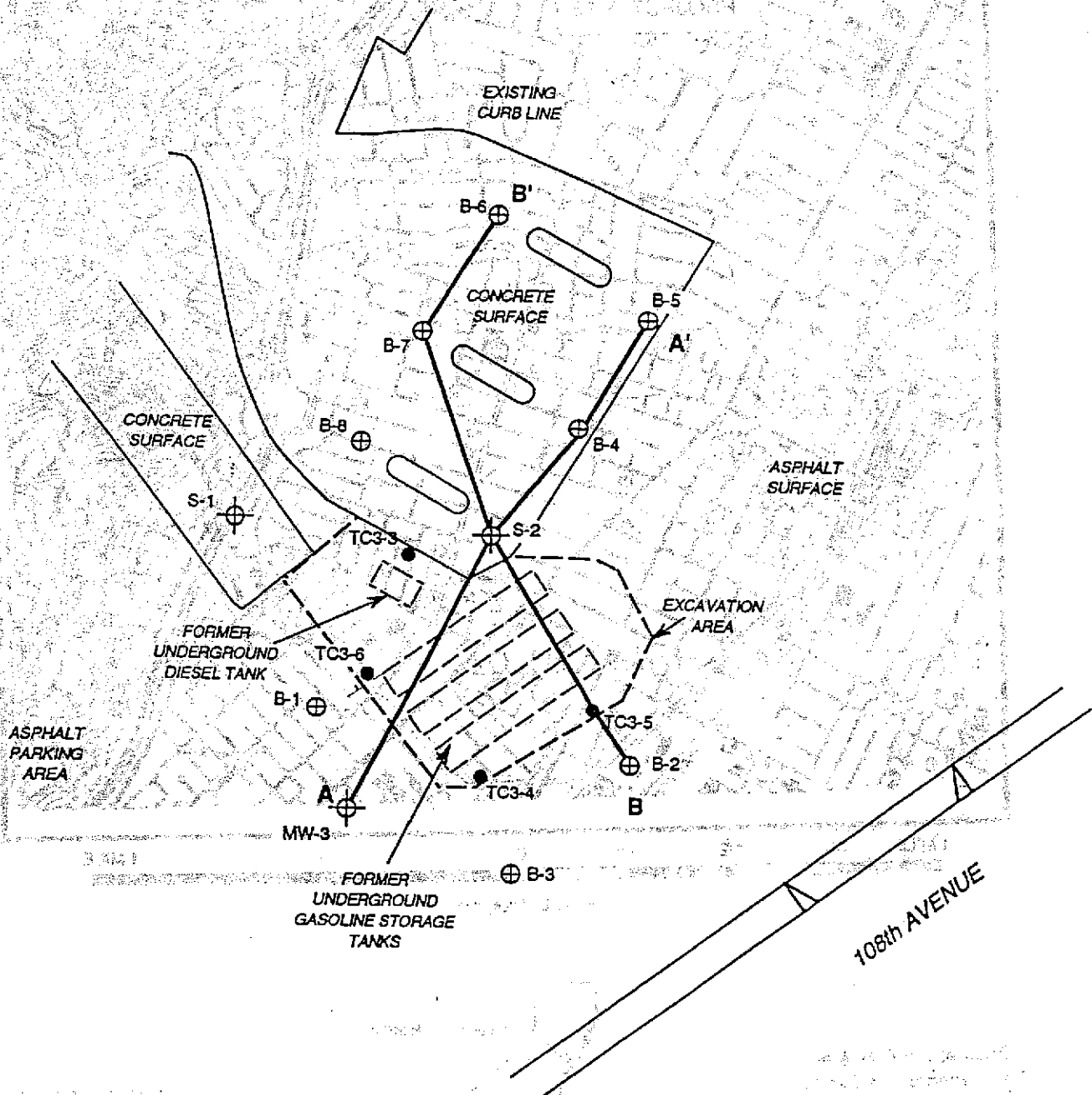
Figure 4
Depth to Water Variation with Time in Observation Wells - Combined DPE Test
Former USA Station No. 57
10700 MacArthur Boulevard
Oakland, CA



APPENDIX A
HISTORICAL CROSS-SECTIONS

LEGEND


- MW-3  Groundwater monitoring well
- B-8  Soil boring
- TC3-6  Soil sample location
- A—A'  Line of cross-section



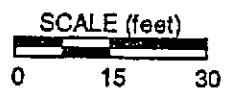
SITE PLAN

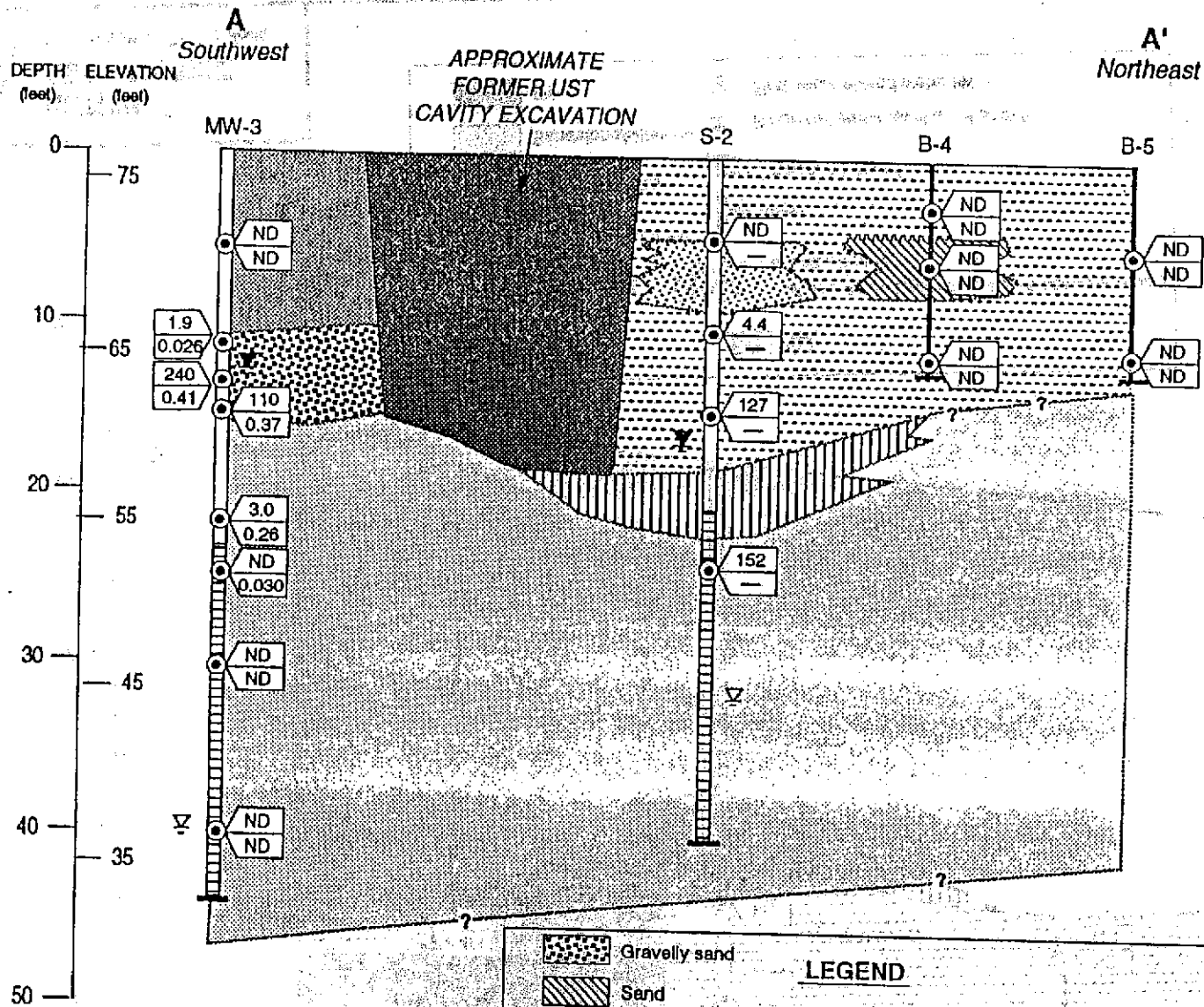
Former USA Gas #57
 10700 MacArthur Boulevard
 Oakland, California

FIGURE 2



**ALTON
 GEOSCIENCE**
 Livermore, California

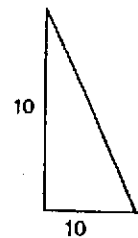




LEGEND

- Gravelly sand
- Sand
- Silty sand
- Clayey sand
- Silty clay/clayey silt
- Sandy/silty clay
- Sandstone/siltstone
- Fill

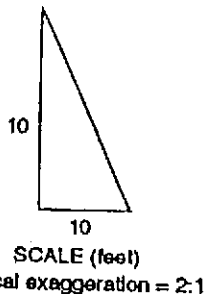
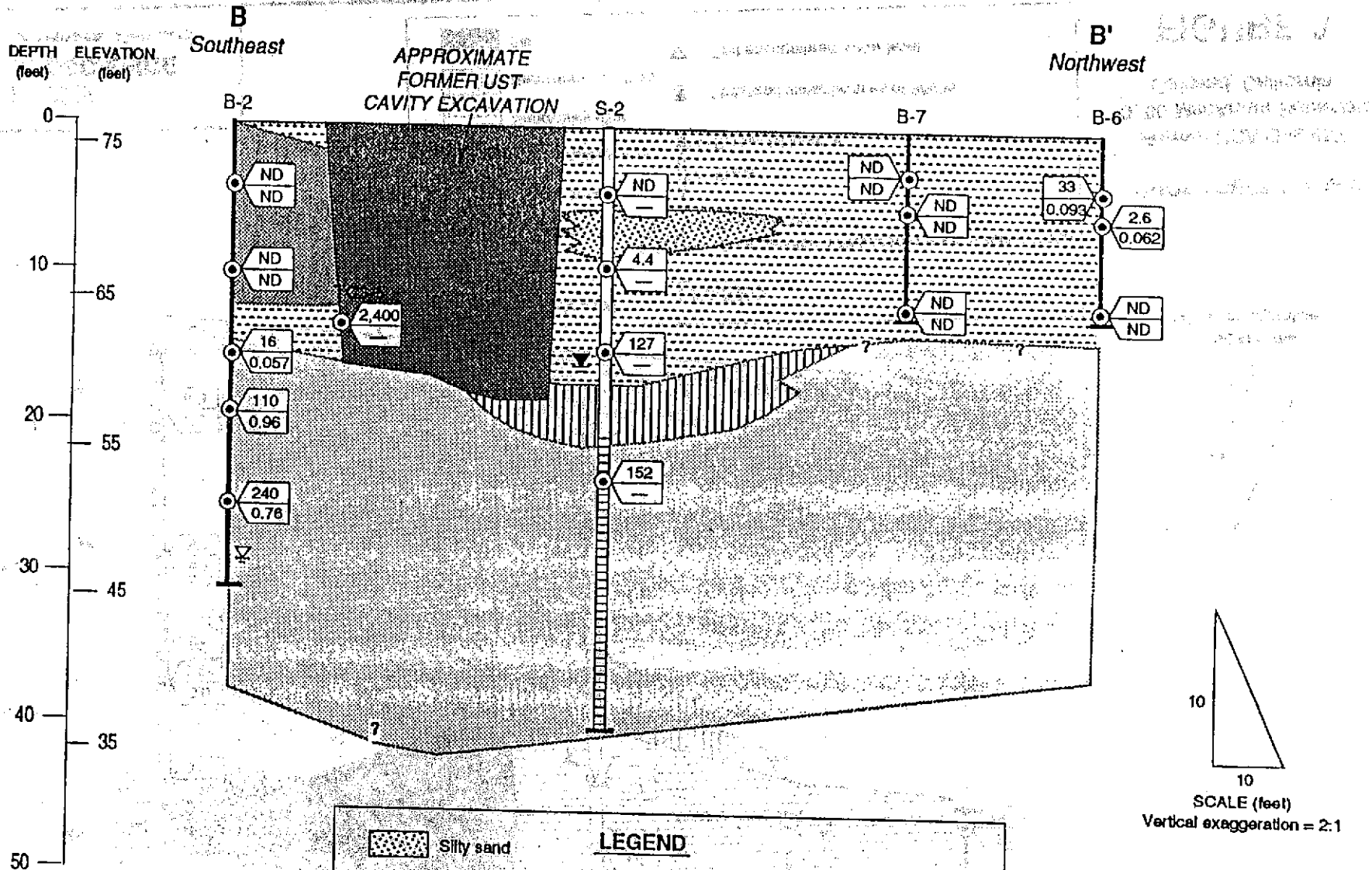
ND
ND ← Total petroleum hydrocarbons as gasoline (ppm)
 ND
ND ← Benzene (ppm)
 ← Blank
 ← Screened Interval
 ∇ Stabilized water level as of 3/3/95
 ∇ First encountered water level



10
10
SCALE (feet)
Vertical exaggeration = 2:1

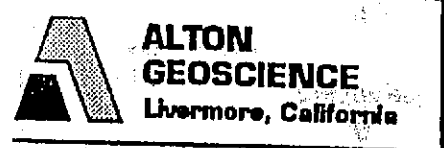
CROSS SECTION A-A'
Former USA Gas #57
10700 MacArthur Boulevard
Oakland, California

FIGURE 3



LEGEND




- Silty sand
- Clayey sand
- Silty clay/clayey silt
- Sandy/silty clay
- Sandstone/siltstone
- Fill
- Total petroleum hydrocarbons as gasoline (ppm)
- Benzene (ppm)
- Blank
- Screened Interval
- Stabilized water level as of 3/3/95
- First encountered water level

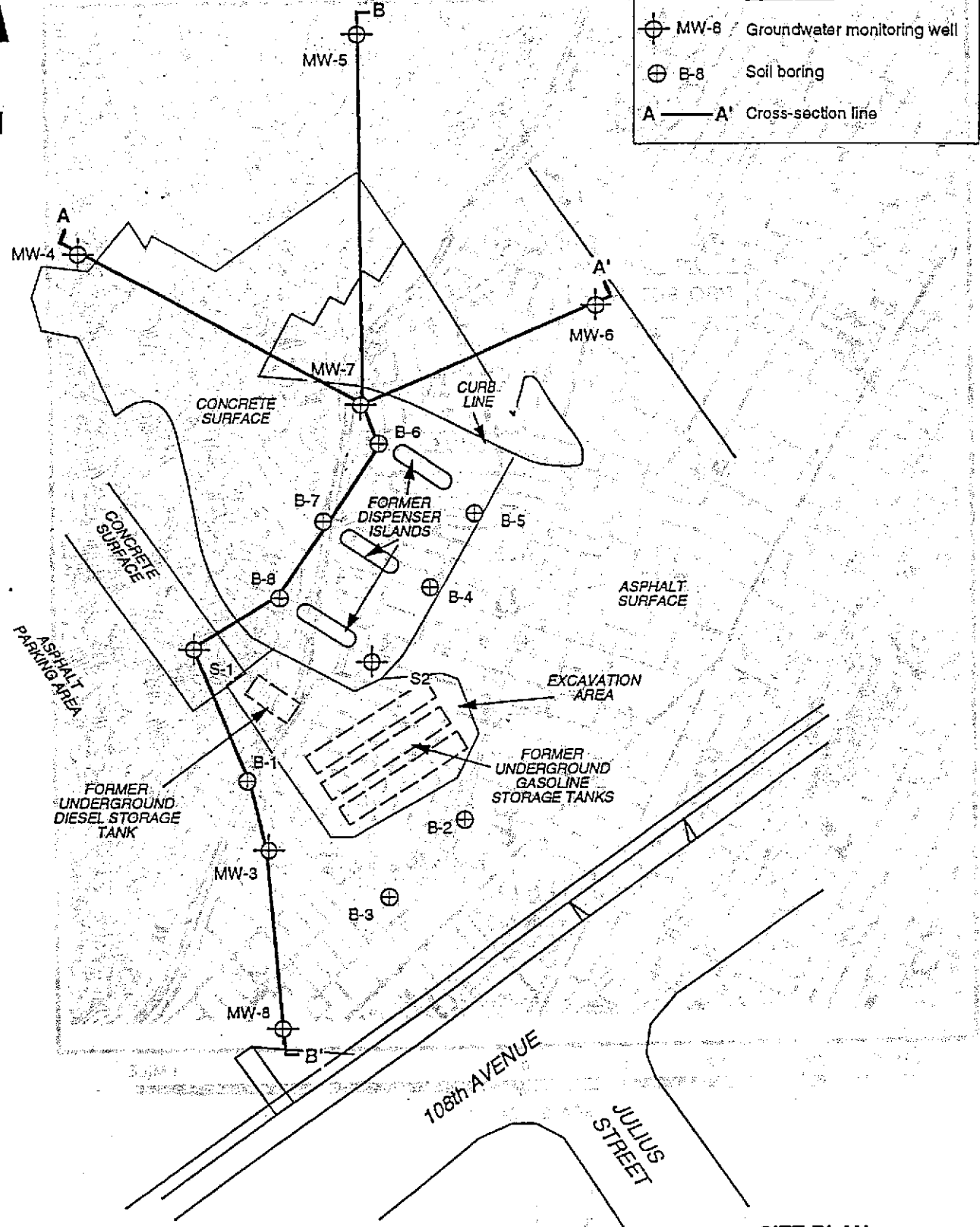


CROSS SECTION B-B'
Former USA Gas #57
10700 MacArthur Boulevard
Oakland, California

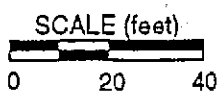
FIGURE 4

LEGEND

-  MW-8 Groundwater monitoring well
-  B-8 Soil boring
-  A-A' Cross-section line




SITE PLAN



USA Gas # 57
10700 MacArthur Boulevard
Oakland, California

FIGURE 2



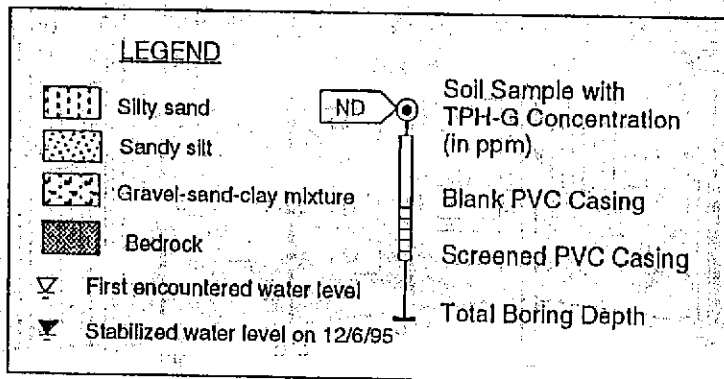
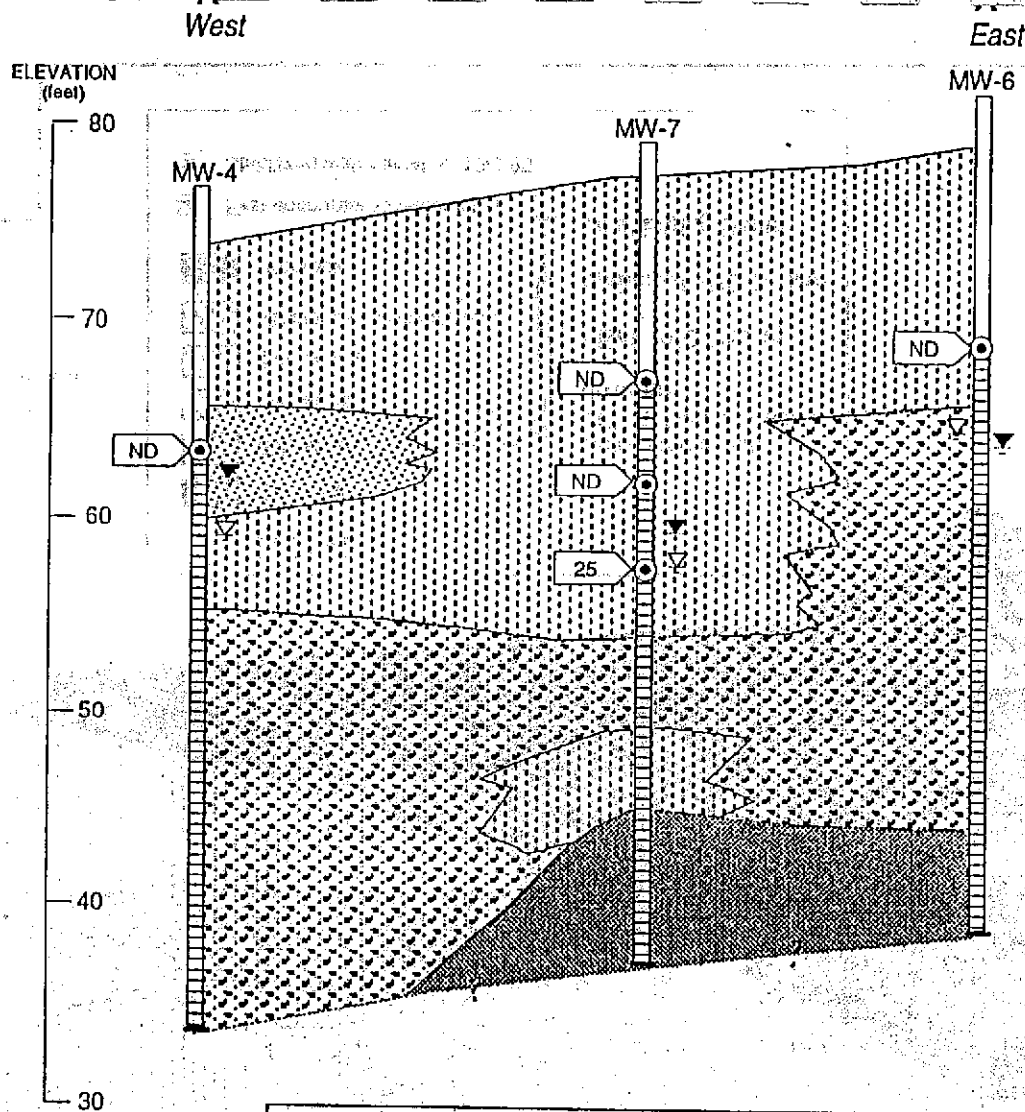
**ALTON
GEOSCIENCE**
Livermore, California

Source: Ron Archer, Civil Engineer, Inc.

10
10
SCALE (feet)
Vertical exaggeration = 4:1

NOTES:
TPH-G = total petroleum hydrocarbons as gasoline; ppm = parts per million.

**ALTON
GEOSCIENCE**
Livermore, California

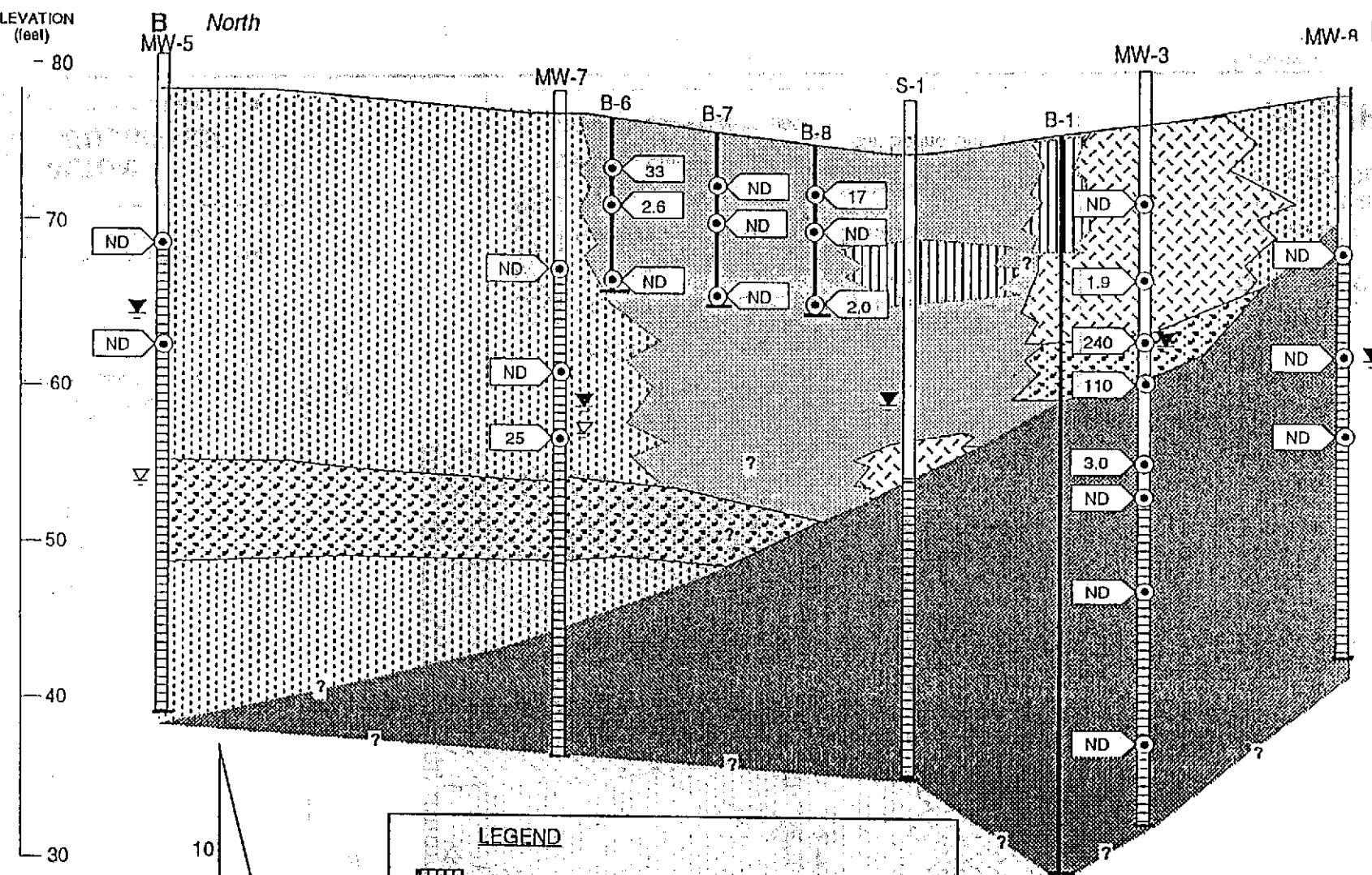


CROSS-SECTION A-A'

Former USA Gas #57
10700 MacArthur Boulevard
Oakland, California

FIGURE 3

ELEVATION (feet)



10
10
SCALE (feet)
Vertical exaggeration = 4:1

LEGEND

- Silty clay
- Silty sand
- Clayey silt
- Sandy clay
- Gravel-sand-clay mixture
- Bedrock
- First encountered water level
- Stabilized water level on 12/6/95
- Soil Sample with TPH-G Concentration (in ppm)
- Blank PVC Casing
- Screened PVC Casing
- Total Boring Depth

NOTES:
TPH-G = total petroleum hydrocarbons as gasoline; ppm = parts per million.



CROSS-SECTION B-B'
Former USA Gas #57
10700 MacArthur Boulevard
Oakland, California

FIGURE 4

APPENDIX B
FIELD DATA SHEETS



Soil Vapor Extraction Test With a Thermal/Catalytic Oxidizer

Job Name: **USA 57** Date: **7-6-04**
 Location: **Oakland** Project Number: **2007-0057**
 Weather Conditions: **Cloudy** Test Operators: **Monty/CHILL**
 Test System Description: **DPE TEST** Initial System Hours: **839.6**
 Stack Diameter: _____ Pipe Diameter where test well flow is taken: _____ Pipe Diameter where total or dilution flow is taken: **3"**
 Test Well ID: **S2** Flow Instrument: **Dwyer** OVM Instrument: **TEI, Inc model: 5808 ovm**

Date	Time s/n	Test Well Vacuum	Total Flow	Influent Temp	Control Temp	Dilution Control Temp	Stack Temp	Totalizer	Total Influent Concentration	Effluent Concentration
mm/dd/yy	hh:mm	H₂O Hg	fpm cfm H₂O	°F	°F	°F	°F	Initial Read: Gal	ppm	ppm
	0830	S2								
7/6/04	0900	25.5	87	125	1450	1399	1420	42,120	2.9	∅
	1000							42,120	23	∅
	1030	Sample Eff Air		1032	Sample Inf Cat Air		1050	Sample S-2 (H ₂ O)		
	1200	26.25	88	125	1466	1407	1412	42,130	29	∅
	1200	26.50	87	125	1444	1400	1373	42,200	24	∅.6
7/7/04	0630	23.50	86	115	1456	1418	1406	42,820	7.1	∅.7
	0650	secure test @ S-2								
	0705	s/n test @ S-1								
	0730	24	86	115	1459	1403	1416	42,890	1.5	0.3
	0800	24	87	115	1456	1409	1427	42,890	0.6	0.2
	0900	24	87	120	1457	1406	1400	42,960	∅	∅
	0901	Sample Eff Air S-1		0904	Sample Inf Cat Air S-1					
	0905	Secure test @ S-1								
	0925	s/n test @ MW-3								
	1000	24.5	87	125	1450	1426	1411	42,960	∅	∅
	1030	25.5	87	130	1447	1404	1417	42,960	∅	∅
	1130	26.0	87	130	1456	1402	1420	42,960	∅	∅
	1135	Started test on all 3 wells ...								

1122 Eff Air MW-3
 1126 Inf Cat Air MW-3



Job Name: **USA 57**
 Location: **Oakland**
 Test Well:

Date: **7-6-04**
 Project Number: **2007-0057**
 Test Operators: **Marty / CRILL**

Date	Time	Well Vacuum ID: MW-3	Well Vacuum ID: MW-8	Well Vacuum ID: MU-6	Well Vacuum ID: S-1	Date	Time	Well Level ID: MW 7	Well Level ID: MW 5	Well Level ID: MW 4	Well Level ID: S-2	Notes:		
mm/dd/yy	hh:mm	Dist. to test well: ft "H ₂ O	Dist. to test well: ft "H ₂ O	Dist. to test well: ft "H ₂ O	Dist. to test well: ft "H ₂ O	mm/dd/yy	hh:mm	Dist. to test well: ft	Dist. to test well: ft	Dist. to test well: ft	Dist. to test well: ft			
7/6/04	0700	15.70	19.55	16.90 Dry	18.13			18.19	18.07	12.26	12.26			
		vac WL	vac ft								20.26			
	1000	φ	NM	Dry	1.3			.03	18.30	NM	18.08	NM		
	1100	15.70	17.58	φ	18.38			φ	18.30	NM	18.08	NM	12.27	
	1200	φ	15.69	NM	19.51	φ	Dry	.5	18.35	NM	18.05	NM	12.25	
7/7/04	0630	φ	15.70	φ	19.55	φ	Dry	.2	18.38	NM	18.04	NM	12.26	
	0730												+7.4	
	0800	φ	15.70	φ	19.55	φ	Dry	test well	φ	18.38	NM	18.06	NM	12.25
	0900	φ	15.70	φ	19.55	φ	Dry	test well	φ	18.39	NM	18.07	NM	12.25
	1030	test well	φ	19.53	φ	Dry	φ	19.38	φ	18.36	NM	19.06	NM	12.25
	1130	test well	φ	19.53	φ	Dry	φ	19.11	φ	18.3	NM	18.06	NM	12.25

MW 3 15.70
 MW 5 19.55
 S-2 20.26
 MW 6 16.80 Dry

0.45

0.19 ↑ 10.03



Soil Vapor Extraction Test With a Thermal/Catalytic Oxidizer

Job Name: <u>OSA 57</u>	Date: <u>7/8/04</u>
Location: <u>Oakland</u>	Project Number: <u>2007-0057-01</u>
Weather Conditions: <u>Cloudy</u>	Test Operators: <u>MWM / CHILL</u>
Test System Description: <u>DPE Test</u>	Initial System Hours:
Stack Diameter: _____	Pipe Diameter where total or dilution flow is taken: _____
Test Well ID: <u>S-1; S-2; MW-3</u>	Flow Instrument: _____
	OVM Instrument: _____

Date	Time	Test Well Vacuum	Total Flow	Influent Temp	Control Temp	Dilution Control Temp	Stack Temp	Totalizer	Total Influent Concentration	Effluent Concentration	
mm/dd/yy	hh:mm	H₂O CH ₄	fpm cfm H₂O	°F	°F	°F	°F	Gal	ppm	ppm	
7/8/04	0615	22.25	87	120	1460	1410	1392	44610	4.0	1.0	~1.5 gpm
	0854	sample Influent (H ₂ O); 0905 sample GAC Influent; 1030 sample EFFLUENT									
		GAC Totalizer Initial read: 12001.6; totalizer @ sample time: 13013.2									
7/9/04	0600	23	86	115	1440	1400	1375	46960	2.3	∅	Propane - 0% ~1.6 gpm
7/10/04	0600	23	86	110	1460	1412	1411	48690	3.5	∅	~1.2 gpm
7/11/04	0600	21	86	110	1456	1411	1423	50760	3.2	∅	~1.43 gpm
7/12/04	0630	22.5	86	110	1453	1401	1399	52780	3.4	∅	~1.4 gpm
7/15/04	0600	22.5	86	110	1446	1410	1429	58670	4.0	∅	16.558 gal ~1.38 gpm
7/19/04	0545	23.25	86	115	1459	1419	1430	66320	3.2	∅	cat
	0623	Sample Effluent (H ₂ O); 0630 sample Influent (H ₂ O); 0641 sampled Eff Air; 0644 Sampled Inf. Air									
7/22/04	0545	23.25	86	115	1458	1413	1400	71870	3.0	∅	
	0620	sampled lead GAC (carbon) to FEDEX to US Filter									
	END	hr. meter: 12997.7				End totalizer: 77720					
7/27/04	1645	MWM on site to pump down tank - took samples @ 1118 (EFFLUENT) Totalizer: 43400									
7/28/04	0630	pumped down GAC - eff totalizer final: 47385.9									

APPENDIX C

**CERTIFIED ANALYTICAL REPORTS AND
CHAIN-OF-CUSTODY DOCUMENTATION**



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

COPY

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Gowri Kowtha
Phone: (530) 676-6002
Fax: (530) 676-6005
Date Received 07/07/04

JUL 20 2004

Job#: 2007-0057-01/ Former USA Station No. 57

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B/DHS LUFT Manual
Volatile Organic Compounds (VOCs) EPA Method SW8260B

	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	TPH Purgeable	ND	12 mg/m ³	07/06/04	07/12/04
Eff Air	Methyl tert-butyl ether (MTBE)	ND	0.12 mg/m ³	07/06/04	07/12/04
Lab ID :	Benzene	ND	0.12 mg/m ³	07/06/04	07/12/04
STR04070723-01A	Toluene	ND	0.12 mg/m ³	07/06/04	07/12/04
	Ethylbenzene	ND	0.12 mg/m ³	07/06/04	07/12/04
	m,p-Xylene	ND	0.12 mg/m ³	07/06/04	07/12/04
	o-Xylene	ND	0.12 mg/m ³	07/06/04	07/12/04
Client ID :	TPH Purgeable	660	30 mg/m ³	07/06/04	07/12/04
Inf Cat Air	Methyl tert-butyl ether (MTBE)	1.0	0.30 mg/m ³	07/06/04	07/12/04
Lab ID :	Benzene	2.1	0.30 mg/m ³	07/06/04	07/12/04
STR04070723-02A	Toluene	0.38	0.30 mg/m ³	07/06/04	07/12/04
	Ethylbenzene	1.2	0.30 mg/m ³	07/06/04	07/12/04
	m,p-Xylene	1.1	0.30 mg/m ³	07/06/04	07/12/04
	o-Xylene	ND	0.30 mg/m ³	07/06/04	07/12/04

Note: Concentrations of air in Tedlar Bags are at 24 degrees Celsius and 25.22 inches of mercury.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / info@alpha-analytical.com

7/14/04

Report Date

Alpha Analytical, Inc.

Phone : (775) 355-1044 FAX : (775) 355-0406

Sample Receipt Checklist

Date Report is due to Client : 7/15/2004

Date of Notice : 7/7/2004 10:03:05 A

Please take note of any NO check marks. If we receive no response concerning these items within 24 hours of the date of this notice, all of the samples will be analyzed as requested.

Client Name **Stratus Environmental**

Project ID : **2007-0057-01/ Former USA Station No. 57**

Project Manager : **Gowri Kowtha**

Client's Phone **(530) 676-6002**

Client's FAX **(530) 676-6005**

Work Order Number **STR04070723**

Date Received : **7/7/2004**

Received by: **Graciela Navarrete**

Chain of Custody (COC) Information

Carrier name **FedEx**

Chain of custody present ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Custody seals intact on shipping container/cooler ?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>	
Custody seals intact on sample bottles ?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>	
Chain of custody signed when relinquished and received ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample ID noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Date and time of collection noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samplers's name noted on COC ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Internal Chain of Custody (COC) requested ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Sub Contract Lab Used :	None <input checked="" type="checkbox"/>	SEM <input type="checkbox"/>	Other (see comments) <input type="checkbox"/>	

Sample Receipt Information

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Container/Temp Blank temperature in compliance (0-6°C)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		Cooler Temperature 4 °C
Water - VOA vials have zero headspace / no bubbles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>	
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
TOC Water - pH acceptable upon receipt (H2SO4 pH<2)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

Analytical Requirement Information

Are non-Standard or Modified methods requested ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Are there client specific Project requirements ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	If YES : see the Chain of Custody (COC)	

Comments :

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

Alpha Analytical, Inc.
255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : STR04070723

Report Due By : 5:00 PM On : 15-Jul-04

Client:

Stratus Environmental
3330 Cameron Park Drive
Suite 550
Cameron Park, CA 95682-8861

Gowri Kowtha
TEL : (530) 676-6002
FAX : (530) 676-6005

Job : 2007-0057-01/ Former USA Station No. 57

EDD Required : Yes

Sampled by : MW Morgan

Report Attention : Gowri Kowtha

PO : Client's COC # : 07928

Cooler Temp : N/A °C

CC Report :

07-Jul-04

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix	No. of Bottles Date	No. of Bottles	ORG	SUB	TAT	PWS #	Requested Tests						Sample Remarks	
									TPHP_A	VOC_A						
STR04070723-01A	Eff Air	AR	07/06/04 10:30	1	0	6			BTXE/GAS/ Mtbe_C	BTXE/GAS/ Mtbe_C						
STR04070723-02A	Inf Cat Air	AR	07/06/04 10:32	1	0	6			BTXE/GAS/ Mtbe_C	BTXE/GAS/ Mtbe_C						

Comments: No security seals intact. Send copy of receipt checklist with final report.

Received by:	<i>Gracela Navarrete</i>	<i>G Navarrete</i>	Alpha Analytical, Inc.	7-7-04 10:05
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NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.
Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information:

Name Stratus Environmental
 Address 3330 Cameron Park Dr #550
 City, State, Zip Cameron Park CA 95682
 Phone Number 530 676 6004 Fax 530 676 6005



Alpha Analytical, Inc.

255 Glendale Avenue, Suite 21
 Sparks, Nevada 89431-5778
 Phone (775) 355-1044
 Fax (775) 355-0406

Page # 1 of 1

Analyses Required

07928

CA
6 day

Client Name	P.O. #	Job #	Analyses Required										REMARKS										
Former USA Station No. 57		2007-0057-01																					
Address	PWS #	DWR #																					
10700 MacArthur Blvd																							
City, State, Zip	Phone #	Fax #																					
Oakland, CA																							
Time Sampled	Date Sampled	Matrix* See Key Below	Office Use Only	Sampled by	Report Attention	Total and type of containers ** See below	BTEX, PAHs MTBE																
			Lab ID Number		Gouri Kanthe																		
1030	7/6/04	OT	04070723-01	ER Air		T	X	X															Standard TAT
1032	7/6/04	OT	-02	Inf Cat Air		T	X	X															↓

ADDITIONAL INSTRUCTIONS:

Samples FEDEX' D

Signature	Print Name	Company	Date	Time
	Martin Morgan	Stratus	7/6/04	1500
	G. Naerrete	Alpha	7-7-04	10:05
Relinquished by				
Received by				
Relinquished by				
Received by				

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other ** L-Liter V-Voa S-Soil Jar O-Orbo T-Teclor B-Brass P-Plastic OT-Other
 NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

COPY

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Gowri Kowtha
Phone: (530) 676-6002
Fax: (530) 676-6005
Date Received 07/08/04

JUL 26 2004

Job#: 2007-0057-01/ Former USA Station No. 57

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B/DHS LUFT Manual
Volatile Organic Compounds (VOCs) EPA Method SW8260B

	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	TPH Purgeable	ND	12 mg/m ³	07/07/04	07/12/04
Inf Cat Air S-1	Methyl tert-butyl ether (MTBE)	0.29	0.12 mg/m ³	07/07/04	07/12/04
Lab ID :	Benzene	ND	0.12 mg/m ³	07/07/04	07/12/04
STR04070821-01A	Toluene	ND	0.12 mg/m ³	07/07/04	07/12/04
	Ethylbenzene	ND	0.12 mg/m ³	07/07/04	07/12/04
	m,p-Xylene	ND	0.12 mg/m ³	07/07/04	07/12/04
	o-Xylene	ND	0.12 mg/m ³	07/07/04	07/12/04
	Client ID :	TPH Purgeable	ND	12 mg/m ³	07/07/04
Inf Cat Air MW-3	Methyl tert-butyl ether (MTBE)	0.13	0.12 mg/m ³	07/07/04	07/12/04
Lab ID :	Benzene	ND	0.12 mg/m ³	07/07/04	07/12/04
STR04070821-02A	Toluene	ND	0.12 mg/m ³	07/07/04	07/12/04
	Ethylbenzene	ND	0.12 mg/m ³	07/07/04	07/12/04
	m,p-Xylene	ND	0.12 mg/m ³	07/07/04	07/12/04
	o-Xylene	ND	0.12 mg/m ³	07/07/04	07/12/04

Note: Concentrations of air in Tedlar Bags are at 24 degrees Celsius and 25.36 inches of mercury.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / info@alpha-analytical.com

7/15/04

Report Date

Alpha Analytical, Inc.

Phone : (775) 355-1044 FAX : (775) 355-0406

Sample Receipt Checklist

Date Report is due to Client : 7/16/2004

Date of Notice : 7/8/2004 10:11:33 A

Please take note of any NO check marks. If we receive no response concerning these items within 24 hours of the date of this notice, all of the samples will be analyzed as requested.

Client Name **Stratus Environmental**

Project ID : **2007-0057-01/ Former USA Station No. 57**

Project Manager : **Gowri Kowtha**

Client's Phone **(530) 676-6002**

Client's FAX **(530) 676-6005**

Work Order Number **STR04070821**

Date Received : **7/8/2004**

Received by: **Graciela Navarrete**

Chain of Custody (COC) Information

Carrier name **FedEx**

Chain of custody present ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Custody seals intact on shipping container/cooler ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles ?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody signed when relinquished and received ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample ID noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Date and time of collection noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samplers's name noted on COC ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Internal Chain of Custody (COC) requested ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Sub Contract Lab Used :	None <input checked="" type="checkbox"/>	SEM <input type="checkbox"/>	Other (see comments) <input type="checkbox"/>

Sample Receipt Information

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance (0-6°C)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Cooler Temperature 4 °C
Water - VOA vials have zero headspace / no bubbles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
TOC Water - pH acceptable upon receipt (H2SO4 pH<2)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>

Analytical Requirement Information

Are non-Standard or Modified methods requested ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Are there client specific Project requirements ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	If YES : see the Chain of Custody (COC)

Comments :

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

Page:
1 of 1

Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
 TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : STR04070821

Report Due By : 5:00 PM On : 16-Jul-04

Client:

Stratus Environmental
 3330 Cameron Park Drive
 Suite 550
 Cameron Park, CA 95682-8861

Gowri Kowtha
 TEL : (530) 676-6002
 FAX : (530) 676-6005

Job : 2007-0057-01/ Former USA Station No. 57
 PO : Client's COC # : 07929

EDD Required : Yes

Sampled by : MW Morgan

Cooler Temp : 4 °C

08-Jul-04

Report Attention : Gowri Kowtha

CC Report :

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix	Collection Date	No. of Bottles				Requested Tests							Sample Remarks		
				ORG	SUB	TAT	PWS #	TPH/P_A	VOC_A								
STR04070821-01A	Inf Cat Air S-1	AR	07/07/04 09:04	1	0	6		BTXE/GAS/ Mibe_C	BTXE/GAS/ Mibe_C								Tedlar
STR04070821-02A	Inf Cat Air MW-3	AR	07/07/04 11:26	1	0	6		BTXE/GAS/ Mibe_C	BTXE/GAS/ Mibe_C								Tedlar

Comments: No security seals intact. Send copy of receipt checklist with final report.

Received by:	<i>[Signature]</i>	Print Name	G. Navarrete	Company	Alpha Analytical, Inc.	Date/Time	7-8-04 10:10
--------------	--------------------	------------	--------------	---------	------------------------	-----------	--------------

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.

Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information:

Name Stratus Environmental
 Address 3330 Cameron Park Dr #550
 City, State, Zip Cameron Park, CA 95682
 Phone Number 530 676 6004 Fax 530 676 6005



Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21
 Sparks, Nevada 89431-5778
 Phone (775) 355-1044
 Fax (775) 355-0406

Client Name <u>Former USA Station No. 57</u>			P.O. #	Job # <u>2007-0057-01</u>	Analyses Required 07929 CA Today REMARKS			
Address <u>10700 MacArthur Blvd</u>			PWS #	DWR #				
City, State, Zip <u>Oakland, CA</u>			Phone #	Fax #				
Time Sampled	Date Sampled	Matrix* See Key Below	Office Use Only	Sampled by <u>MW Morgan</u>	Report Attention <u>Gowri Kowtha</u>	Total and type of containers ** See below	BTEX, TPH methanol SOX's + ethane MTBE	
		Lab ID Number	Sample Description					
1050	7/7/04	AQ		S-2-P	V	X	X	0
0904	7/7/04	OT		Inf Cat Air S-1	T	X	X	
1126	7/7/04	OT		Inf Cat Air MW-3	T	X	X	

ADDITIONAL INSTRUCTIONS:

Standard TAT - FEDEX Delivery

Signature	Print Name	Company	Date	Time
	Martin Morgan	Stratus	7/7/04	1600
	G. Navarro	Alpha	7-8-04	16:10
Relinquished by				
Received by				
Relinquished by				
Received by				

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other ** L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other
 NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.



ANALYTICAL REPORT

JUL 29 2004

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Gowri Kowtha
Phone (530) 676-6002
Fax: (530) 676-6005
Date Received 07/20/04

Job#: 2007-0057-01/ USA 57

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B/DHS LUFT Manual
Volatile Organic Compounds (VOCs) EPA Method SW8260B

	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	TPH Purgeable	ND	12 mg/m ³	07/19/04	07/20/04
Eff Air	Methyl tert-butyl ether (MTBE)	ND	0.12 mg/m ³	07/19/04	07/20/04
Lab ID :	Benzene	ND	0.12 mg/m ³	07/19/04	07/20/04
STR04072020-01A	Toluene	ND	0.12 mg/m ³	07/19/04	07/20/04
	Ethylbenzene	ND	0.12 mg/m ³	07/19/04	07/20/04
	m,p-Xylene	ND	0.12 mg/m ³	07/19/04	07/20/04
	o-Xylene	ND	0.12 mg/m ³	07/19/04	07/20/04
Client ID :	TPH Purgeable	88	12 mg/m ³	07/19/04	07/20/04
Inf CAT Air	Methyl tert-butyl ether (MTBE)	0.25	0.12 mg/m ³	07/19/04	07/20/04
Lab ID :	Benzene	0.26	0.12 mg/m ³	07/19/04	07/20/04
STR04072020-02A	Toluene	ND	0.12 mg/m ³	07/19/04	07/20/04
	Ethylbenzene	ND	0.12 mg/m ³	07/19/04	07/20/04
	m,p-Xylene	0.19	0.12 mg/m ³	07/19/04	07/20/04
	o-Xylene	ND	0.12 mg/m ³	07/19/04	07/20/04

Note: Concentrations of air in Tedlar Bags are at 24 degrees Celsius and 25.67 inches of mercury.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / info@alpha-analytical.com

7/20/04

Report Date

Alpha Analytical, Inc.

Phone : (775) 355-1044 FAX : (775) 355-0406

Sample Receipt Checklist

Date Report is due to Client : 7/20/2004

Date of Notice : 7/20/2004 9:19:31 A

Please take note of any NO check marks. If we receive no response concerning these items within 24 hours of the date of this notice, all of the samples will be analyzed as requested.

Client Name **Stratus Environmental** Project ID : **2007-0057-01/ USA 57**
Project Manager : **Gowri Kowtha** Client's Phone **(530) 676-6002** Client's FAX **(530) 676-6005**
Work Order Number **STR04072020** Date Received : **7/20/2004** Received by: **Graciela Navarrete**

Chain of Custody (COC) Information

Carrier name **FedEx**

Chain of custody present ? Yes No
Custody seals intact on shipping container/cooler ? Yes No Not Present
Custody seals intact on sample bottles ? Yes No Not Present
Chain of custody signed when relinquished and received ? Yes No
Chain of custody agrees with sample labels ? Yes No
Sample ID noted by Client on COC ? Yes No
Date and time of collection noted by Client on COC ? Yes No
Samplers's name noted on COC ? Yes No
Internal Chain of Custody (COC) requested ? Yes No
Sub Contract Lab Used : None SEM Other (see comments)

Sample Receipt Information

Shipping container/cooler in good condition? Yes No Not Present
Samples in proper container/bottle? Yes No
Sample containers intact? Yes No
Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
Container/Temp Blank temperature in compliance (0-6°C)? Yes No Cooler Temperature N/A °C
Water - VOA vials have zero headspace / no bubbles? Yes No No VOA vials submitted
Sample labels checked for correct preservation? Yes No
TOC Water - pH acceptable upon receipt (H2SO4 pH<2)? Yes No N/A

Analytical Requirement Information

Are non-Standard or Modified methods requested ? Yes No
Are there client specific Project requirements ? Yes No If YES : see the Chain of Custody (COC)

Comments :

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA RUSH

Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
 TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : STR04072020

Report Due By : 5:00 PM On : 20-Jul-04

Client:

Stratus Environmental
 3330 Cameron Park Drive
 Suite 550
 Cameron Park, CA 95682-8861

Gowri Kowtha
 TEL : (530) 676-6002
 FAX : (530) 676-6005

Job : 2007-0057-01/ USA 57
 PO :

Client's COC # : 07998

EDD Required : Yes

Sampled by : MW Morgan

Cooler Temp : N/A °C

20-Jul-04

Report Attention : Gowri Kowtha

CC Report :

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix	Collection Date	No. of Bottles				Requested Tests						Sample Remarks			
				ORG	SUB	TAT	PWS #	TPHP_A	VOC_A								
STR04072020-01A	Eff Air	AR	07/19/04 06:41	1	0	1		BTXE/GAS/ Mibe_C	BTXE/GAS/ Mibe_C								Tedlar
STR04072020-02A	Inf CAT Air	AR	07/19/04 06:44	1	0	1		BTXE/GAS/ Mibe_C	BTXE/GAS/ Mibe_C								Tedlar

Comments: Security seals intact, ice frozen. Ca rush ASAP samples. Send copy of receipt checklist with final report. :

Received by:	Signature	Print Name	Company	Date/Time
	<i>Grisela Chavez G. Navarrete</i>	G. Navarrete	Alpha Analytical, Inc.	7-20-04 9:15

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.
 Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other



Alpha Analytical, Inc.

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COPY

ANALYTICAL REPORT

JUL 29 2004

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Gowri Kowtha
Phone: (530) 676-6002
Fax: (530) 676-6005
Date Received 07/08/04

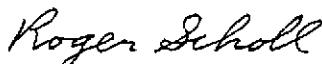
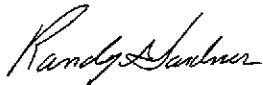
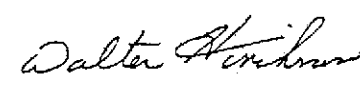
Job#: USA 57

Methanol by GC/MSD - Direct Injection
EPA Method SW8260B-DI

Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID: S-2				
Lab ID: STR04070845-01A				
Methanol	ND	5,000 µg/L	07/06/04	07/12/04
Ethanol	ND	5,000 µg/L	07/06/04	07/12/04

Reported in micrograms per liter, per client request.

ND = Not Detected




 Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
 Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / info@alpha-analytical.com



7/15/04
Report Date



Alpha Analytical, Inc.

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ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Gowri Kowtha
Phone: (530) 676-6002
Fax: (530) 676-6005
Date Received 07/08/04

Job#: USA 57

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B/DHS LUFT Manual
Volatile Organic Compounds (VOCs) EPA Method SW8260B

	Parameter	Concentration	Reporting	Date	Date
			Limit	Sampled	Analyzed
Client ID :	TPH Purgeable	2,200	50 µg/L	07/06/04	07/09/04
S-2	Tertiary Butyl Alcohol (TBA)	170	10 µg/L	07/06/04	07/09/04
Lab ID :	Methyl tert-butyl ether (MTBE)	66	0.50 µg/L	07/06/04	07/09/04
STR04070845-01A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/06/04	07/09/04
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/06/04	07/09/04
	Benzene	13	0.50 µg/L	07/06/04	07/09/04
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/06/04	07/09/04
	Toluene	1.8	0.50 µg/L	07/06/04	07/09/04
	Ethylbenzene	10	0.50 µg/L	07/06/04	07/09/04
	m,p-Xylene	22	0.50 µg/L	07/06/04	07/09/04
	o-Xylene	4.9	0.50 µg/L	07/06/04	07/09/04

Reported in micrograms per liter, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / info@alpha-analytical.com

7/15/04
Report Date



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

VOC pH Report

Work Order STR04070845

Project: USA 57

Alpha's Sample ID	Client's Sample ID	Matrix	pH
04070845-01A	S-2	Aqueous	6

7/15/04
Report Date



Alpha Analytical, Inc.

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Date:
16-Jul-04

OC Summary Report

Work Order:
04070845

Method Blank

Type MBLK Test Code: EPA Method SW8260B

File ID: D:\HPCHEM\MS10\DATA\040709\04070905.D

Batch ID: MS10W0709A

Analysis Date: 07/09/2004 09:06

Sample ID: MBLK MS10W0709A

Units: µg/L

Run ID: MSD_10_040709A

Prep Date: 07/09/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Tertiary Butyl Alcohol (TBA)	ND	10								
Methyl tert-butyl ether (MTBE)	ND	0.5								
Di-isopropyl Ether (DIPE)	ND	1								
Ethyl Tertiary Butyl Ether (ETBE)	ND	1								
Benzene	ND	0.5								
Tertiary Amyl Methyl Ether (TAME)	ND	1								
Toluene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
o-Xylene	ND	0.5								
Surr: 1,2-Dichloroethane-d4	9.98		10		99.8	72	126			
Surr: Toluene-d8	10		10		100	71	128			
Surr: 4-Bromofluorobenzene	10.3		10		103	76	121			

Laboratory Control Spike

Type LCS Test Code: EPA Method SW8260B

File ID: D:\HPCHEM\MS10\DATA\040709\04070904.D

Batch ID: MS10W0709A

Analysis Date: 07/09/2004 08:44

Sample ID: LCS MS10W0709A

Units: µg/L

Run ID: MSD_10_040709A

Prep Date: 07/09/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Benzene	10.3	0.5	10		103	83	119			
Toluene	10.1	0.5	10		101	80	120			
Ethylbenzene	10.6	0.5	10		106	80	120			
m,p-Xylene	11.1	0.5	10		111	77	125			
o-Xylene	10.5	0.5	10		105	77	124			
Surr: 1,2-Dichloroethane-d4	10.2		10		102	72	126			
Surr: Toluene-d8	9.85		10		99	71	128			
Surr: 4-Bromofluorobenzene	9.93		10		99	76	121			

Sample Matrix Spike

Type MS Test Code: EPA Method SW8260B

File ID: D:\HPCHEM\MS10\DATA\040709\04070914.D

Batch ID: MS10W0709A

Analysis Date: 07/09/2004 12:18

Sample ID: 04070845-01AMS

Units: µg/L

Run ID: MSD_10_040709A

Prep Date: 07/09/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Benzene	63.5	1.3	50	12.78	101	59	145			
Toluene	48.5	1.3	50	1.79	93	39	161			
Ethylbenzene	59.7	1.3	50	10.34	99	57	145			
m,p-Xylene	77.6	1.3	50	21.69	112	37	163			
o-Xylene	54.9	1.3	50	4.85	100	47	156			
Surr: 1,2-Dichloroethane-d4	51.1		50		102	72	126			
Surr: Toluene-d8	48.7		50		97	71	128			
Surr: 4-Bromofluorobenzene	51.8		50		104	76	121			

Sample Matrix Spike Duplicate

Type MSD Test Code: EPA Method SW8260B

File ID: D:\HPCHEM\MS10\DATA\040709\04070915.D

Batch ID: MS10W0709A

Analysis Date: 07/09/2004 12:39

Sample ID: 04070845-01AMSD

Units: µg/L

Run ID: MSD_10_040709A

Prep Date: 07/09/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Benzene	65.1	1.3	50	12.78	105	59	145	63.5	2.4(22)	
Toluene	50.5	1.3	50	1.79	97	39	161	48.45	4.1(22)	
Ethylbenzene	62	1.3	50	10.34	103	57	145	59.66	3.8(22)	
m,p-Xylene	80	1.3	50	21.69	117	37	163	77.62	3.0(23)	
o-Xylene	57.2	1.3	50	4.85	105	47	156	54.93	4.1(50)	
Surr: 1,2-Dichloroethane-d4	51.4		50		103	72	126			
Surr: Toluene-d8	49.6		50		99	71	128			
Surr: 4-Bromofluorobenzene	52.5		50		105	76	121			



Alpha Analytical, Inc.

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(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
16-Jul-04

QC Summary Report

Work Order:
04070845

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



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Date:
16-Jul-04

QC Summary Report

Work Order:
04070845

Method Blank

Type **MBLK** Test Code: **EPA Method SW8015B/DHS LUFT Manual**

File ID: D:\HPCHEM\MS10\DATA\040709\04070905.D

Batch ID: **MS10W0709B**

Analysis Date: **07/09/2004 09:06**

Sample ID: **MBLK MS10W0709B**

Units : **µg/L**

Run ID: **MSD_10_040709A**

Prep Date: **07/09/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	ND	50								
Surr: 1,2-Dichloroethane-d4	9.98		10		99.8	72	126			
Surr: Toluene-d8	10		10		100	71	128			
Surr: 4-Bromofluorobenzene	10.3		10		103	76	121			

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW8015B/DHS LUFT Manual**

File ID: D:\HPCHEM\MS10\DATA\040709\04070903.D

Batch ID: **MS10W0709B**

Analysis Date: **07/09/2004 08:23**

Sample ID: **GLCS MS10W0709B**

Units : **µg/L**

Run ID: **MSD_10_040709A**

Prep Date: **07/09/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	400	50	400		99.9	67	136			
Surr: 1,2-Dichloroethane-d4	9.8		10		98	72	126			
Surr: Toluene-d8	9.33		10		93	71	128			
Surr: 4-Bromofluorobenzene	9.91		10		99	76	121			

Sample Matrix Spike

Type **MS** Test Code: **EPA Method SW8015B/DHS LUFT Manual**

File ID: D:\HPCHEM\MS10\DATA\040709\04070912.D

Batch ID: **MS10W0709B**

Analysis Date: **07/09/2004 11:36**

Sample ID: **04070845-01AGS**

Units : **µg/L**

Run ID: **MSD_10_040709A**

Prep Date: **07/09/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	4610	250	2000	2245	118	54	154			
Surr: 1,2-Dichloroethane-d4	50.9		50		102	72	126			
Surr: Toluene-d8	47.6		50		95	71	128			
Surr: 4-Bromofluorobenzene	49.5		50		99	76	121			

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method SW8015B/DHS LUFT Manual**

File ID: D:\HPCHEM\MS10\DATA\040709\04070913.D

Batch ID: **MS10W0709B**

Analysis Date: **07/09/2004 11:57**

Sample ID: **04070845-01AGSD**

Units : **µg/L**

Run ID: **MSD_10_040709A**

Prep Date: **07/09/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	4540	250	2000	2245	115	54	154	4608	1.4(66)	
Surr: 1,2-Dichloroethane-d4	52.6		50		105	72	126			
Surr: Toluene-d8	48.2		50		96	71	128			
Surr: 4-Bromofluorobenzene	50		50		100	76	121			

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per liter, per client request.



Alpha Analytical, Inc.

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(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
16-Jul-04

QC Summary Report

Work Order:
04070845

Method Blank

Type **MBLK** Test Code: **EPA Method SW8260B-DI**

File ID: C:\HPCHEM\MS11\DATA\040712\04071203.D	Batch ID: 10323	Analysis Date: 07/12/2004 09:44
Sample ID: MBLK-10323	Units : $\mu\text{g/L}$	Run ID: MSD_11_040712A
Analyte	Result	PQL
Methanol	ND	5000
Ethanol	ND	5000
Surr: Hexafluoro-2-propanol	457	500
		91 69 135

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW8260B-DI**

File ID: C:\HPCHEM\MS11\DATA\040712\04071204.D	Batch ID: 10323	Analysis Date: 07/12/2004 10:23
Sample ID: LCS-10323	Units : $\mu\text{g/L}$	Run ID: MSD_11_040712A
Analyte	Result	PQL
Methanol	233	50
Ethanol	250	5
Surr: Hexafluoro-2-propanol	465	500
		93 51 161
		100 47 137
		93 69 135

Sample Matrix Spike

Type **MS** Test Code: **EPA Method SW8260B-DI**

File ID: C:\HPCHEM\MS11\DATA\040712\04071206.D	Batch ID: 10323	Analysis Date: 07/12/2004 11:03
Sample ID: 04070922-02AMS	Units : $\mu\text{g/L}$	Run ID: MSD_11_040712A
Analyte	Result	PQL
Methanol	219	50
Ethanol	251	5
Surr: Hexafluoro-2-propanol	464	500
		0 88 51 161
		0 100 47 137
		93 69 135

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method SW8260B-DI**

File ID: C:\HPCHEM\MS11\DATA\040712\04071207.D	Batch ID: 10323	Analysis Date: 07/12/2004 11:23
Sample ID: 04070922-02AMSD	Units : $\mu\text{g/L}$	Run ID: MSD_11_040712A
Analyte	Result	PQL
Methanol	243	50
Ethanol	275	5
Surr: Hexafluoro-2-propanol	469	500
		0 97 51 161
		0 110 47 137
		94 69 135
		219.3 10.2(39)
		251 9.2(34)

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per liter, per client request.

Alpha Analytical, Inc.

Phone : (775) 355-1044 FAX : (775) 355-0406

Sample Receipt Checklist

Date Report is due to Client : 7/16/2004

Date of Notice : 7/8/2004 11:10:15 A

Please take note of any NO check marks. If we receive no response concerning these items within 24 hours of the date of this notice, all of the samples will be analyzed as requested.

Client Name **Stratus Environmental**

Project ID : **USA 57**

Project Manager : **Gowri Kowtha**

Client's Phone **(530) 676-6002**

Client's FAX **(530) 676-6005**

Work Order Number : **STR04070845**

Date Received : **7/8/2004**

Received by: **Dolly S. Baker**

Chain of Custody (COC) Information

Carrier name **FedEx**

Chain of custody present ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Custody seals intact on shipping container/cooler ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles ?	Yes <input type="checkbox"/>	<input type="checkbox"/> No	Not Present <input checked="" type="checkbox"/>
Chain of custody signed when relinquished and received ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Chain of custody agrees with sample labels ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Sample ID noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Date and time of collection noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Samplers's name noted on COC ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Internal Chain of Custody (COC) requested ?	Yes <input type="checkbox"/>	<input checked="" type="checkbox"/> No	
Sub Contract Lab Used :	None <input checked="" type="checkbox"/>	<input type="checkbox"/> SEM	Other (see comments) <input type="checkbox"/>

Sample Receipt Information

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	Not Present <input type="checkbox"/>
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Container/Temp Blank temperature in compliance (0-6°C)?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	Cooler Temperature 4 °C
Water - VOA vials have zero headspace / no bubbles?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	No VOA vials submitted <input type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
TOC Water - pH acceptable upon receipt (H2SO4 pH<2)?	Yes <input type="checkbox"/>	<input type="checkbox"/> No	N/A <input checked="" type="checkbox"/>

Analytical Requirement Information

Are non-Standard or Modified methods requested ?	Yes <input type="checkbox"/>	<input checked="" type="checkbox"/> No	
Are there client specific Project requirements ?	Yes <input type="checkbox"/>	<input checked="" type="checkbox"/> No	If YES : see the Chain of Custody (COC)

Comments :

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

Page:
1 of 1

Alpha Analytical, Inc.

255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778

TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : STR04070845

Report Due By : 5:00 PM On : 16-Jul-04

Client:

Stratus Environmental
3330 Cameron Park Drive
Suite 550
Cameron Park, CA 95682-8861

Gowri Kowtha

TEL : (530) 676-6002

FAX : (530) 676-6005

Job : USA 57

PO :

Client's COC # : 00582

EDD Required : Yes

Sampled by : C. Hill

Cooler Temp : 4 °C

08-Jul-04

Report Attention : Gowri Kowtha

CC Report :

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection		No. of Bottles				Requested Tests			Sample Remarks
		Matrix	Date	ORG	SUB	TAT	PWS #	ALCOHOL_W	TPH/P_W	VOC_W	
STR04070845-01A	S-2	AQ	07/06/04 10:50	5	0	6		MeOH/EtOH	BTXE/GAS C/5oxys	BTXE/GAS C/5oxys	

Comments: . Custody seal. Frozen ice. EDF. Send copy of receipt checklist with final report.

Received by:

Signature
DS Baker

Print Name

DS Baker

Company
Alpha Analytical, Inc.

Date/Time

7/8/04 1110

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.
Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information:

Name Strobes
 Address 3330 Cameron Pk DR
 City, State, Zip Cameron Pk
 Phone Number 9306766001 Fax 9306766005



Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21
 Sparks, Nevada 89431-5778
 Phone (775) 355-1044
 Fax (775) 355-0406

Client Name <u>USA 57</u>				P.O. #	Job #	Analyses Required				00582 EDF Standard TAT REMARKS	
Address				PWS #	DWR #	TAN-BULK 50KYS ETHANOL METHANOL					
City, State, Zip <u>Dante land</u>				Phone #	Fax #						
Time Sampled	Date Sampled	Matrix* See Key Below	Office Use Only	Sampled by <u>CHILL</u>	Report Attention <u>Gowvi</u>		Total and type of containers ** See below				
			Lab ID Number	Sample Description							
<u>10:50</u>	<u>7/7/04</u>	<u>AQ</u>	<u>STRW070845-01</u>	<u>S-Z</u>		<u>5 ✓</u>	X	X	X	X	

ADDITIONAL INSTRUCTIONS:

Signature	Print Name	Company	Date	Time
	<u>CHILL</u>	<u>Strobes</u>	<u>7-7-04</u>	<u>0830</u>
	<u>Mike White</u>	<u>Alpha</u>	<u>7-7-04</u>	<u>0830</u>
	<u>D's Baker</u>	<u>Alpha</u>	<u>7/8/04</u>	<u>1110</u>

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other **; L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other
 NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

COPY

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Gowri Kowtha
Phone: (530) 676-6002
Fax: (530) 676-6005
Date Received 07/09/04

JUL 19 2004

Job#: USA 57

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B/DHS LUFT Manual
Volatile Organic Compounds (VOCs) EPA Method SW8260B

	Parameter	Concentration	Reporting	Date	Date	
			Limit	Sampled	Analyzed	
Client ID :	TPH Purgeable	ND	0	100 µg/L	07/08/04	07/09/04
Influent	Methyl tert-butyl ether (MTBE)	16		0.50 µg/L	07/08/04	07/09/04
Lab ID :	Benzene	ND		0.50 µg/L	07/08/04	07/09/04
STR04070921-01A	Toluene	ND		0.50 µg/L	07/08/04	07/09/04
	Ethylbenzene	0.66		0.50 µg/L	07/08/04	07/09/04
	m,p-Xylene	2.9		0.50 µg/L	07/08/04	07/09/04
	o-Xylene	1.5		0.50 µg/L	07/08/04	07/09/04
Client ID :	TPH Purgeable	110		100 µg/L	07/08/04	07/09/04
GAC Influent	Methyl tert-butyl ether (MTBE)	17		0.50 µg/L	07/08/04	07/09/04
Lab ID :	Benzene	ND		0.50 µg/L	07/08/04	07/09/04
STR04070921-02A	Toluene	ND		0.50 µg/L	07/08/04	07/09/04
	Ethylbenzene	ND		0.50 µg/L	07/08/04	07/09/04
	m,p-Xylene	0.59		0.50 µg/L	07/08/04	07/09/04
	o-Xylene	1.3		0.50 µg/L	07/08/04	07/09/04
Client ID :	TPH Purgeable	ND		50 µg/L	07/08/04	07/09/04
Effluent	Methyl tert-butyl ether (MTBE)	ND		0.50 µg/L	07/08/04	07/09/04
Lab ID :	Benzene	ND		0.50 µg/L	07/08/04	07/09/04
STR04070921-03A	Toluene	ND		0.50 µg/L	07/08/04	07/09/04
	Ethylbenzene	ND		0.50 µg/L	07/08/04	07/09/04
	m,p-Xylene	ND		0.50 µg/L	07/08/04	07/09/04
	o-Xylene	ND		0.50 µg/L	07/08/04	07/09/04

0 = Reporting Limits were increased due to sample foaming.
Reported in micrograms per liter, per client request.
ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / info@alpha-analytical.com

7/12/04

Report Date



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

VOC pH Report

Work Order STR04070921

Project: USA 57

Alpha's Sample ID	Client's Sample ID	Matrix	pH
04070921-01A	Influent	Aqueous	2
04070921-02A	GAC Influent	Aqueous	2
04070921-03A	Effluent	Aqueous	2

7/12/04

Report Date



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Date:
12-Jul-04

QC Summary Report

Work Order:
04070921

Method Blank

File ID: D:\HPCHEM\MS10\DATA\040709\04070905.D	Type MBLK	Test Code: EPA Method SW8015B/DHS LUFT Manual	Batch ID: MS10W0709B	Analysis Date: 07/09/2004 09:06						
Sample ID: MBLK MS10W0709B	Units: µg/L	Run ID: MSD_10_040709A	Prep Date: 07/09/2004							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	ND	50								
Surr: 1,2-Dichloroethane-d4	9.98		10		99.8	72	126			
Surr: Toluene-d8	10		10		100	71	128			
Surr: 4-Bromofluorobenzene	10.3		10		103	76	121			

Laboratory Control Spike

File ID: D:\HPCHEM\MS10\DATA\040709\04070903.D	Type LCS	Test Code: EPA Method SW8015B/DHS LUFT Manual	Batch ID: MS10W0709B	Analysis Date: 07/09/2004 08:23						
Sample ID: GLCS MS10W0709B	Units: µg/L	Run ID: MSD_10_040709A	Prep Date: 07/09/2004							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	400	50	400		99.9	67	136			
Surr: 1,2-Dichloroethane-d4	9.8		10		98	72	126			
Surr: Toluene-d8	9.33		10		93	71	128			
Surr: 4-Bromofluorobenzene	9.91		10		99	76	121			

Sample Matrix Spike

File ID: D:\HPCHEM\MS10\DATA\040709\04070912.D	Type MS	Test Code: EPA Method SW8015B/DHS LUFT Manual	Batch ID: MS10W0709B	Analysis Date: 07/09/2004 11:36						
Sample ID: 04070845-01AGS	Units: µg/L	Run ID: MSD_10_040709A	Prep Date: 07/09/2004							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	4610	250	2000	2245	118	54	154			
Surr: 1,2-Dichloroethane-d4	50.9		50		102	72	126			
Surr: Toluene-d8	47.6		50		95	71	128			
Surr: 4-Bromofluorobenzene	49.5		50		99	76	121			

Sample Matrix Spike Duplicate

File ID: D:\HPCHEM\MS10\DATA\040709\04070913.D	Type MSD	Test Code: EPA Method SW8015B/DHS LUFT Manual	Batch ID: MS10W0709B	Analysis Date: 07/09/2004 11:57						
Sample ID: 04070845-01AGSD	Units: µg/L	Run ID: MSD_10_040709A	Prep Date: 07/09/2004							
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	4540	250	2000	2245	115	54	154	4608	1.4(66)	
Surr: 1,2-Dichloroethane-d4	52.6		50		105	72	126			
Surr: Toluene-d8	48.2		50		96	71	128			
Surr: 4-Bromofluorobenzene	50		50		100	76	121			

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per liter, per client request.



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Date:
12-Jul-04

QC Summary Report

Work Order:
04070921

Method Blank

Type MBLK Test Code: EPA Method SW8260B

File ID: D:\HPCHEM\MS10\DATA\040709\04070905.D

Batch ID: MS10W0709A

Analysis Date: 07/09/2004 09:06

Sample ID: MBLK MS10W0709A

Units: µg/L

Run ID: MSD_10_040709A

Prep Date: 07/09/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	ND	0.5								
Benzene	ND	0.5								
Toluene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
o-Xylene	ND	0.5								
Surr: 1,2-Dichloroethane-d4	9.98		10		99.8	72	126			
Surr: Toluene-d8	10		10		100	71	128			
Surr: 4-Bromofluorobenzene	10.3		10		103	76	121			

Laboratory Control Spike

Type LCS Test Code: EPA Method SW8260B

File ID: D:\HPCHEM\MS10\DATA\040709\04070904.D

Batch ID: MS10W0709A

Analysis Date: 07/09/2004 08:44

Sample ID: LCS MS10W0709A

Units: µg/L

Run ID: MSD_10_040709A

Prep Date: 07/09/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Benzene	10.3	0.5	10		103	83	119			
Toluene	10.1	0.5	10		101	80	120			
Ethylbenzene	10.6	0.5	10		106	80	120			
m,p-Xylene	11.1	0.5	10		111	77	125			
o-Xylene	10.5	0.5	10		105	77	124			
Surr: 1,2-Dichloroethane-d4	10.2		10		102	72	126			
Surr: Toluene-d8	9.85		10		99	71	128			
Surr: 4-Bromofluorobenzene	9.93		10		99	76	121			

Sample Matrix Spike

Type MS Test Code: EPA Method SW8260B

File ID: D:\HPCHEM\MS10\DATA\040709\04070914.D

Batch ID: MS10W0709A

Analysis Date: 07/09/2004 12:18

Sample ID: 04070845-01AMS

Units: µg/L

Run ID: MSD_10_040709A

Prep Date: 07/09/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Benzene	63.5	1.3	50	12.78	101	59	145			
Toluene	48.5	1.3	50	1.79	93	39	161			
Ethylbenzene	59.7	1.3	50	10.34	99	57	145			
m,p-Xylene	77.6	1.3	50	21.69	112	37	163			
o-Xylene	54.9	1.3	50	4.85	100	47	156			
Surr: 1,2-Dichloroethane-d4	51.1		50		102	72	126			
Surr: Toluene-d8	48.7		50		97	71	128			
Surr: 4-Bromofluorobenzene	51.8		50		104	76	121			

Sample Matrix Spike Duplicate

Type MSD Test Code: EPA Method SW8260B

File ID: D:\HPCHEM\MS10\DATA\040709\04070915.D

Batch ID: MS10W0709A

Analysis Date: 07/09/2004 12:39

Sample ID: 04070845-01AMSD

Units: µg/L

Run ID: MSD_10_040709A

Prep Date: 07/09/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Benzene	65.1	1.3	50	12.78	105	59	145	63.5	2.4(22)	
Toluene	50.5	1.3	50	1.79	97	39	161	48.45	4.1(22)	
Ethylbenzene	62	1.3	50	10.34	103	57	145	59.66	3.8(22)	
m,p-Xylene	80	1.3	50	21.69	117	37	163	77.62	3.0(23)	
o-Xylene	57.2	1.3	50	4.85	105	47	156	54.93	4.1(50)	
Surr: 1,2-Dichloroethane-d4	51.4		50		103	72	126			
Surr: Toluene-d8	49.6		50		99	71	128			
Surr: 4-Bromofluorobenzene	52.5		50		105	76	121			

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Alpha Analytical, Inc.

Phone : (775) 355-1044 FAX : (775) 355-0406

Sample Receipt Checklist

Date Report is due to Client : 7/19/2004

Date of Notice : 7/9/2004 10:57:20 A

Please take note of any NO check marks. If we receive no response concerning these items within 24 hours of the date of this notice, all of the samples will be analyzed as requested.

Client Name **Stratus Environmental**

Project ID : **USA 57**

Project Manager : **Gowri Kowtha**

Client's Phone **(530) 676-6002**

Client's FAX **(530) 676-6005**

Work Order Number **STR04070921**

Date Received : **7/9/2004**

Received by: **Graciela Navarrete**

Chain of Custody (COC) Information

Carrier name **FedEx**

Chain of custody present ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Custody seals intact on shipping container/cooler ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on sample bottles ?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>	
Chain of custody signed when relinquished and received ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample ID noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Date and time of collection noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samplers's name noted on COC ?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Internal Chain of Custody (COC) requested ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Sub Contract Lab Used :	None <input checked="" type="checkbox"/>	SEM <input type="checkbox"/>	Other (see comments) <input type="checkbox"/>	

Sample Receipt Information

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Container/Temp Blank temperature in compliance (0-6°C)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		Cooler Temperature 4 °C
Water - VOA vials have zero headspace / no bubbles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>	
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
TOC Water - pH acceptable upon receipt (H2SO4 pH<2)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

Analytical Requirement Information

Are non-Standard or Modified methods requested ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		
Are there client specific Project requirements ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	If YES : see the Chain of Custody (COC)	

Comments :

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA RUSH

Page:
1 of 1

Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
 TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : STR04070921

Report Due By : 11:00 AM On : 12-Jul-04

Client:

Stratus Environmental
 3330 Cameron Park Drive
 Suite 550
 Cameron Park, CA 95682-8861

Gowri Kowtha
 TEL : (530) 676-6002
 FAX : (530) 676-6005

Job : USA 57

PO :

Client's COC # : 07997

EDD Required : Yes

Sampled by : MW Morgan

Cooler Temp : 4 °C

09-Jul-04

Report Attention : Gowri Kowtha

CC Report :

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix	Collection Date	No. of Bottles				Requested Tests						Sample Remarks			
				ORG	SUB	TAT	PWS #	TPHP_W	VOC_W								
STR04070921-01A	Influent	AQ	07/08/04 08:54	5	0	1		BTXE/GAS/ Mibe_C	BTXE/GAS/ Mibe_C								
STR04070921-02A	GAC Influent	AQ	07/08/04 07:05	5	0	1		BTXE/GAS/ Mibe_C	BTXE/GAS/ Mibe_C								
STR04070921-03A	Effluent	AQ	07/08/04 10:30	5	0	1		BTXE/GAS/ Mibe_C	BTXE/GAS/ Mibe_C								

Comments: Security seals intact, ice frozen. Ca rush 24hr tat. Send copy of receipt checklist with final report. :

Received by:	<i>[Signature]</i>	Print Name	G. Navarrete	Company	Alpha Analytical, Inc.	Date/Time	7-9-04 11:00
--------------	--------------------	------------	--------------	---------	------------------------	-----------	--------------

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report. Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other



Alpha Analytical, Inc.

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(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

COPY

ANALYTICAL REPORT

JUL 29 2004

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Gowri Kowtha
Phone (530) 676-6002
Fax: (530) 676-6005
Date Received 07/20/04

Job#: 2007-0057-01/ USA 57

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B/DHS LUFT Manual
Volatile Organic Compounds (VOCs) EPA Method SW8260B

	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	TPH Purgeable	ND	50 µg/L	07/19/04	07/20/04
Effluent	Tertiary Butyl Alcohol (TBA)	ND	10 µg/L	07/19/04	07/20/04
Lab ID :	Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	07/19/04	07/20/04
STR04072021-01A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/19/04	07/20/04
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/19/04	07/20/04
	Benzene	ND	0.50 µg/L	07/19/04	07/20/04
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/19/04	07/20/04
	Toluene	ND	0.50 µg/L	07/19/04	07/20/04
	Ethylbenzene	ND	0.50 µg/L	07/19/04	07/20/04
	m,p-Xylene	ND	0.50 µg/L	07/19/04	07/20/04
	o-Xylene	ND	0.50 µg/L	07/19/04	07/20/04
Client ID :	TPH Purgeable	ND	50 µg/L	07/19/04	07/20/04
Influent	Tertiary Butyl Alcohol (TBA)	56	10 µg/L	07/19/04	07/20/04
Lab ID :	Methyl tert-butyl ether (MTBE)	3.7	0.50 µg/L	07/19/04	07/20/04
STR04072021-02A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/19/04	07/20/04
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/19/04	07/20/04
	Benzene	ND	0.50 µg/L	07/19/04	07/20/04
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/19/04	07/20/04
	Toluene	ND	0.50 µg/L	07/19/04	07/20/04
	Ethylbenzene	ND	0.50 µg/L	07/19/04	07/20/04
	m,p-Xylene	0.52	0.50 µg/L	07/19/04	07/20/04
	o-Xylene	ND	0.50 µg/L	07/19/04	07/20/04

Reported in micrograms per liter, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / info@alpha-analytical.com

7/20/04

Report Date



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

VOC pH Report

Work Order: STR04072021

Project: 2007-0057-01/ USA 57

Alpha's Sample ID	Client's Sample ID	Matrix	pH
04072021-01A	Effluent	Aqueous	2
04072021-02A	Influent	Aqueous	

7/20/04

Report Date

Page 1 of 1



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
23-Jul-04

QC Summary Report

Work Order:
04072021

Method Blank

Type **MBLK** Test Code: **EPA Method SW8260B**

File ID: D:\HPCHEM\MS10\DATA\040720\04072005.D

Batch ID: **MS10W0720A**

Analysis Date: **07/20/2004 09:11**

Sample ID: **MBLK MS10W0720A**

Units: **µg/L**

Run ID: **MSD_10_040720A**

Prep Date: **07/20/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Tertiary Butyl Alcohol (TBA)	ND	10								
Methyl tert-butyl ether (MTBE)	ND	0.5								
Di-isopropyl Ether (DIPE)	ND	1								
Ethyl Tertiary Butyl Ether (ETBE)	ND	1								
Benzene	ND	0.5								
Tertiary Amyl Methyl Ether (TAME)	ND	1								
Toluene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
o-Xylene	ND	0.5								
Surr: 1,2-Dichloroethane-d4	9.49		10		95	72	126			
Surr: Toluene-d8	9.98		10		99.8	71	128			
Surr: 4-Bromofluorobenzene	10.5		10		105	76	121			

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW8260B**

File ID: D:\HPCHEM\MS10\DATA\040720\04072004.D

Batch ID: **MS10W0720A**

Analysis Date: **07/20/2004 08:50**

Sample ID: **LCS MS10W0720A**

Units: **µg/L**

Run ID: **MSD_10_040720A**

Prep Date: **07/20/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Benzene	10.1	0.5	10		101	83	119			
Toluene	9.73	0.5	10		97	80	120			
Ethylbenzene	10.4	0.5	10		104	80	120			
m,p-Xylene	10.7	0.5	10		107	77	125			
o-Xylene	10.1	0.5	10		101	77	124			
Surr: 1,2-Dichloroethane-d4	9.76		10		98	72	126			
Surr: Toluene-d8	9.72		10		97	71	128			
Surr: 4-Bromofluorobenzene	10		10		100	76	121			

Sample Matrix Spike

Type **MS** Test Code: **EPA Method SW8260B**

File ID: D:\HPCHEM\MS10\DATA\040720\04072016.D

Batch ID: **MS10W0720A**

Analysis Date: **07/20/2004 13:06**

Sample ID: **04071627-01AMS**

Units: **µg/L**

Run ID: **MSD_10_040720A**

Prep Date: **07/20/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Benzene	52.1	1.3	50	0	104	59	145			
Toluene	50.4	1.3	50	0	101	39	161			
Ethylbenzene	53.2	1.3	50	0	106	57	145			
m,p-Xylene	55.7	1.3	50	0	111	37	163			
o-Xylene	53.1	1.3	50	0	106	47	156			
Surr: 1,2-Dichloroethane-d4	51.4		50		103	72	126			
Surr: Toluene-d8	48.1		50		96	71	128			
Surr: 4-Bromofluorobenzene	49		50		98	76	121			

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method SW8260B**

File ID: D:\HPCHEM\MS10\DATA\040720\04072017.D

Batch ID: **MS10W0720A**

Analysis Date: **07/20/2004 13:27**

Sample ID: **04071627-01AMSD**

Units: **µg/L**

Run ID: **MSD_10_040720A**

Prep Date: **07/20/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Benzene	54.7	1.3	50	0	109	59	145	52.1	4.8(22)	
Toluene	52.7	1.3	50	0	105	39	161	50.42	4.4(22)	
Ethylbenzene	56	1.3	50	0	112	57	145	53.18	5.2(22)	
m,p-Xylene	58.2	1.3	50	0	116	37	163	55.7	4.4(23)	
o-Xylene	55.2	1.3	50	0	110	47	156	53.14	3.7(50)	
Surr: 1,2-Dichloroethane-d4	50		50		99.9	72	126			
Surr: Toluene-d8	48.2		50		96	71	128			
Surr: 4-Bromofluorobenzene	50.5		50		101	76	121			



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
23-Jul-04

OC Summary Report

Work Order:
04072021

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
23-Jul-04

QC Summary Report

Work Order:
04072021

Method Blank

Type **MBLK** Test Code: **EPA Method SW8015B/DHS LUFT Manual**

File ID: D:\HPCHEM\MS10\DATA\040720\04072005.D

Batch ID: **MS10W0720B**

Analysis Date: **07/20/2004 09:11**

Sample ID: **MBLK MS10W0720B**

Units: **µg/L**

Run ID: **MSD_10_040720A**

Prep Date: **07/20/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	ND	50								
Surr: 1,2-Dichloroethane-d4	9.49		10		95	72	126			
Surr: Toluene-d8	9.98		10		99.8	71	128			
Surr: 4-Bromofluorobenzene	10.5		10		105	76	121			

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW8015B/DHS LUFT Manual**

File ID: D:\HPCHEM\MS10\DATA\040720\04072003.D

Batch ID: **MS10W0720B**

Analysis Date: **07/20/2004 08:28**

Sample ID: **GLCS MS10W0720B**

Units: **µg/L**

Run ID: **MSD_10_040720A**

Prep Date: **07/20/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	434	50	400		109	67	136			
Surr: 1,2-Dichloroethane-d4	9.76		10		98	72	126			
Surr: Toluene-d8	9.42		10		94	71	128			
Surr: 4-Bromofluorobenzene	10.1		10		101	76	121			

Sample Matrix Spike

Type **MS** Test Code: **EPA Method SW8015B/DHS LUFT Manual**

File ID: D:\HPCHEM\MS10\DATA\040720\04072014.D

Batch ID: **MS10W0720B**

Analysis Date: **07/20/2004 12:23**

Sample ID: **04072021-01AGS**

Units: **µg/L**

Run ID: **MSD_10_040720A**

Prep Date: **07/20/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	2010	250	2000		0	100	54	154		
Surr: 1,2-Dichloroethane-d4	50.9		50		102	72	126			
Surr: Toluene-d8	47.1		50		94	71	128			
Surr: 4-Bromofluorobenzene	48.1		50		96	76	121			

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method SW8015B/DHS LUFT Manual**

File ID: D:\HPCHEM\MS10\DATA\040720\04072015.D

Batch ID: **MS10W0720B**

Analysis Date: **07/20/2004 12:45**

Sample ID: **04072021-01AGSD**

Units: **µg/L**

Run ID: **MSD_10_040720A**

Prep Date: **07/20/2004**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	2200	250	2000		0	110	54	154	2007	9.2(66)
Surr: 1,2-Dichloroethane-d4	49.4		50		99	72	126			
Surr: Toluene-d8	47.5		50		95	71	128			
Surr: 4-Bromofluorobenzene	48.5		50		97	76	121			

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per liter, per client request.

Alpha Analytical, Inc.

Phone : (775) 355-1044 FAX : (775) 355-0406

Sample Receipt Checklist

Date Report is due to Client : 7/20/2004

Date of Notice : 7/20/2004 9:22:57 A

Please take note of any NO check marks. If we receive no response concerning these items within 24 hours of the date of this notice, all of the samples will be analyzed as requested.

Client Name **Stratus Environmental**

Project ID : **2007-0057-01/ USA 57**

Project Manager : **Gowri Kowtha**

Client's Phone **(530) 676-6002**

Client's FAX **(530) 676-6005**

Work Order Number **STR04072021**

Date Received : **7/20/2004**

Received by: **Graciela Navarrete**

Chain of Custody (COC) Information

Carrier name FedEx

Chain of custody present ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Custody seals intact on shipping container/cooler ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles ?	Yes <input type="checkbox"/>	<input type="checkbox"/> No	Not Present <input checked="" type="checkbox"/>
Chain of custody signed when relinquished and received ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Chain of custody agrees with sample labels ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Sample ID noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Date and time of collection noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Samplers's name noted on COC ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Internal Chain of Custody (COC) requested ?	Yes <input type="checkbox"/>	<input checked="" type="checkbox"/> No	
Sub Contract Lab Used :	None <input checked="" type="checkbox"/>	<input type="checkbox"/> SEM	Other (see comments) <input type="checkbox"/>

Sample Receipt Information

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	Not Present <input type="checkbox"/>
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Container/Temp Blank temperature in compliance (0-6°C)?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	Cooler Temperature 4 °C
Water - VOA vials have zero headspace / no bubbles?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	No VOA vials submitted <input type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
TOC Water - pH acceptable upon receipt (H2SO4 pH<2)?	Yes <input type="checkbox"/>	<input type="checkbox"/> No	N/A <input checked="" type="checkbox"/>

Analytical Requirement Information

Are non-Standard or Modified methods requested ?	Yes <input type="checkbox"/>	<input checked="" type="checkbox"/> No	
Are there client specific Project requirements ?	Yes <input type="checkbox"/>	<input checked="" type="checkbox"/> No	If YES : see the Chain of Custody (COC)

Comments :

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA RUSH Page: 1 of 1

Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
 TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : STR04072021

Report Due By : 5:00 PM On : 20-Jul-04

Client:

Stratus Environmental
 3330 Cameron Park Drive
 Suite 550
 Cameron Park, CA 95682-8861

Gowri Kowtha
 TEL : (530) 676-6002
 FAX : (530) 676-6005

Job : 2007-0057-01/ USA 57

PO :

Client's COC # : 07999

EDD Required : Yes

Sampled by : MW Morgan

Cooler Temp : 4 °C

20-Jul-04

Report Attention : Gowri Kowtha

CC Report :

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix	Collection Date	No. of Bottles				Requested Tests						Sample Remarks		
				ORG	SUB	TAT	PWS #	TPH/P_W	VOC_W							
STR04072021-01A	Effluent	AQ	07/19/04 06:23	5	0	1		BTXE/GAS/ Soxys_C	BTXE/GAS/ Soxys_C							
STR04072021-02A	Influent	AQ	07/19/04 06:30	5	0	1		BTXE/GAS/ Soxys_C	BTXE/GAS/ Soxys_C							

Comments: Security seals intact, ice frozen. Ca rush ASAP samples. Send copy of receipt checklist with final report. :

Received by:	<i>[Signature]</i>	Print Name	Company	Date/Time
		G. Navarrete	Alpha Analytical, Inc.	7-20-04 9:25

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.

Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information:

Name Stratus Environmental
 Address 3330 Cameron Park Dr. #550
 City, State, Zip Cameron Park, CA 95682
 Phone Number 5306766004 Fax 5306766005



Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21
 Sparks, Nevada 89431-5778
 Phone (775) 355-1044
 Fax (775) 355-0406

Analyses Required

07999

CA
ASAP

Client Name		P.O. #		Job #								REMARKS	
USA 57				2007-0057-01									
Address		PWS #		DWR #									
10700 MacArthur Blvd													
City, State, Zip		Phone #		Fax #									
Oakland, CA													
Time Sampled	Date Sampled	Matrix* See Key Below	Office Use Only Lab ID Number	Sampled by	Report Attention	Total and type of containers ** See below							
				MW Morgan	Gowri Kowthar								
0623	7/19/04	AQ	04072021-01			✓	X	X					24 hr TAT
0630	7/19/04	AQ	-02			✓	X	X					24 hr TAT

ADDITIONAL INSTRUCTIONS:

24 HR TAT

Signature	Print Name	Company	Date	Time
	Martin Morgan	Stratus	7/19/04	1115
	Lisa Bryja	ALPHA	7-19-04	1115
	E. Navarrete	Alpha	7-20-04	9:00
Relinquished by				
Received by				

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other

** : L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.



Alpha Analytical, Inc.

COPY

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(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Gowri Kowtha
Phone: (530) 676-6002
Fax: (530) 676-6005
Date Received 07/29/04

Job#: 2007-0057-01/USA 57

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B/DHS LUFT Manual
Volatile Organic Compounds (VOCs) EPA Method SW8260B

	Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID :	TPH Purgeable	ND	50 µg/L	07/27/04	08/02/04
Effluent	Tertiary Butyl Alcohol (TBA)	ND	10 µg/L	07/27/04	08/02/04
Lab ID :	Methyl tert-butyl ether (MTBE)	ND	0.50 µg/L	07/27/04	08/02/04
STR04072944-01A	Di-isopropyl Ether (DIPE)	ND	1.0 µg/L	07/27/04	08/02/04
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	07/27/04	08/02/04
	Benzene	ND	0.50 µg/L	07/27/04	08/02/04
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	07/27/04	08/02/04
	Toluene	ND	0.50 µg/L	07/27/04	08/02/04
	Ethylbenzene	ND	0.50 µg/L	07/27/04	08/02/04
	m,p-Xylene	ND	0.50 µg/L	07/27/04	08/02/04
	o-Xylene	ND	0.50 µg/L	07/27/04	08/02/04

Reported in micrograms per liter, per client request.

ND = Not Detected

Roger L. Scholl, Ph.D., Laboratory Director • • Randy Gardner, Laboratory Manager • • Walter Hinchman, Quality Assurance Officer

Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / info@alpha-analytical.com

8/5/04

Report Date



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

VOC pH Report

Work Order STR04072944

Project: 2007-0057-01/USA 57

Alpha's Sample ID	Client's Sample ID	Matrix	pH
04072944-01A	Effluent	Aqueous	2

8/5/04
Report Date



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
10-Aug-04

QC Summary Report

Work Order:
04072944

Method Blank

File ID: D:\MSDCHEM\MS12\DATA\040802\04080207.D

Type MBLK Test Code: EPA Method SW8015B/DHS LUFT Manual

Batch ID: MS12W0802B

Analysis Date: 08/02/2004 10:09

Sample ID: MBLK MS12W0802B

Units: µg/L

Run ID: MSD_12_040802A

Prep Date: 08/02/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	ND	50								
Surr: 1,2-Dichloroethane-d4	11.5		10		115	72	126			
Surr: Toluene-d8	9.06		10		91	71	128			
Surr: 4-Bromofluorobenzene	9.85		10		99	76	121			

Laboratory Control Spike

File ID: D:\MSDCHEM\MS12\DATA\040802\04080206.D

Type LCS Test Code: EPA Method SW8015B/DHS LUFT Manual

Batch ID: MS12W0802B

Analysis Date: 08/02/2004 09:48

Sample ID: GLCS MS12W0802B

Units: µg/L

Run ID: MSD_12_040802A

Prep Date: 08/02/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	417	50	400		104	67	136			
Surr: 1,2-Dichloroethane-d4	12		10		120	72	126			
Surr: Toluene-d8	9.26		10		93	71	128			
Surr: 4-Bromofluorobenzene	9.9		10		99	76	121			

Sample Matrix Spike

File ID: D:\MSDCHEM\MS12\DATA\040802\04080210.D

Type MS Test Code: EPA Method SW8015B/DHS LUFT Manual

Batch ID: MS12W0802B

Analysis Date: 08/02/2004 12:30

Sample ID: 04072929-04AGS

Units: µg/L

Run ID: MSD_12_040802A

Prep Date: 08/02/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	1840	250	2000		92	54	154			
Surr: 1,2-Dichloroethane-d4	57		50		114	72	126			
Surr: Toluene-d8	46.5		50		93	71	128			
Surr: 4-Bromofluorobenzene	50.3		50		101	76	121			

Sample Matrix Spike Duplicate

File ID: D:\MSDCHEM\MS12\DATA\040802\04080211.D

Type MSD Test Code: EPA Method SW8015B/DHS LUFT Manual

Batch ID: MS12W0802B

Analysis Date: 08/02/2004 12:52

Sample ID: 04072929-04AGSD

Units: µg/L

Run ID: MSD_12_040802A

Prep Date: 08/02/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
TPH Purgeable	1870	250	2000		94	54	154	1842	1.6(66)	
Surr: 1,2-Dichloroethane-d4	58.5		50		117	72	126			
Surr: Toluene-d8	45.5		50		91	71	128			
Surr: 4-Bromofluorobenzene	49.8		50		99.6	76	121			

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per liter, per client request.



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
10-Aug-04

QC Summary Report

Work Order:
04072944

Method Blank

Type MBLK Test Code: EPA Method SW8260B

File ID: D:\MSDCHEM\MS12\DATA\040802\04080207.D

Batch ID: MS12W0802A

Analysis Date: 08/02/2004 10:09

Sample ID: MBLK MS12W0802A

Units: µg/L

Run ID: MSD_12_040802A

Prep Date: 08/02/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Tertiary Butyl Alcohol (TBA)	ND	10								
Methyl tert-butyl ether (MTBE)	ND	0.5								
Di-isopropyl Ether (DIPE)	ND	1								
Ethyl Tertiary Butyl Ether (ETBE)	ND	1								
Benzene	ND	0.5								
Tertiary Amyl Methyl Ether (TAME)	ND	1								
Toluene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
o-Xylene	ND	0.5								
Surr: 1,2-Dichloroethane-d4	11.5		10		115	72	126			
Surr: Toluene-d8	9.06		10		91	71	128			
Surr: 4-Bromofluorobenzene	9.85		10		99	76	121			

Laboratory Control Spike

Type LCS Test Code: EPA Method SW8260B

File ID: D:\MSDCHEM\MS12\DATA\040802\04080205.D

Batch ID: MS12W0802A

Analysis Date: 08/02/2004 09:27

Sample ID: LCS MS12W0802A

Units: µg/L

Run ID: MSD_12_040802A

Prep Date: 08/02/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Benzene	10.1	0.5	10		101	83	119			
Toluene	9.21	0.5	10		92	80	120			
Ethylbenzene	9.42	0.5	10		94	80	120			
m,p-Xylene	9.33	0.5	10		93	77	125			
o-Xylene	9.39	0.5	10		94	77	124			
Surr: 1,2-Dichloroethane-d4	11.7		10		117	72	126			
Surr: Toluene-d8	9.43		10		94	71	128			
Surr: 4-Bromofluorobenzene	10.3		10		103	76	121			

Sample Matrix Spike

Type MS Test Code: EPA Method SW8260B

File ID: D:\MSDCHEM\MS12\DATA\040802\04080208.D

Batch ID: MS12W0802A

Analysis Date: 08/02/2004 11:48

Sample ID: 04072929-04AMS

Units: µg/L

Run ID: MSD_12_040802A

Prep Date: 08/02/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Benzene	48.6	1.3	50	0	97	59	145			
Toluene	46.8	1.3	50	0	94	39	161			
Ethylbenzene	48.1	1.3	50	0	96	57	145			
m,p-Xylene	47.9	1.3	50	0	96	37	163			
o-Xylene	47	1.3	50	0	94	47	156			
Surr: 1,2-Dichloroethane-d4	50.6		50		101	72	126			
Surr: Toluene-d8	49		50		98	71	128			
Surr: 4-Bromofluorobenzene	53.2		50		106	76	121			

Sample Matrix Spike Duplicate

Type MSD Test Code: EPA Method SW8260B

File ID: D:\MSDCHEM\MS12\DATA\040802\04080209.D

Batch ID: MS12W0802A

Analysis Date: 08/02/2004 12:09

Sample ID: 04072929-04AMSD

Units: µg/L

Run ID: MSD_12_040802A

Prep Date: 08/02/2004

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefVal	%RPD(Limit)	Qual
Benzene	52.3	1.3	50	0	105	59	145	48.55	7.5(22)	
Toluene	47.2	1.3	50	0	94	39	161	46.83	0.7(22)	
Ethylbenzene	47.9	1.3	50	0	96	57	145	48.13	0.4(22)	
m,p-Xylene	47.8	1.3	50	0	96	37	163	47.87	0.1(23)	
o-Xylene	48.7	1.3	50	0	97	47	156	46.96	3.7(50)	
Surr: 1,2-Dichloroethane-d4	58.6		50		117	72	126			
Surr: Toluene-d8	47.1		50		94	71	128			
Surr: 4-Bromofluorobenzene	51.8		50		104	76	121			

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Alpha Analytical, Inc.

Phone : (775) 355-1044 FAX : (775) 355-0406

Sample Receipt Checklist

Date Report is due to Client : 8/6/2004

Date of Notice : 7/29/2004 11:39:19

Please take note of any NO check marks. If we receive no response concerning these items within 24 hours of the date of this notice, all of the samples will be analyzed as requested.

Client Name **Stratus Environmental**

Project ID : 2007-0057-01/USA 57

Project Manager : **Gowri Kowtha**

Client's Phone (530) 676-6002

Client's FAX (530) 676-6005

Work Order Number : **STR04072944**

Date Received : 7/29/2004

Received by: Dolly S. Baker

Chain of Custody (COC) Information

Carrier name **FedEx**

Chain of custody present ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Custody seals intact on shipping container/cooler ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles ?	Yes <input type="checkbox"/>	<input type="checkbox"/> No	Not Present <input checked="" type="checkbox"/>
Chain of custody signed when relinquished and received ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Chain of custody agrees with sample labels ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Sample ID noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Date and time of collection noted by Client on COC ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Samplers's name noted on COC ?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Internal Chain of Custody (COC) requested ?	Yes <input type="checkbox"/>	<input checked="" type="checkbox"/> No	
Sub Contract Lab Used :	None <input checked="" type="checkbox"/>	<input type="checkbox"/> SEM	Other (see comments) <input type="checkbox"/>

Sample Receipt Information

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	Not Present <input type="checkbox"/>
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
Container/Temp Blank temperature in compliance (0-6°C)?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	Cooler Temperature 4 °C
Water - VOA vials have zero headspace / no bubbles?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	No VOA vials submitted <input type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	<input type="checkbox"/> No	
TOC Water - pH acceptable upon receipt (H2SO4 pH<2)?	Yes <input type="checkbox"/>	<input type="checkbox"/> No	N/A <input checked="" type="checkbox"/>

Analytical Requirement Information

Are non-Standard or Modified methods requested ?	Yes <input type="checkbox"/>	<input checked="" type="checkbox"/> No	
Are there client specific Project requirements ?	Yes <input type="checkbox"/>	<input checked="" type="checkbox"/> No	If YES : see the Chain of Custody (COC)

Comments :

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

Page:
1 of 1

Alpha Analytical, Inc.

255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778

TEL: (775) 355-1044 FAX: (775) 355-0406

WorkOrder : STR04072944

Report Due By : 5:00 PM On : 06-Aug-04

Client:

Stratus Environmental
3330 Cameron Park Drive
Suite 550
Cameron Park, CA 95682-8861

Gowri Kowtha

TEL : (530) 676-6002

FAX : (530) 676-6005

Job : 2007-0057-01/USA 57

PO :

Client's COC # : 00393

EDD Required : Yes

Sampled by : MW Morgan

Cooler Temp : 4 °C

29-Jul-04

Report Attention : Gowri Kowtha

CC Report :

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection		No. of Bottles				TPH/P_W	VOC_W	Requested Tests	Sample Remarks
		Matrix	Date	ORG	SUB	TAT	PWS #				
STR04072944-01A	Effluent	AQ	07/27/04 11:18	3	0	6			BTXE/GAS_ C/Soxys	BTXE/GAS_ C/Soxys	

Comments: Custody seal. Frozen ice. Send copy of receipt checklist with final report. :

Received by:

Signature



Print Name

DS Baker

Company

Alpha Analytical, Inc.

Date/Time

7/29/04 1140

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report. Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

Billing Information:

Name Stratus Environmental, Inc.
 Address 3330 Cameron Park Dr. #550
 City, State, Zip Cameron Park CA 95682
 Phone Number 530-676-6004 Fax 530-676-6005



Alpha Analytical, Inc.

255 Glendale Avenue, Suite 21
 Sparks, Nevada 89431-5778
 Phone (775) 355-1044
 Fax (775) 355-0406

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Analyses Required

00393

Client Name <u>USA 57</u>		P.O. #		Job # <u>2007-0057-01</u>	
Address <u>10700 MacArthur Blvd.</u>		PWS #		DWR #	
City, State, Zip <u>Oakland, CA</u>		Phone #		Fax #	
Time Sampled	Date Sampled	Matrix* See Key Below	Office Use Only	Sampled by <u>MW Morgan</u>	Report Attention <u>Gwen Kornta</u>
Lab ID Number			Sample Description		
<u>1118</u>	<u>7/21/04</u>	<u>AQ</u>	<u>STR04072944-01</u>	<u>Effluent</u>	Total and type of containers ** See below <u>✓</u> <u>X</u> <u>X</u>
					REMARKS <u>Standard TAT</u>

BTEX, TPH₄
 50x4's

ADDITIONAL INSTRUCTIONS:

Signature	Print Name	Company	Date	Time
	<u>Martin Morgan</u>	<u>Stratus Env.</u>	<u>7/28/04</u>	<u>10:40</u>
	<u>LISA Brylow</u>	<u>ALPHA</u>	<u>7-27-04</u>	<u>10:40</u>
	<u>DS Baker</u>	<u>alpha</u>	<u>7/29/04</u>	<u>11:40</u>

*Key: AQ - Aqueous SO - Soil WA - Waste OT - Other

** L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this coc. The liability of the laboratory is limited to the amount paid for the report.