



December 30, 2005 Project No. 2007-0057-01

Mr. Barney Chan Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

Re: Well Installation Report

Former USA Service Station No. 57

10700 MacArthur Boulevard

Oakland, California

Dear Mr. Chan:

Stratus Environmental, Inc. (Stratus), on behalf of USA Gasoline Corporation (USA), has prepared this *Well Installation Report* for former USA Service Station No. 57 (the site), located at 10700 MacArthur Boulevard, Oakland, California (see Figure 1). In a document titled *Work Plan for Well Installation and In-Situ Groundwater Remediation (Work Plan*, August 31, 2005), Stratus proposed the installation of four on-site extraction wells to be used for remediation of residual and dissolved phase petroleum hydrocarbon impact previously identified beneath the site. Alameda County Health Care Services Agency (ACHCSA) subsequently approved the *Work Plan*, with comments, in a letter dated September 9, 2005. This report documents the installation of the extraction wells, and presents findings associated with completion of the work.

#### SITE BACKGROUND

The site is currently an undeveloped, partially paved parcel situated on the western corner of the intersection of 108<sup>th</sup> Avenue and Foothills Boulevard in Oakland, California, approximately 400 feet west of Interstate 580. This parcel comprises the southeastern corner of the Foothills Square Shopping Center. It is our understanding that the property owner intends to re-develop the portion of the Foothills Square Shopping Center formerly occupied by the site.

USA Station No. 57 was closed, and the gasoline underground storage tanks (USTs) 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. Residual petroleum hydrocarbon impact to soil appears to be limited to the immediate

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vicinity of the former fuel dispenser islands and USTs. The approximate former locations of the USTs and dispenser islands are shown on Figure 2.

Eight groundwater monitoring wells (S-1, S-2, and MW-3 through MW-8) were installed, and twelve exploratory soil borings (A through D and B-1 through B-8) were advanced, in order to assess the extent of subsurface petroleum hydrocarbon impact beneath the site. This site characterization work was completed between 1987 and 1995. Table 1 summarizes details pertinent to the drilling and well construction activities. The well network has been monitored and sampled on a quarterly basis since 1995.

Petroleum hydrocarbon impact to soil extends to the saturated zone in the vicinity of the former UST complex and fuel dispenser islands. Total petroleum hydrocarbons as gasoline (TPHG), benzene, toluene, ethylbenzene, and total xylenes (BTEX compounds), methyl tertiary butyl ether (MTBE), and tertiary butyl alcohol (TBA) have historically been reported in groundwater samples collected from wells S-1, S-2, and MW-3 (see Figure 2).

Stratus initiated intermittent dual phase extraction (DPE), using wells S-1, S-2, and MW-3 for extraction, in July 2004. Given historical soil and groundwater analytical data for the site, relatively low concentrations of petroleum hydrocarbons were reported for samples collected from the extracted soil vapor and groundwater. The relatively deep screening intervals of the wells used for extraction, relative to groundwater elevations beneath the site, appear to have resulted in the low petroleum hydrocarbon mass extraction rates. As of September 2005, an estimated mass of 19.8 pounds of TPHG has been removed from the subsurface using DPE.

#### SITE INVESTIGATION ACTIVITIES

The objectives of this investigation were to:

- Install shallow screened extraction wells to be used in future DPE events.
- Further characterize petroleum hydrocarbon impact to the subsurface.

To accomplish these objectives, Stratus implemented the following work activities:

- Drilled and installed four (4) 4-inch diameter extraction wells (EX-1 through EX-4) to a depth of approximately 25 feet below ground surface (bgs) using 10-inch diameter hollow stem augers.
- Collected soil samples in 5-foot intervals during the advancement of the well borings.
- Developed, sampled, and surveyed the newly installed extraction wells.

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Prior to implementation of field activities, well installation permits were obtained from Alameda County Public Works Agency (ACPWA). Drilling locations were marked 48 hours prior to fieldwork. Underground Service Alert, ACPWA, ACHCSA, USA, and the property owner were notified 48 hours prior to beginning work activities. Standard field practices and procedures for all fieldwork are described in Appendix A. All work was conducted under the direct supervision of a State of California Registered Geologist. A copy of the drilling permit is provided in Appendix B.

#### **FIELD ACTIVITIES**

#### **Soil Borings**

A Stratus geologist was on-site to oversee site assessment activities on October 6 and 7, 2005. Woodward Drilling Company (C-57 #710079) completed the drilling activities using a truck mounted drill rig equipped with 10-inch diameter hollow stem augers. Soils were classified on-site using the Unified Soil Classification System. Boring logs detailing soil stratigraphy are presented in Appendix B. Each boring was converted to an extraction well, as described below. Well boring locations are included on Figure 2.

The initial 5 feet of each boring were advanced with a hand auger and/or post-hole digger to reduce the possibility of damaging underground utilities. Soil samples were collected from the subsurface using a California-modified split spoon sampler equipped with three brass sleeves. The end of each retained sample was covered with Teflon™ sheets, capped, and sealed. Each sample was labeled, placed in a resealable plastic bag, and stored in an ice-chilled cooler. Select soil samples were forwarded to a state certified analytical laboratory for chemical analysis. Strict chain-of-custody procedures were followed from the time the samples were collected until the time the samples were relinquished to the laboratory.

Additional soil from each sampled interval was placed and sealed in plastic bags to allow the accumulation of volatile organic compound (VOC) vapors within the airspace in the bags. A portable photo-ionization detector (PID) was used to measure VOC concentrations from each sample in parts per million by volume (ppmv). PID results are included on the boring logs presented in Appendix B.

#### **Extraction Well Installation**

Wells EX-1 through EX-4 were constructed using 4-inch diameter PVC well casing and 20 feet of 0.02-inch diameter factory slotted well screen, situated from approximately 5 to 25 feet bgs. A filter pack of Lonestar<sup>TM</sup> #3 sand was placed in the annular space around the well from the bottom of the casing to approximately one foot above the top of the well screen. Prior to placing the well seal material, a surge block was used to "seat" the filter pack around the well screen. Approximately one foot of bentonite was placed

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on top of the filter pack and hydrated with clean water to provide a transition seal for the well. The remaining annular space around the well casing was backfilled with neat cement up to surface grade. A traffic rated vault box was placed over the well, and a watertight locking cap was placed on the top of the well casing. Well construction details and DWR well completion reports for wells EX-1 through EX-4 are included in Appendix B.

#### Well Development and Sampling

Stratus developed wells EX-1 through EX-4 on October 17, 2005, by surging and bailing with a plastic bailer. Approximately two well casing volumes were removed from each well during well development. Each well bailed dry during development activities. Stratus returned to the site on October 24, 2005 to sample newly installed wells EX-1 through EX-4. The fourth quarter 2005 groundwater sampling event was also completed at this time. Prior to sampling, each well casing was purged. Groundwater samples were subsequently collected using a new, clean disposable bailer. Groundwater was transferred to appropriately preserved glass vials (voas), stored in an ice-chilled cooler, and identified on a chain-of-custody form. Field data sheets documenting the well development and sampling events are presented in Appendix C. Wells EX-1 through EX-4 will be incorporated into the quarterly monitoring program for the site.

#### Surveying

Morrow Surveying, of West Sacramento, California, surveyed the elevations and locations (latitude, longitude, state plane coordinates) of all monitoring wells and remediation wells in November 2005. Well elevations were established to the nearest 0.01 vertical feet and tied to the previous survey completed at the site. A copy of the surveyor's map is presented in Appendix D. Well survey data was forwarded to the California State Water Resources Control Board for inclusion in the Geotracker database.

#### **Waste Management**

Drill cuttings and wastewater generated during drilling activities were placed in properly labeled, DOT-approved, 55-gallon steel drums and stored on-site pending disposal. A sample of the soil cuttings was collected and submitted for chemical analysis to determine the appropriate disposal facility. Stratus personnel transported wastewater generated during well development and sampling activities to Integrated Wastestream Management (IWM). IWM transported all soil and wastewater to licensed facilities for disposal.

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#### **ANALYTICAL METHODS**

Soil and groundwater samples were forwarded to Alpha Analytical, Inc., a California state-certified laboratory (ELAP #2019), for chemical analysis under strict chain-of-custody procedures. The samples were analyzed for TPHG using USEPA Method SW8015B DHS/LUFT Manual, and for BTEX, MTBE, TBA, ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), and 1,2-dichloroethane (1,2-DCA) using USEPA Method SW8260B. Groundwater samples were additionally analyzed for ethanol, methanol, and 1,2-dibromoethane (EDB) using USEPA Method SW8260B. Soil analytical results are presented in Table 2, and groundwater analytical results are presented in Table 3. Certified analytical reports with chain-of-custody records are presented in Appendix E.

#### **FINDINGS**

#### Site Geology and Hydrogeology

The geology beneath the site generally consists of fine grained soil situated above sedimentary bedrock. Clay, silty clay, and clayey sand soils were encountered during this investigation and previous site assessment activities. Weathered sedimentary bedrock (logged as sandstone, siltstone, and mudstone) have been observed at the site at depths ranging from approximately 17 to 24 feet bgs.

Depth to groundwater has been reported in the monitoring wells at depths ranging from approximately 7 to 21 feet bgs since groundwater monitoring was initiated in 1995. Groundwater was measured between 13.34 and 15.4 feet bgs in wells EX-1 through EX-4 on October 17, 2005.

#### **Analytical Results**

#### Soil Analytical Results

Petroleum hydrocarbons were reported in the soil samples collected from borings EX-1, EX-2, and EX-4. The highest concentrations of TPHG (510 milligrams per kilogram [mg/Kg]) and BTEX constituents (benzene at 1.1 mg/Kg) were reported for the sample collected from boring EX-4 at 16.5 feet bgs. TPHG was reported at concentrations ranging from 23 mg/Kg to 120 mg/Kg for samples collected from boring EX-1 between 11 and 21 feet bgs. Petroleum hydrocarbon and fuel additive concentrations were reported below laboratory detection limits for the samples collected from well boring EX-3.

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#### Groundwater Analytical Results

Petroleum hydrocarbons were reported in groundwater samples collected from each of the newly installed extraction wells. The highest concentrations of TPHG (42,000micrograms per liter [ $\mu$ g/L]), benzene (13,000  $\mu$ g/L), and MTBE (410  $\mu$ g/L) were reported in the sample collected from EX-2. TPHG and benzene were also reported in the samples collected from wells EX-1, EX-3, and EX-4 at concentrations ranging from 1,900  $\mu$ g/L to 20,000  $\mu$ g/L, and 140  $\mu$ g/L to 390  $\mu$ g/L, respectively.

#### SUMMARY

The following summarizes the findings of this investigation:

- Four extraction wells were installed on-site for use in future DPE events. These wells will be incorporated into the quarterly monitoring and sampling program at the site and will be used for remediation.
- Relatively high concentrations of petroleum hydrocarbons were reported in soil samples collected from borings EX-1 and EX-4. The highest concentrations of TPHG (510 mg/Kg) and BTEX constituents (benzene at 1.1 mg/Kg) were reported for the sample collected from boring EX-4 at 16.5 feet bgs.
- Wells EX-1 through EX-4 are impacted with dissolved petroleum hydrocarbons. The highest concentrations of TPHG (42,000 μg/L), benzene (13,000 μg/L), and MTBE (410 μg/L) were reported in the sample collected from EX-2.

#### 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 concerning this report, please contact Gowri Kowtha at (530) 676-6001.

Sincerely,

STRATUS ENVIRONMENTAL. INC.

G. Bittinger, P.G.

Project Geologist

Gowri S. Kowtha, P.E.

Project Manager

Attachments:

Table 1

**Drilling and Well Construction Summary** 

Table 2

Soil Analytical Results

Table 3

Groundwater Analytical Results

Figure 1

Site Location Map

Figure 2

Site Plan

Appendix A

Field Practices and Procedures

Appendix B

Boring Logs, Well Details, DWR Well Completion

Forms, and Drilling Permit

Appendix C

Field Data Sheets Surveyor's Map

Appendix D

Certified Analytical Reports and Chain-of-Custody Appendix E

Documentation

cc:

Mr. Charles Miller, USA Gasoline Corporation

Mr. Ken Phares, Jay-Phares Corporation

Mr. Peter McIntyre, AEI Consultants

TABLE 1
DRILLING AND WELL CONSTRUCTION SUMMARY

Former USA Station #57 10700 MacArthur Boulevard Oakland, California

ID	Date	Boring Dia. (inches)	Boring Depth (feet bgs)	Casing Diameter (inches)	Casing Depth (feet bgs)	Slot Size (inches)	Screen Interval (feet bgs)
Monitoring	Wells						
S-1	2/12/87	8	40	3	40	0.02	20 to 40
S-2	2/12/87	8	40	3	40	0.02	20 to 40
MW-3	2/28/95	10	44	4	44	0.02	24 to 44
MW-4	11/20/95	10	40.5	4	40.5	0.02	10 to 40.5
MW-5	11/20/95	10	41	4	40	0.02	10 to 40
MW-6	11/20/95	10	40.5	4	40.5	0.02	10 to 40.5
MW-7	11/21/95	10	41	4	40	0.02	10 to 40
MW-8	11/21/95	10	35.5	4	35	0.02	10 to 35
Extraction	Wells						
EX-1	10/6/05	10	25	4	25	0.02	5 to 25
EX-2	10/7/05	10	25	4	25	0.02	5 to 25
EX-3	10/6/05	10	25	4	25	0.02	5 to 25
EX-4	10/6/05	10	25	4	25	0.02	5 to 25
Soil Boring	<u>'s</u>						
A	2/12/87	8	20				
В	2/12/87	6	20				
C	2/12/87	6	20				
D	2/12/87	6	20				
B-1	2/28/95	8	46				
B-2	3/1/95	8	31				
B-3	3/1/95	8	21				
B-4	3/2/95	8	12				
B-5	3/2/95	8	12				
B-6	3/2/95	8	12				
<b>B</b> -7	3/2/95	8	12				
B-8	3/2/95	8	12				

TABLE 2
SOIL ANALYTICAL RESULTS
FORMER USA GASOLINE STATION 57
10700 MACARTHUR BOULEVARD, OAKLAND, CA

Sample ID	Sample Depth (feet bgs)	Date Collected	TPHG (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl- benzene (mg/Kg)	Total Xylenes (mg/Kg)	MTBE (mg/Kg)	TBA (mg/Kg)	DIPE (mg/Kg)	ETBE (mg/Kg)	TAME (mg/Kg)	1,2-DCA (mg/Kg)
Boring EX-1													
EX-1-11	11	10/6/05	23	< 0.005	<0.005	< 0.005	< 0.005	<0.005	< 0.50	< 0.020	< 0.020	< 0.020	<0.020
EX-1-16	16	10/6/05	100	<0.020*	<0.020*	<0.020*	0.034	<0.020*	<2.0*	<0.040*	<0.040*	<0.040*	<0.040*
EX-1-21	21	10/6/05	120	0.018	<0.010*	0.34	0.79	0.033	<1.0*	< 0.020	< 0.020	<0.020	<0.020
Boring EX-2													
EX-2-11	11	10/7/05	6	< 0.005	< 0.005	< 0.005	0.0113	<0.005	< 0.50	<0.020	< 0.020	<0.020	<0.020
Boring EX-3													
EX-3-11	11	10/6/05	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.020	< 0.020	< 0.020	<0.020
EX-3-15.5	15.5	10/6/05	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.50	< 0.020	< 0.020	< 0.020	<0.020
EX-3-20.5	20.5	10/6/05	<1.0	<0.005	< 0.005	<0.005	<0.005	<0.005	<0.50	< 0.020	< 0.020	< 0.020	<0.020
Boring EX-4													
EX-4-6	6	10/6/05	1.4	0.020	< 0.005	0.013	< 0.005	< 0.005	< 0.50	< 0.020	< 0.020	< 0.020	<0.020
EX-4-11	11	10/6/05	26	0.064	0.015	0.067	0.56	< 0.005	< 0.50	< 0.020	<0.020	< 0.020	<0.020
EX-4-16.5	16.5	10/6/05	510	1.1	3.6	2.2	43	<0.20*	<20*	<0.40*	<0.40*	<0.40*	<0.40*
EX-4-21	21	10/6/05	<1.0	0.068	< 0.005	0.013	0.029	< 0.005	< 0.50	< 0.020	< 0.020	< 0.020	<0.020
EX-4-25.5	25.5	10/6/05	18	<0.005	< 0.005	0.008	0.178	< 0.005	< 0.50	< 0.020	< 0.020	< 0.020	<0.020

# TABLE 2 SOIL ANALYTICAL RESULTS FORMER USA GASOLINE STATION 57 10700 MACARTHUR BOULEVARD, OAKLAND, CA

Sample ID	Sample Depth (feet bgs)	Date Collected	TPHG (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl- benzene (mg/Kg)	Total Xylenes (mg/Kg)	MTBE (mg/Kg)	TBA (mg/Kg)	DIPE (mg/Kg)	ETBE (mg/Kg)	TAME (mg/Kg)	1,2-DCA (mg/Kg)

#### Explanation

TPHG = Total petroleum hydrocarbons as gasoline

BTEX = Benzene, toluene, ethylbenzene, and xylenes

MTBE = Methyl tertiary butyl ether

TBA=Tertiary butyl alcohol

DIPE =Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

1,2-DCA=1,2-Dichloroethane

bgs = below ground surface

mg/Kg = milligrams per kilogram

\* = Reporting limits increased due to high concentrations of target analytes

#### **Analytical Methods**

TPHG analyzed using EPA Method SW8015B/DHS LUFT Manual

BTEX, MTBE, TBA, DIPE, ETBE, TAME, and 1,2-DCA analyzed using EPA Method SW8260B

#### **Analytical Laboratory**

Alpha Analytical, Inc. (ELAP #2019)

TABLE 3 **GROUNDWATER ANALYTICAL RESULTS FORMER USA GASOLINE STATION 57** 10700 MACARTHUR BOULEVARD, OAKLAND, CA

Sample ID	Date Collected	TPHG (µg/L)	Benzene (µg/L)	Toluene (μg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (μg/L)	TBA (μg/L)	1,2-DCA (μg/L)	EDB (μg/L)	DIPE (μg/L)	ETBE (μg/L)	TAME (μg/L)	Ethanol (μg/L)	Methanol (μg/L)
EX-1	10/24/05	5,000	140	8.4	20	195	360	120	<1.0	<4.0*	<1.0	<1.0	<1.0	<5,000	<5,000
EX-2	10/24/05	42,000	13,000	1,300	1,300	2,580	410	<2,000*	<200*	<800*	<200*	<200*	<200*	<5,000	<5,000
EX-3	10/24/05	20,000	220	21	660	3,110	<10*	<200*	<20*	<80*	<20*	<20*	<20*	<5,000	<5,000
EX-4	10/24/05	1,900	390	69	8.8	90	11	51	<5.0*	<20*	<5.0*	<5.0*	<5.0*	<5,000	<5,000

#### Explanation

TPHG = Total petroleum hydrocarbons as gasoline

BTEX = Benzene, toluene, ethylbenzene, and xylenes

MTBE = Methyl tertiary butyl ether

TBA=Tertiary butyl alcohol

1,2-DCA = 1,2-Dichloroethane

DIPE =Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

EDB = 1,2-Dibromoethane

μg/L = micrograms per liter

\* = Reporting limits increased due to high concentrations of target analytes

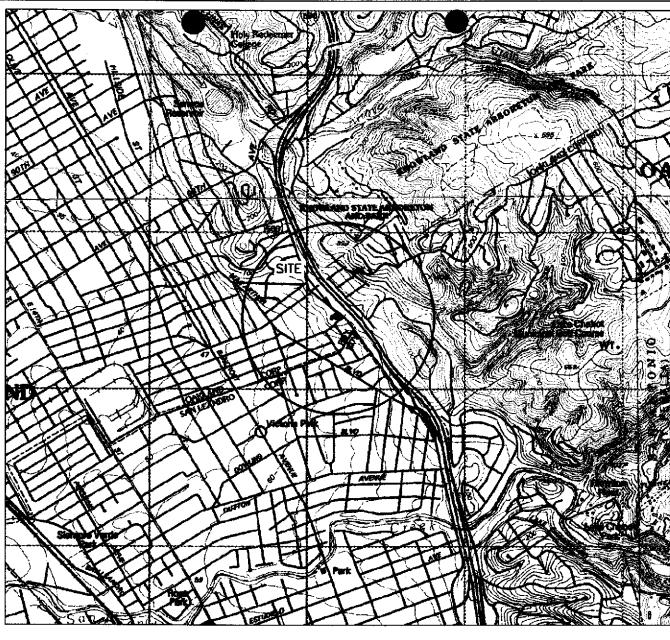
Analytical Methods
TPHG analyzed using EPA Method SW8015B/DHS LUFT Manual

BTEX, MTBE, DIPE, ETBE, TAME, TBA, 1,2-DCA, ethanol, and methanol analyzed using

EPA Method SW8260B

#### **Analytical Laboratory**

Alpha Analytical, Inc. (ELAP #2019)



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



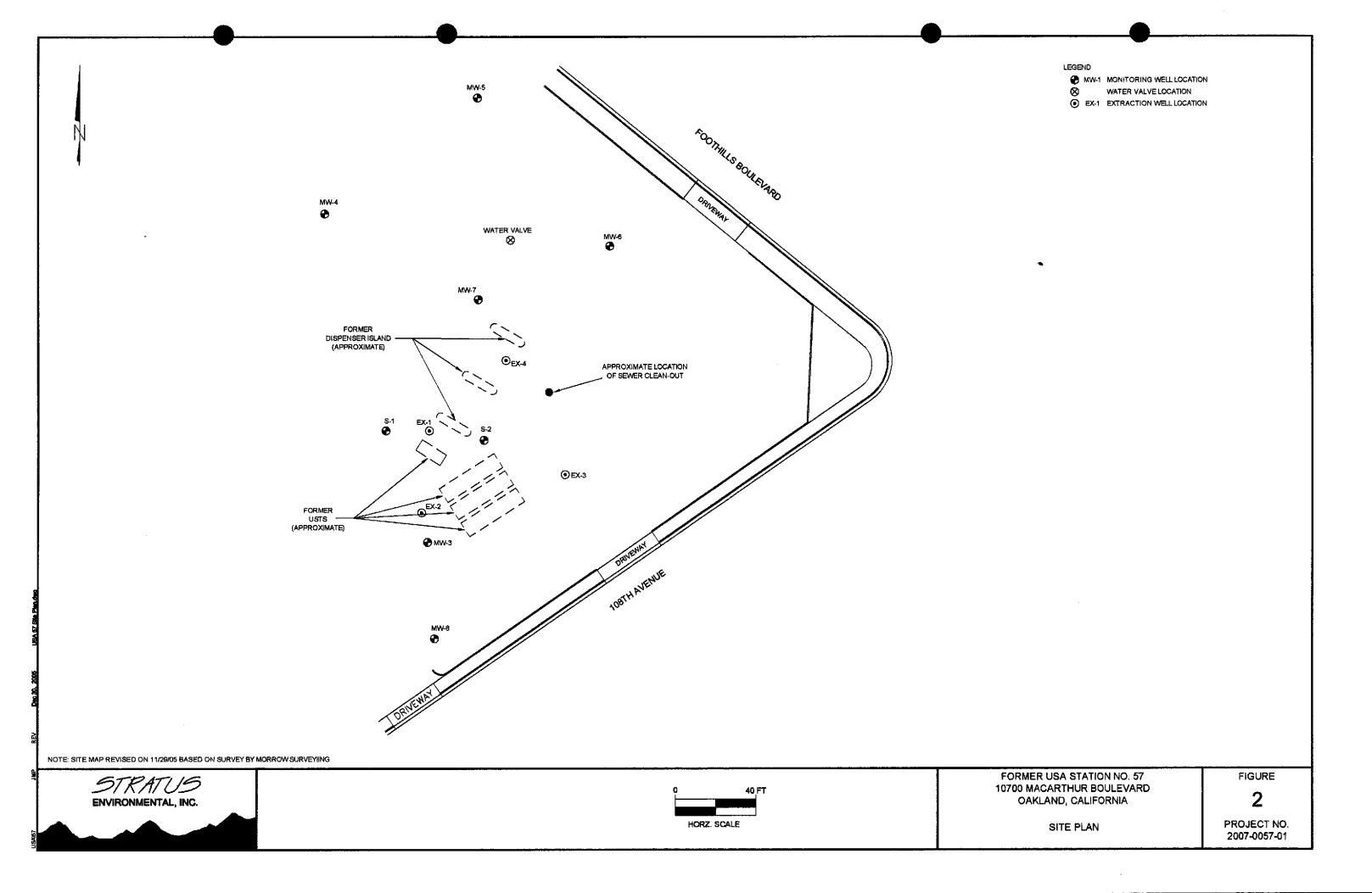


SCALE 1:24,000

STRATUS ENVIRONMENTAL, INC.

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

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PROJECT NO. 2007-0057-01



# APPENDIX A FIELD PRACTICES AND PROCEDURES

#### FIELD PRACTICES AND PROCEDURES

General procedures used by Stratus in site assessments for drilling exploratory borings, collecting samples, and installing monitoring wells are described herein. These general procedures are used to provide consistent and reproducible results; however, some procedure may be modified based on site conditions. A California Professional Geologist or Civil Engineer supervises the following procedures.

#### PRE-FIELD WORK ACTIVITIES

#### Health and Safety Plan

Field work performed by Stratus at the site is conducted according to guidelines established in a Site Health and Safety Plan (SHSP). The SHSP is a document which describes the hazards that may be encountered in the field and specifies protective equipment, work procedures, and emergency information. A copy of the SHSP is at the site and available for reference by appropriate parties during work at the site.

#### **Locating Underground Utilities**

Prior to commencement of any work that is to be below surface grade, the location of the excavation, boring, etc., is marked with white paint as required by law. An underground locating service such as Underground Service Alert (USA) is contacted. The locating company contacts the owners of the various utilities in the vicinity of the site to mark the locations of their underground utilities. Any invasive work is preceded by hand augering to a minimum depth of five feet below surface grade to avoid contact with underground utilities.

#### FIELD METHODS AND PROCEDURES

#### **Exploratory Soil Borings**

Soil borings will be drilled using a truck-mounted, hollow stem auger or air rotary casing hammer drill rig. Soil samples for logging will be obtained from auger-return materials and by advancing a modified California split-spoon sampler equipped with brass or stainless steel liners into undisturbed soil beyond the tip of the auger. Soils will be logged by a geologist according to the Unified Soil Classification System and standard geological techniques. Drill cuttings well be screened using a portable photoionization detector (PID) or a flame ionization detector (FID). Exploratory soil borings not used for monitoring well installation will be backfilled to the surface with a bentonite-cement slurry pumped into the boring through a tremie pipe.

Soil sampling equipment will be cleaned with a detergent water solution, rinsed with clean water, and equipped with clean liners between sampling intervals. Augers and

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samplers will be steam cleaned between each boring to reduce the possibility of cross contamination. Steam cleaning effluent will be contained in 55-gallon drums and temporarily stored on site. The disposal of the effluent will be the responsibility of the client.

#### Soil Sample Collection

During hollow stem auger drilling, soil samples will be collected in cleaned brass, two by six inch tubes. The tubes will be set in an 18-inch-long split-barrel sampler. The sampler will be conveyed to bottom of the borehole attached to a wire-line hammer device on the drill rig. When possible, the split-barrel sampler will be driven its entire length, either hydraulically or by repeated pounding a 140-pound hammer using a 30-inch drop. The number of drops (blows) used to drive the sampler will be recorded on the boring log. The sampler will be extracted from the borehole, and the tubes containing the soil samples will be removed. Upon removal, the ends of the lowermost tube will be sealed with Teflon sheets and plastic caps. Soil samples for chemical analysis will be labeled, placed on ice, and delivered to a state-certified analytical laboratory, along with the appropriate chain-of-custody documentation. Soil samples are not normally collected during air rotary drilling.

#### **Soil Classification**

Soil samples collected in brass tubes, or drill cuttings evacuated from the borehole during air rotary drilling, will be logged on site by a geologist using the Unified Soil Classification System. Representative portions of the brass sleeve samples will be retained for further examination and for verification of the field classification. Logs of the borings indicating the depth and identification of the various strata and pertinent information regarding the method of maintaining and advancing the borehole will be prepared.

#### Soil Sample Screening

Soil samples selected for chemical analysis will be determined from a head-space analysis using a PID or an FID. The soil will be placed in a Ziploc<sup>®</sup> bag, sealed, and allowed to reach ambient temperature, at which time the PID probe will be inserted into the Ziploc<sup>®</sup> bag. The total volatile hydrocarbons present are detected by the PID and reported in parts per million by volume (ppmv). The PID will be calibrated to an isobutylene standard.

At least two soil samples retained from each soil boring will be submitted for chemical analysis unless otherwise specified in the scope of work. Soil samples selected for analysis typically represent the highest PID reading recorded for each soil boring and the sample just above first-encountered groundwater. Additional soil samples will be

Field Practices and Procedures Page 3

submitted based on the findings at each individual borehole and the project specific data needs.

#### Stockpiled Drill Cuttings and Soil Sampling

Drill cuttings generated during the drilling procedure will be stockpiled on site, placed in 55-gallon steel drums, or containerized in covered roll-off steel containers. Stockpiled drill cuttings will be placed on and covered with plastic sheeting. A sample of the soil cuttings will be submitted for chemical analysis to determine an appropriate disposal method. Stratus Environmental will recommend an appropriate facility to accept the drill cuttings based on the analytical results. The client will be responsible for disposal of the drill cuttings.

Prior to collecting soil samples, Stratus personnel will calculate the approximate volume of soil in the stockpile. The stockpile will then divided into sections, if warranted, containing the predetermined volume sampling interval. Four soil samples will be collected from the stockpile and composited into one sample by the laboratory prior to analysis. The soil samples will be collected in cleaned brass, two by six inch tubes using a hand driven sampling device. To reduce the potential for cross-contantination between samples, the sampler will be cleaned between each sampling event. Upon recovery, the sample container will be sealed at each end with Teflon sheeting and plastic caps to minimize the potential of volatilization and cross-contantination prior to chemical analysis. The soil sample will be labeled, placed on ice, and delivered to a state-certified analytical laboratory, along with the appropriate chain-of-custody documentation.

#### Direct Push Technology, Water Sampling

A well known example of direct push technology for water sampling is the Hydropunch<sup>®</sup>. For the purpose of this field method the term hydropunch will be used instead of direct push technology for water sampling.

The hydropunch is typically used with a drill rig. A boring is drilled with hollow stemaugers to just above the sampling zone. In some soil conditions the drill rig can push directly from the surface to the sampling interval. The hydropunch is conveyed to the bottom of the boring using drill rods. Once on bottom the hydropunch is driven a maximum of five feet. The tool is then opened by lifting up the drill rod no more than four feet. Once the tool is opened, water enters and a sample can be collected with a bailer or tubing utilizing a peristaltic pump. Soil particles larger than silt are prevented from entering the tool by a screen within the tool. The water sample is collected, labeled, and handled according to the Quality Assurance Plan.

#### Well Installation Procedures

Groundwater monitoring, soil vapor extraction, groundwater extraction, air sparging, and ozone injection wells, of variable diameters, are normally constructed during

Field Practices and Procedures Page 4

environmental assessment and remediation projects. Wells are normally constructed using Schedule 40 polyvinyl chloride (PVC) casing. The borehole diameter will be a minimum of four inches larger than the outside diameter of the casing.

Wells installed for environmental assessment and remediation projects are typically cased with threaded, factory-perforated and blank Schedule 40 PVC. The perforated interval consists of slotted casing, generally with 0.01, 0.02, or 0.03-inch-wide by 1.5-inch-long slots, with 42 slots per foot. A threaded or slip PVC cap is secured to the bottom of the casing. The slip cap can be secured with stainless steel screws or friction; no solvents or cements are used. Centering devices may be fastened to the casing to ensure even distribution of filter material and grout within the borehole annulus. The well casing is thoroughly washed and/or steam cleaned, or may be purchased as pre-cleaned, prior to completion.

A filter pack of graded sand will be placed in the annular space between the PVC casing and the borehole wall. Sand will be added to the borehole through the hollow stem of the augers to provide a uniform filter pack around the casing and to stabilize the borehole. The sand pack will be placed to a maximum of 2 feet above the screens, followed by a minimum 1-foot seal consisting of bentonite pellets.

Cement grout containing 5 percent bentonite or concrete will be placed above the bentonite seal to the ground surface. A concrete traffic-rated vault box will be installed over the monitoring well(s). A watertight locking cap will be installed over the top of the well casing. Reference elevations for each monitoring well will be surveyed when more than two wells will be located on site. Well elevations will be surveyed by a California licensed surveyor to the nearest 0.01-foot relative to mean sea level (MSL). Horizontal coordinates of the wells will be measured at the same time. Horizontal coordinates are normally measured in California State Plane Coordinates. Latitudes and longitudes are normally calculated for each well, per California Assembly Bill 2886 (Geotracker) requirements.

Exploratory boring logs and well construction details will be prepared for the final written report.

#### APPENDIX B

#### BORING LOGS, WELL DETAILS, DWR WELL COMPLETION FORMS, AND DRILLING PERMITS

MA	OR DIVISIO	ONS	GROUP SYMBOL	GROUP NAME
COARSE	GRAVEL MORE THAN	CLEAN GRAVEL	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
GRAINED SOILS MORE THAN	50% OF COARSE FRACTION		GP	POORLY-GRADED GRAVEL
50%	RETAINED ON	GRAVEL	GM	SILTY GRAVEL
RETAINED ON NO.200	NO.4 SIEVE	WITH FINES	GC	CLAYEY GRAVEL
SIEVE	SAND MORE THAN	CLEAN SAND	SW	WELL-GRADED SAND, FINE TO COARSE SAND
	50% OF COARSE FRACTION		SP	POORLY-GRADED SAND
		SAND WITH	SM	SILTY SAND
	PASSES NO.4 SIEVE	FINES	SC	CLAYEY SAND
	SILT AND CLAY LIQUID LIMIT	INORGANIC	ML	SILT
FINE GRAINED			CL	CLAY
SOILS MORE THAN	LESS THAN 50	ORGANIC	OL	ORGANIC SILT, ORGANIC CLAY
50% PASSES NO.200 SIEVE	SILT AND CLAY LIQUID LIMIT	INORGANIC	МН	SILT OF HIGH PLASTICITY, ELASTIC SILT
SILVE	50 OR MORE		СН	CLAY OF HIGH PLASTICITY, FAT CLAY
		ORGANIC	ОН	ORGANIC CLAY, ORGANIC SILT
HIGI	HLY ORGANIC S	OILS	PT	PEAT

Ref: Unified Soil Classification System; from American Society for Testing and Materials, 1985

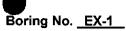
#### Boring No. <u>EX-1</u>

#### Sheet <u>1</u> of <u>2</u>

Client	Former USA 57	Date	10/6/2005	
Address	10700 MacArthur Blvd	Drilling Company	Woodward Drilling Co.	rig type: Mobil B-61
	Oakland, CA	Drilling Foreman	Amador	
Project Na.	2007-0057-01	Method	HSA	hole diam.: 10"
Logged By:	Justin Crose			
Well Pack	sand: 4.5 ft. to 25 ft.	Well Construction	casing: PVC	screen: 5 to 25 ft.
	bent.: 3.5 ft. to 4.5 ft.		casing diam.: 4"	screen slot: 0.02"
	grout: 0.5 ft. to 3.5 ft.			

	Sample	Blow	San	nple	Well Constru	Depth	LITHO	Descriptions of Materials	PID
Туре	No.	Count	Time	Recov.	ct.	Scale	COLUMN	and Conditions	(PPM)
						<u> </u>		Concrete	
					-	1	CL	CLAY, olive brown 2.5Y 4/3, 10-15% fine sand, moist	
						_ <sub>2</sub>	"	CEAT, one brown 2.31 4/3, 10-13 // mie sand, moist	"
					1				
				ļ	_	_ 3			
						_4	''ممر		
			<del> </del>	<u> </u>	1				1
						_ 5	[		
s	EV 1 6	3	16:13			l — "	sc	CLAYEY SAND (5'-5.2'), brown 10YR 4/3, 75% fine sand, 25% clayey fines, moist	0
<u> </u>	EX-1-6	10	10:13	60	-	— <sup>6</sup>		CLAY, dark grayish brown 2.5Y 4/3, 5-10% fine to medium sand, trace	
		'•					"-	black MnO2, moist, stiff	
					]	_	1		
		<b></b>	ļ		-				
•			ļ			— <u> </u>			
			Ì	<del> </del>		- "			
		ļ	ļ	ļ		1 0			
s	EX-1-11	7	16:28	70			CL	CLAV alive become 2 EV to dark growing brown 2 EV maint	39
		10	10.20	70			"	CLAY, olive brown 2.5Y to dark grayish brown 2.5Y, moist	
						1 1 1 1 1 2			
			ļ		}	1 3			
				]		1 3 1 4 1 5			
				<b>†</b>	-				
		[	ļ	ļ		1 5			
s	EX-1-16	5	16:38	60	ė	1 6	CL	CLAY, dark grayish brown 2.5Y 4/2 with spots of greenish gray GLEY 1 &	>1000
	LX-1-10	20	10.30		-	"	0	dark yellowish brown 10YR 4/6, 5% fine to coarse sand, moist, very stiff	1-1000
						1 7			
		<b> </b>	ļ	<del> </del>	-	-1 8			
						1 8 1 9			
					1	I	F		
	<u> </u>	l <u>.                                    </u>	l	<u> </u>	<u> </u>	2 0			<u> </u>
								Comments: Drilled to 25 feet bgs	
								STRATUS	
								ENVIRONMENTAL, INC.	
ı									

#### **SOIL BORING LOG**



Sheet	2	of	2

			_
Client	Former USA 57	Date 10/6/2005	
Address	10700 MacArthur Blvd	Drilling Company Woodward Drilling Co. rig type: Mobil B-61	
	Oakland, CA	Drilling Foreman Amador	
Project No.	2007-0057-01	Method HSA hole diam.: 10"	
Logged By:	Justin Crose		

	Sample	Blow	Sai	mple	Well	Depth		Descriptions of Materials	PID
Туре	No.	Count		Recov.	Construc t.	Scale	LITHO COLUMN	and Conditions	(PPM
	EV 1 51	7					1	CLAY, light olive brown 2.5Y 5/6 to olive yellow 2.5Y, 10-15% fine to	-
S	EX-1-21	19 22	16:56	90	-	2 1	CL	CLAY, dark grayish brown to very dark grayish brown 2.5Y with spots of greenish gray GLEY 1 & orange FeO2 stains, trace gravel, moist, hard	>100
						2 2			
						$\begin{array}{c c} \hline \hline 2 & 2 \\ \hline \hline \hline 2 & 3 \end{array}$			
					_	2 4 2 5 2 6			
		50(4)	17:18	25		<u> </u>	CL	CLAY to Mudstone, clay - dark yellowish brown 10YR to brownish yellow 10YR, mudstone - brown 10YR, 5-15% fine sand to fine gravel 4/3	527
					-			10114, Industrile - Mowil 10114, 0-1076 line Sand to line graver 470	
					-	$\frac{2}{3}$			
					]	2 8			
						_2 9			
				<u> </u>	-	2 7 2 8 2 9 3 0 3 1 3 2 3 3			
					_	3 1			
					-	3 2			
						3 3			
						3 4			
						3 5 3 6			
					-	3 6			
						3 7			
						3 8			
						3 9			
						<u> </u>			
	<u>.                                    </u>		1	<del></del>	.d		1		
								STRATUS ENVIRONMENTAL, INC.	_

SOIL	BORING	LOG

#### Boring No. <u>EX-2</u>

#### Sheet <u>1</u> of <u>2</u>

Client	Former USA 57	Date	10/7/2005			
Address	10700 MacArthur Blvd	Drilling Company	Woodward Drilling Co.	rig type: Mobil B-61		
	Oakland, CA	Drilling Foreman	Amador			
Project No.	2007-0057-01	Method	HSA	hole diam.: 10"		
Logged By:	Justin Crose					
Well Pack	sand: 4.5 ft. to 25 ft.	Well Construction	casing: PVC	screen: 5 to 25 ft.		
	bent.: 3.5 ft. to 4.5 ft.	<u></u>	casing diam.: 4"	screen slot; 0.02"		
	grout: 1 ft. to 3.5 ft.					

	Sample	Blow	Sar	nple	Well	Depth		Descriptions of Materials	PID
Туре	No.	Count		Recov.	Constru- ct.	Scale	LITHO COLUMN	and Conditions	(PPM)
								Concrete	
<del> </del> -			ļ	<del> </del>	-	1	CL	CLAY, yellowish brown 10YR 5/4 to brown 10YR 4/3, trace black MnO2,	7
						<u> </u>	52	moist	
<b></b> -			l	<del> </del>	1	- 3	-		<del> </del>
ļ					_	_ 4			
						3 4 5 6			
		4	<b></b>	<del> </del>					·
S	EX-2-6	8 22	8:38	70	_	6	CL	CLAY, yellowish brown 10YR 5/4 to brown 10YR 4/3, trace black MnO2,	0
		22				7		trace caliche, moist, hard	
				<b>†</b>	1				
			ļ	ļ	4	_ 8			
						_ <sub>9</sub>			
				<b>†</b>	1	9 0			
	 	10	ļ	<b>}</b> -	4	0			- <del> </del>
s	EX-2-11	12	8:45	80		<u></u> 1	CL	CLAY, very dark brown 7.5YR to olive gray 5Y 5/2 with orange FeO2 stains,	0
		28			1			trace gravel, moist, hard	
				ļ	4	1 2			- <del> </del>
				1		1 3			
					1				
			<b> </b> -		-	1 4			
						<u>1</u> 5			
		50(3)	8:57	20			CL	CLAY, light olive brown 2.5Y 5/6, trace caliche, 5-10% fine to coarse sand,	466
				<del> </del>	4	1 6		trace gravel, dry, hard	·
						1 7			
						<u></u> 8	1		
				<del> </del>	1	1	Į.		
ļ			l	<del> </del>	1	1 9			<del>-</del>
	<u> </u>					2 0			
								Comments: Drilled to 25 feet bgs	
								STRATUS	
								ENVIRONMENTAL, INC.	

#### **SOIL BORING LOG**

Boring No. EX-2

	).		
Sheet	2	of	2

Client	Former USA 57	Date 10/7/2005
Address	10700 MacArthur Blvd	Drilling Company Woodward Drilling Co. rig type: Mobil B-61
	Oakland, CA	Drilling Foreman Amador
Project No.	2007-0057-01	Method HSA hole diam.: 10"
Logged By:	Justin Crose	

Sample   Blow   Sample   Construc   Construct   Co	Type No. Count Time Recov. t. Scale COLUMN  50(5) 9:20 25 CL CLAY, light olive brown 2.  2 1 medium sand, trace coars	and Conditions (PPM .5Y 5/6 to olive yellow 2.5Y, 10-15% fine to 66
So(5)   9:20   25	50(5) 9:20 25 CL CLAY, light olive brown 2.  2 1 medium sand, trace coars	.5Y 5/6 to olive yellow 2.5Y, 10-15% fine to 66
	2 1 dry, hard	se sand and fine gravel, intermittent cementation,
CL CLAY to Mudstone, mudstone - white CaCO3 cementing, clay - olive gray 50(6) 9:40 30	dry, hard   dry, hard	
3 1       3 2       3 3       3 4       3 5		
3 1       3 2       3 3       3 4       3 5	$\begin{array}{c c} \hline 2 & 3 \\ \hline \hline 2 & 4 \\ \hline \hline \end{array}$	
3 1       3 2       3 3       3 4       3 5		
3 1       3 2       3 3       3 4       3 5		l l
3 1       3 2       3 3       3 4       3 5		/
3 1       3 2       3 3       3 4       3 5		
3 1       3 2       3 3       3 4       3 5	50(6) 9:40 30 CL CLAY to Mudstone, muds	
3 1       3 2       3 3       3 4       3 5	2 6 5Y 5/2 & very dark brown	7.5YR, dry to moist
3 1       3 2       3 3       3 4       3 5		
3 1       3 2       3 3       3 4       3 5		
3 1       3 2       3 3       3 4       3 5		
3 1       3 2       3 3       3 4       3 5		
3 1       3 2       3 3       3 4       3 5		,
3 1       3 2       3 3       3 4       3 5		
3 3 3 4 3 5		
3 3 3 4 3 5		
3 3 3 4 3 5		
3 3 4 3 5 3 6 3 7 3 8 3 8 3 8 3 8 3 8 3 8 3 8 3 8 3 8		·
3       3       3       3       3       3       3       3       3       3       3       3       3	3 3	
3 4 3 5 3 6 3 7 3 8		
35       36       37       38       30	······································	,
3 6 3 7 3 8 3 8		
3 6 3 7 3 8 3 8 3 9	<u> </u>	
3 7 3 8 3 8 3 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		
$\frac{3}{3}$ 8		İ
	······································	
	3 8	
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#### Boring No. <u>EX-3</u>

#### Sheet <u>1</u> of <u>2</u>

Client	Former USA 57	Date	10/6/2005			
Address	10700 MacArthur Blvd	Drilling Company	Woodward Drilling Co.	rig type: Mobil B-61		
	Oakland, CA	Drilling Foreman	Amador	Amador		
Project No.	2007-0057-01	Method	HSA	hole diam.: 10"		
Logged By:	Justin Crose					
Well Pack	sand: 4.5 ft. to 25 ft.	Well Construction	casing: PVC	screen: 5 to 25 ft.	•	
	bent.: 3.5 ft. to 4.5 ft.	<u> </u>	casing diam.: 4"	screen slot: 0.02"		
	grout: 0.5 ft. to 3.5 ft.					

	Sample	Blow	San	nple	Well Constru	Depth	LITHO	Descriptions of Materials	PID
Туре	No.	Count	Time	Regov.		Scale	COLUMN	and Conditions	(PPM)
						— <sub>1</sub>		Asphalt	
			ļ				CL	CLAY, dark yellowish brown 10YR, trace black MnO2, 5% fine sand, moist	0
				ļ		_ 2			
						3			
				ļ	-	4 5			
				ļ		5			
s	EX-3-6	4	12:46	80		6 7	CL	CLAY, dark yellowish brown 10YR 4/4, trace black MnO2 & caliche,	0
<u>Y</u>		12			-			trace fine to coarse sand, moist, very stiff	
			ļ	<b></b>		- 7	1		
			<u> </u>			- 8 - 9 - 1 0			
						l — "			
			ļ,,,,,,	<b></b>	-	— *			
			ļ	<u> </u>	_	1 0			
s	EX-3-11	8 12	12:59	70		1 1	CL	CLAY, olive gray 5Y 4/2 to dark grayish brown 2.5Y 4/2 with orange FeO2	0
		17			-			stains, trace fine to coarse sand, very stiff	
				<b></b>	-	1 2			
						<u>1</u> 3			
						1 4			
				<del> </del>	-				
			13:27		-	1 5	CL	CLAV	45
S	EX-3-15.5	12 50(6)	13:27	40		<u></u>		CLAY, greenish gray to dark yellowish brown 10YR to dark grayish brown 2.5Y with orange FeO2 stains, trace fine sand, dry to moist, hard	45
			ļ	<del> </del>	_	1 7	I		
						1 8			
						1 9	ı		
			<del> </del> -	<del> </del>	-		1		
				<u> </u>		2 0	1		.1
								Comments: Drilled to 25 feet bgs	
								STRATUS	
								ENVIRONMENTAL, INC.	

#### **SOIL BORING LOG**



Sheet 2 of 2

Client	Former USA 57	Date 10/6/2005
Address	10700 MacArthur Blvd	Drilling Company Woodward Drilling Co. rig type: Mobil B-61
	Oakland, CA	Drilling Foreman Amador
Project No.	2007-0057-01	Method HSA hole diam.: 10"
Logged By:	Justin Crose	

	Sample	Blow	Sai	nple	Well Construc	Depth	LITHO	Descriptions of Materials	PID
Туре	No.	Count		Recov.	t.	\$cale	COLUMN	and Conditions	(РРМ
S	EX-3-20.5	50(6)	13:51	40		1 2	CL	CLAY, brown 10YR 4/3, 5-15% fine to coarse sand, weakly cemented, dry, hard	
						2 3 2 3			
			<u> </u>			2 4			
S	EX-3-25.5	50(6)	14:32	35		5 6	CL	CLAY to Mudstone, clay - dark yellowish brown 10YR 4/6 to brownish yellow 10YR 6/8, mudstone - brown 4/3, dry, hard	
						$\begin{array}{c c} & \hline & 2 & 7 \\ \hline & \hline & 2 & 8 \end{array}$			
						2 8 2 9			
						3 0 3 1			
			<u> </u> 			$\begin{array}{c c} \hline 3 & 2 \\ \hline \hline 3 & 3 \end{array}$			
						3 4			
						3 5			
						3 7			
						3 4 3 5 3 6 3 7 3 8 3 9			
						4 0			
								STRATUS ENVIRONMENTAL, INC.	

SO		R	0	P	IN	2	Ι,	<u> </u>	c
	_	_	_		117		_	_	

#### Boring No. <u>EX-4</u>

#### Sheet <u>1</u> of <u>2</u>

Client	Former USA 57	Date	10/6/2005			
Address	10700 MacArthur Blvd	Drilling Company	Woodward Drilling Co.	rig type: Mobil B-61		
	Oakland, CA	Drilling Foreman	Amador			
Project No.	2007-0057-01	Method	HSA	hole diam.: 10"		
Logged By:	Justin Crose					
Well Pack	sand: 4.5 ft. to 25 ft.	Well Construction	casing: PVC	screen: 5 to 25 ft.		
	bent.: 3.5 ft. to 4.5 ft.	<u> </u>	casing diam.: 4"	screen slot: 0.02"		
	grout: 0.5 ft. to 3.5 ft.		· · · · · · · · · · · · · · · · · · ·			

Sample		Blow	Sample		Well Constru	Depth	LITHO	Descriptions of Materials	
Туре	No.	Count	Time	Recov.	ct.		COLUMN	and Conditions	(PPM)
								Drill on dirt	
			ļ	<del> </del>	1	1	1	Top Soil, dry	<del> </del>
ļ			ļ	<b>_</b>		_ 2	1		
						_ <sub>3</sub>			
			<b> </b>	<b>†</b>	1		SM	SILTY SAND, 80-85% fine sand, 15-20% silt, moist	231
			ļ	ļ	-	4	sw	SAND (3.7' to 5'), 95% fine to coarse sand, trace fine gravel, 5% fines, moist	237
						5			
s	EX-4-6	9 12	9:06	80		<u> </u>	CL	CLAY, dark yellowish brown 10YR 4/4, trace black MnO2, trace fine sand to	231
		18	4.00				"	fine gravel, moist, very stiff	
			 	ļ		7			ļ
				ļ		_ 9			ļ
<u> </u>						<u></u> 0			
s	EX-4-11	8 8	9:18	90		<u></u>	CL		>1000
<u> </u>	EA-4- I I	10	9:10	80	1			CLAY, dark grayish brown 2.5Y 4/2, moist, very stiff	71000
			ļ	<b></b>		1 2			
						<u></u> 3			
			<b> </b>	†	1				·
<b> </b>			ļ	ļ	-	1 4			ļ
						1 5			
		5				l <del>-</del> .			>4000
s	EX-4-16.5	15 20	9:48	100		<u> </u>	CL	CLAY, dark grayish brown 2.5Y 4/2, moist, hard	>1000
						1 7			
						8			
				<b>†</b>	1				
ļ			ļ		ł	1 9			<b></b>
						2 0			
								Comments: Drilled to 25 feet bgs	
								Samuel to 20 130 13g	
								STRATUS	
								ENVIRONMENTAL, INC.	

#### SOIL BORING LOG

Boring No. EX-4

Sheet 2 of 2

Client	Former USA 57	Date	10/6/2005	
Address	10700 MacArthur Blvd	<b>Drilling Company</b>	Woodward Drilling Co.	rig type: Mobil B-61
	Oakland, CA	Drilling Foreman	Amador	
Project No.	2007-0057-01	Method	HSA	hole diam.: 10"
	-			

Sample		Blow	Şar	nple	Well	Depth	Ī	Descriptions of Materials	PID
Туре	No.	Count		Recov.	Construc t.	Scale	LITHO COLUMN	and Conditions	(PPM)
S	EX-4-21	19 50(6)	10:06	70		1 2 2		CLAY WITH GRAVEL, dark yellowish brown 10YR 4/4 to olive gray 5Y 4/2, 5-25% gravel (lower % towards top of sample), orange FeO2 stains, damp to moist	450
S	EX-4-25.5	50(6)	10:25	40		$\begin{bmatrix} \frac{2}{2} & 3 \\ \frac{2}{2} & 4 \\ \frac{2}{2} & 5 \end{bmatrix}$	ML	SILT, light olive brown 2.5Y 5/4 to dark yellowish brown 10YR, weakly	91
						2 3 2 4 2 5 2 6 2 7 2 8 2 9 3 0 3 1 3 2 3 3 4 3 5 3 6 3 7		cemented, dry, hard	
						3 7 3 8 3 9 4 0			
								STRATUS ENVIRONMENTAL, INC.	

PROJECT NUMBER: 2007-0057-01  PROJECT NAME: USA 57  LOCATION: 10700 MacArthur Blvd, Oakland, California  WELL PERMIT NO.: W2005-0944	BORING/WELL NO.: EX-1  TOP OF CASING ELEV.: 77.72'  GROUND SURFACE ELEV.: 78.04'  DATUM: NAD 83  INSTALLATION DATE: October 6, 2005  EXPLORATORY BORING
TOC(TOP OF CASING) G-5 VAULT BOX(STD.)	a. TOTAL DEPTH
CEMENT SAND	SEAL MATERIALN/A
PERFORATION	

PREPARED BY \_\_\_\_\_\_ DATE \_\_\_\_\_

\_\_\_\_\_ DATE \_\_\_\_

REVIEWED BY \_\_\_\_\_

NOT TO SCALE

• WELL DETAI	ILS			
PROJECT NUMBER: 2007-0057-01	BORING/WELL NO.: EX-2			
PROJECT NAME: USA 57	TOP OF CASING ELEV.: 76.96'  GROUND SURFACE ELEV.: 77.24'			
LOCATION: 10700 MacArthur Blvd, Oakland, California				
WELL PERMIT NO.: W2005-0945	DATUM: NAD 83			
**EEE   ENIII   NO	INSTALLATION DATE: October 7, 2005			
BENTONITE  CONCRETE  SAND  CONCRETE  SAND	EXPLORATORY BORING  a. TOTAL DEPTH			
PERFORATION				

PREPARED BY \_\_\_\_\_\_ DATE \_\_\_\_\_\_

NOT TO SCALE

#### WELL DETAILS BORING/WELL NO.: EX-3 PROJECT NUMBER: 2007-0057-01 TOP OF CASING ELEV.: 78.87 PROJECT NAME: USA 57 GROUND SURFACE ELEV.: 79.52 LOCATION: 10700 MacArthur Blvd, Oakland, California DATUM: NAD 83 WELL PERMIT NO.: W2005-0946 INSTALLATION DATE: October 6, 2005 **EXPLORATORY BORING** a. TOTAL DEPTH <u>10 \_\_\_\_in.</u> b. DIAMETER \_TOC(TOP OF CASING) DRILLING METHOD Hollow stem auger G-5 VAULT BOX(STD.) WELL CONSTRUCTION c. TOTAL CASING LENGTH \_\_\_\_\_\_\_\_ft. MATERIAL Schedule 40 PVC d. DIAMETER \_\_\_\_\_ e. DEPTH TO TOP PERFORATIONS 5 ft. f. PERFORATED INTERVAL FROM <u>5</u> TO <u>25</u> ft. PERFORATION TYPE Slotted Screen 0.02 PERFORATION SIZE g. SURFACE SEAL 0 to 1.0 ft. SEAL MATERIAL Concrete 1.0 to 3.5 h. BACKFILL \_\_\_\_\_ BACKFILL MATERIAL Neat Cement i. SEAL 3.5 to 4.5 ft. SEAL MATERIAL Bentonite j. FILTER PACK 4.5 to 25 ft. FILTER PACK MATERIAL #3 Sand k. BOTTOM SEAL \_\_\_ BENTONITE CONCRETE SEAL MATERIAL N/A CEMENT PERFORATION NOT TO SCALE

PREPARED BY \_\_\_\_\_\_ DATE \_\_\_\_\_

REVIEWED BY \_\_\_\_\_\_ DATE \_\_\_\_\_

#### **WELL DETAILS** BORING/WELL NO.: EX-4 PROJECT NUMBER: 2007-0057-01 TOP OF CASING ELEV.: 77.96' PROJECT NAME: USA 57 GROUND SURFACE ELEV.: 78.27' LOCATION: 10700 MacArthur Blvd, Oakland, California DATUM: NAD 83 WELL PERMIT NO.: W2005-0947 INSTALLATION DATE: October 6, 2005 **EXPLORATORY BORING** a. TOTAL DEPTH b. DIAMETER --TOC(TOP OF CASING) DRILLING METHOD Hollow stem auger G-5 VAULT BOX(STD.) WELL CONSTRUCTION c. TOTAL CASING LENGTH MATERIAL Schedule 40 PVC d. DIAMETER e. DEPTH TO TOP PERFORATIONS f. PERFORATED INTERVAL FROM 5 TO 25 ft. Slotted Screen PERFORATION TYPE 0.02 PERFORATION SIZE 0 to 1.0 g. SURFACE SEAL \_ SEAL MATERIAL Concrete 1.0 to 3.5 h. BACKFILL \_\_\_\_\_ BACKFILL MATERIAL Neat Cement i. SEAL 3.5 to 4.5 ft SEAL MATERIAL Bentonite j. FILTER PACK 4.5 to 25 ft. FILTER PACK MATERIAL #3 Sand k. BOTTOM SEAL BENTONITE CONCRETE SEAL MATERIAL \_\_\_\_\_N/A CEMENT E PERFORATION

PREPARED BY \_\_\_\_\_\_ DATE \_\_\_\_\_\_

NOT TO SCALE

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

## Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street Hayward, CA 94544-1395 Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 09/22/2005 By jamesy W2005-0944 to W2005-0947 Permits Issued:

Receipt Number: WR2005-2123

Permits Valid from 10/06/2005 to 10/07/2005

Application Id:

City of Project Site: Oakland

Site Location: Project Start Date: 1127431065978 10700 MacArthur Blvd (Foothill Sq. Shopping Ctr.) Oakland, CA 94605

10/06/2005

Completion Date: 10/07/2005

Applicant:

Client:

Stratus Environmental Inc - Scott G Bittinger

Phone: 530-676-2062

3330 Cameron Pk. Dr. #550, Cameron Pk, CA 95682

**Property Owner:** 

Jay-Phares Corporation

Phone: --

10700 MacArthur Blvd, Oakland, CA 94605 \*\* same as Property Owner \*

Total Due:

\$1200.00

**Total Amount Paid:** 

\$1200.00

Paid By: CHECK

PAID IN FULL

#### Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 4 Wells

Driller: Woodward Drilling Co. - Lic #: 710079 - Method: auger

Work Total: \$1200.00

#### **Specifications**

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2005- 0944	09/22/2005	01/04/2006	EX1	10.00 in.	4.00 in.	5.00 ft	25.00 ft
W2005- 0945	09/22/2005	01/04/2006	EX2	10.00 in.	4,00 in.	5.00 ft	25.00 ft
W2005- 0946	09/22/2005	01/04/2006	EX3	10.00 in.	4.00 in.	5.00 ft	25.00 ft
W2005- 0947	09/22/2005	01/04/2006	EX4	10.00 in.	4.00 in.	5.00 ft	25.00 ft

#### **Specific Work Permit Conditions**

- 1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
- 2. Permitte, permittee's, contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statues regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on-or off site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
- 3. Prior to any drilling activities shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or to the City and follow all City or County Ordinances No work shall begin until all the permits and requirements have been approved or obtained.
- 4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter

## Alameda County Public Works Agency - Water Resources Well Permit

- 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.
- 5. Applicant shall contact Johnson Tang for a inspection time at 510-670-6450 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
- 6. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
- 7. Minimum surface seal thickness is two inches of cement grout placed by tremie
- 8. Minimum seal depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.

# APPENDIX C FIELD DATA SHEETS



Site Address: 10 700 Mars Hur Sampled By Curin

Site Number: USA 57
Project No.
Project PM GOWY \ 510
Date Sampled W-17005

	tact Phor					D	2607	z mai	14	_					Date	Sampled	10-170
Site Con		ie No. .evel Data	· · · · · · · · · · · · · · · · · · ·			Purge Vol	ume Calcu	dations		· · · · · ·	Well P	urae M	lethod	Sa	mple Re	cord	Field
<del></del>	water L	ever Data	<del></del>	Total	Casing	i dige voi	unio Ogioc		Actual	<del></del>	110111	aigo ii	1011104	DTW	1	<u> </u>	Data
		Depth to	Top of	Depth of	Water	Well	Multiplier	Casing	Water					At	j		Dissolved
	1	water	Screen		Column	Diameter		Volumes	Purged	No					Sample	Sample	
Well ID	Time	feet	feet	feet	(A)	(inches)	(B)	(gallons)	(gallons)		Bailer	Pump	Other	Time	I.D.	Time	(mg/L)
	0740	_1		25	11.68	4	1/2	75	200744			火					
	0731	15,47	<del> </del>	25	9.53	4	1/5	61	20 204			X					
ジャ・ラ	0705	14.20		25	9.53 8.8	4	1.7.4	57	20 1704			X		`			
EXY		14.57		25	10.43	Н	.45	67	20 1744			X	•				
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## T0600101808



Global ID: T0600101808 Site Address 10700 Macarthur Blyd

City Caklarid, CA

Sampled By: Vince Zalutka

Site Number **USA 57**Project No U 57
Project PM

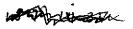
ORGINAL

Date 10/24/05 10/24/05

Locks - 11

						-	وعرده	- //	<u> </u>							::	er derb 20.0000 Mr M. 0000 MR M
	Water	Level Data			f	<sup>2</sup> urge Vo	olume Ca	alculations	*	νV	eli Pur	ge M <b>e</b> t	had	Sa.	mple Rec	and	-ield Data
Well ID	. Time	Depth to water feet	Top of Screen feet	Total Depth of well feet	Casing Water Column (A)	Well Diameter (Inches)	Multiplier Value (B)	Three Casing Volumes (Gallons)	Actual Water Purged (Gallons)	Nc Furge	Bailer	Pump	Other	DTW At Sample Time	Sample 1.D.	Sample fime	Dissolved Oxygen (mg/L)
MW-3	0551	14.70		42.5	27.8	4	2	56	28-5 <sub>Drv</sub>			X		37.30	MW-3	0827	<u>l.33</u>
MW-4	0602			39	28.88	4	2	58	58			x		32.45	MU 4	1050	4.18
MW-5	0607	14.29		34	19.71	4	2	39	10-D/y			X		14.71	MW5	1431	N/M
MW-6	0436	47		17/40-	Ø	4	2	0	Dry	X				N/m	MWG	N/5	
MW-7	0611	16.45		42	25.35	4	2	5	51			$ \chi $		27.87	MW7	1246	N/M
MW-8	0545	18:68		37.5	18.82	4	2	38	24-Dry		_	X		32.29	MW-8	0958	5.35
S-1	0558	16.53		41	24.47	3	1	文4	12 - Dry			X		20.03	S-1	0944	.95
S-2	0618	18:07		42	23.93	3	1	24	20- Dry			X		25.70	S-2	1420	N/m
EX-1	0509	14.37		25	10.63	4	2	21	16-Dry		$\times$			22.25	EX-1	1104	1.15
EX-2	0555	16.00		25	9	4	- 2	18	14-0cy		X			23.32	EX-2	0810	Z.83
EX-3		14.85		25	10.15	4	2	20	15-Dry		X			22.97	EX-3_	1356	N/m
EX-4	0615			25	10.07	4	2	スカ	15-Dry		Х			22,75	EX-4	1407	N/m
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(A) Casing water Column Depth wtr. Depth to Bottom Multiplier Values 2" = 0.5 3" = 1.0 4"=2.0 6"=4.4





Site Address	10700 Macarthur Blvd
City	Oakland, CA
	Vince Zalutka

Site Number	USA 57	
Project No	U 57	
Project PM		0
Date	10/24/0	)5

# ORIGINAL

Well ID		MV	V-3 ·		Well ID		MV	V-4 / 8	250
purge start tim	e 0752	)	Lite	Odor	purge start time	1018		No Do	for
	Temp C	Нq	cond	gallons		Temp C	рН	cond	galions
time	19.9	6.66	561	B	time	20.7	7.13	510	82
time	19.7	6.71	540	28	time	21,5	7.14	486	29
time	DR	Ye	28.5		time	20.1	7.23	494	58
time	19.4	ج م 5	536	28.5	time				
purge stop tim	e				purge stop time	1040			
Well <b>I</b> D		MV	V-5 /	431	Well ID			V-6	
purge start tim	e /3/2		No	Odor	purge start time	. (	) RY		
	Temp C	рН	cond	gallons		Temp C	pH	cond	gallons
time_	20.8	8.27	591	X	time		\		_
time	Dry	@/	o gul		time		$\leq$		
time	20.6	8.13	554	10	time				
time					time				/
purge stop tim	e .	ej.			purce ston time	-			,
Well ID		MV	V-7 i	246	Well ID		M۷	V-8 0	958
Purge start tin	ne 1217		No O	dor	Purge start time	e 0845	5	No	Odor
	Temp C	рН	cond	gallons		Temp C	рН	cond	gallons
time_	19.5	7.4/	493	یام	time	19.4	6.78	605	R
time	19.7	7.45	470	25	time	19.6	7.00	560	19
time	19.2	7.43	457	51	time	Pry	@ 29	gal	
time				· .	time	19.1	6.74	232	(2K)
purge stop tim	ie (ム3フ	· ·			purge stop time	•			
Well ID		S	-1 <i>c</i>	944	Well ID		S	.2	
purge start tim	ne 090	7	No C	dor	purge start time	1335		# O	dor
	Temp C	pН	cond	gailons		Temp C	Hq	cond	gallons
time	19.9	7.05	503	×	time	19.4	6.88	490	æ
time	19.8	6.92	517	12	time	20.0	7.03	454	12
time	Dry	e	12.2	5	time	Dr	10.	20 g	eel
time	19.5	6.88	541	/12/	time	19.1	4.95	432	20
9	ne				purge stop time	<del>.</del>		/	



Site Address 10700 Macarthur Blvd
City Oakland, CA
Sampled By: Vince Zalutka

Site Number <u>USA 57</u>

Project No <u>U 57</u>

Project PM <u>0</u>

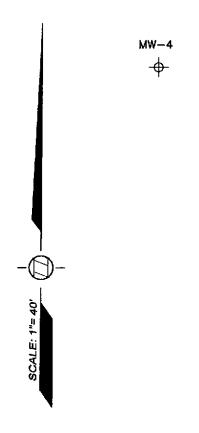
Date <u>10/24/05</u>



Weli ID		EX	(-1 /)	104	Well ID			(-2 08	
purge start time	Bai	ler.	No	Okol	purge start time	3	ailer		Oder
	Temp C	рН	cond	galions		Temp C	рН	cond	galions
time	20.6	6.56	585	X	time	20.9	6.85	588	82
time	19.7	6.64	648		time	20.7	6.88	602	10
time	DC	10	16		time	DR	Ye	14 gc	e_
time	19.6	6.66	638	(16)	time	19.8	6.87	663/	14
purge stop time	)				purge stop time	2			
Well ID		EX	(-3 /_	356	Well ID	·	Ε	(-4 14	107
purge start time	e Ba	iler	N	6 Odol	purge start time	e Ba	iler	No	Odor
	Temp C	pН	cond	gallons		Temp C	р <b>Н</b>	cond	gallons
time	19.5	7.06	676	82	time	19.9	7.27	S 32	82
time	19.4	7.07	675	[ [	time	20.0	7.37	957	10
time	Dry	@/	5 gx		time	Dry	0 19	o gel	
time	19.2	7.07	609	(15)	time	19.4	7.37	MIM	15
purge stop tim	ē		, , , , , , , , , , , , , , , , , , ,		over the in	-			
Well ID			0		Well ID			0	
Purge start tim	e				Purge start tim	io.			
	Temp C	pН	cond	gallons		Temp C	рН	cond	galions
time					time				
time					time				
time					time				
time					time				
purge stop tim	е				purge stop tim	<u> </u>			
Well ID			0		Well ID			0	
purge start tim	e			,	purge start tim	i <del>c</del>	,	<u> </u>	<del></del>
	Temp C	рH	cond	gallons		Temp C	pil	cond	galions
time					time				
time					time				
time					time				
time					time				
purge stop tim	ne	-			purge stop fim	ie			

# APPENDIX D SURVEYOR'S MAP

## y Well Exhibit ared For: nvironmental



EASTING	ELEV (PVC)	ELEV (BOX)
085103. 9	79, 66	79, 68
085152. 1	81, 90	81, 93
085124. 3	77. 27	77. 58
085073. 7	76, 26	76. 71
085148. 9 085214. 0	80, 78 82, 32	81. 44 82. 61
085149. 4	79, 81	80. 30
085127. 9	80. 50	80, 81
085125. 1	77. 72	78, 04
085121. 4 085192. 1	76, 96 78, 87	77. 24   79. 52
085163. 0	73. 37 77. 96	79. 32 78. 27

LONGITUDE
100 1100110
122, 1482613
122, 1480942
122, 1481871
, <b>122</b> . 1483722
122. 1481154
122. 1478859
122. 1481078
122, 1481720
122. 1481877
122. 1481982
122, 1479549
EX122, 1480590

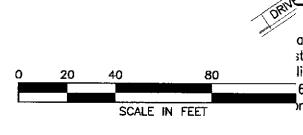
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#### \_EVATIONS:

STATE PLANE ZONE 3 COORDINATES
3 UNIVERSITY OF CALIFORNIA BAY
ION OBSERVATION FILES AND BASED ON
RENCE CENTER DATUM, REFERENCE

1986).

AB AND SUTB.
ROM GPS OBSERVATIONS.



arbor Blvd. Ste. D st Sacramento lifornia 95691 6) 372-8124 prrowsurveying.com Date: 2-10-04 Scale: 1" = 40' Sheet 1 of 1 Revised: 11-29-05 Field Book: MW-13, 22 Dwg. No. 7502-029 JL

## APPENDIX E

# CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION



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



#### ANALYTICAL REPORT

Stratus Environmental 3330 Cameron Park Drive Cameron Park, CA 956828861

Attn: Scott Bittinger Phone: (530) 676-6009 Fax: (530) 676-6005

Date Received: 10/12/05

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	on Reporting	Date	Date
			Limit	Sampled	Analyzed
Client ID :	TPH Purgeable	6,000	1,000 µg/Kg	10/07/05	10/13/05
EX-2-11	Tertiary Butyl Alcohol (TBA)	ND	500 μg/Kg	10/07/05	10/13/05
Lab ID:	Methyl tert-butyl ether (MTBE)	ND	5.0 μg/Kg	10/07/05	10/13/05
STR05101223-01A	Di-isopropyl Ether (DIPE)	ND	20 μg/Kg	10/07/05	10/13/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND	20 μg/ <b>K</b> g	10/07/05	10/13/05
	1,2-Dichloroethane	ND	20 μg/Kg	10/07/05	10/13/05
	Benzene	ND	5.0 μg/Kg	10/07/05	10/13/05
	Tertiary Amyl Methyl Ether (TAME)	ND	20 μg/Kg	10/07/05	10/13/05
	Toluene	ND	5.0 μg/Kg	10/07/05	10/13/05
	Ethylbenzene	ND	5.0 μg/Kg	10/07/05	10/13/05
	m,p-Xylene	6.0	5.0 μg/Kg	10/07/05	10/13/05
	o-Xylene	5.3	5,0 μg/Kg	10/07/05	10/13/05
Client ID :	TPH Purgeable	23,000	1,000 μg/Kg	10/06/05	10/13/05
EX-I-11	Tertiary Butyl Alcohol (TBA)	ND	500 μg/Kg	10/06/05	10/13/05
Lab ID:	Methyl tert-butyl ether (MTBE)	ND	5.0 μg/Kg	10/06/05	10/13/05
STR05101223-02A	Di-isopropyl Ether (DIPE)	ND	20 μg/Kg	10/06/05	10/13/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND	20 μg/Kg	10/06/05	10/13/05
	1,2-Dichloroethane	ND	20 μg/Kg	10/06/05	10/13/05
	Benzene	ND	5.0 μg/Kg	10/06/05	10/13/05
	Tertiary Amyl Methyl Ether (TAME)	ND	20 μg/Kg	10/06/05	10/13/05
	Toluene	ND	5.0 μg/Kg	10/06/05	10/13/05
	Ethylbenzene	ND	5.0 μg/ <b>K</b> g	10/06/05	10/13/05
	m,p-Xylene	ND	5.0 μg/Kg	10/06/05	10/13/05
	o-Xylene	ND	5.0 μg/Kg	10/06/05	10/13/05
Client ID:	TPH Purgeable	100,000	4,000 µg/Kg	10/06/05	10/18/05
EX-1-16	Tertiary Butyl Alcohol (TBA)	ND V	2,000 μg/Kg	10/06/05	10/18/05
Lab ID:	Methyl tert-butyl ether (MTBE)	ND V	20 μg/Kg	10/06/05	10/18/05
STR05101223-03A	Di-isopropyl Ether (DIPE)	ND V	40 μg/Kg	10/06/05	10/18/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND V	40 μg/Kg	10/06/05	10/18/05
	1,2-Dichloroethane	ND V	40 μg/Kg	10/06/05	10/18/05
	Benzene	ND V	20 μ <i>g/</i> Kg	10/06/05	10/18/05
	Tertiary Amyl Methyl Ether (TAME)	ND V	40 μg/Kg	10/06/05	10/18/05
	Toluene	ND V	20 μg/Kg	10/06/05	10/18/05
	Ethylbenzene	ND V	20 μg/Kg	10/06/05	10/18/05
	m,p-Xylene	34	20 μg/Kg	10/06/05	10/18/05
	o-Xylene	ND V	20 μg/Kg	10/06/05	10/18/05



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

Client ID:	TPH Purgeable	120,000		2,000 μg/Kg	10/06/05	10/13/05
EX-1-21	Tertiary Butyl Alcohol (TBA)	ND	v	2,000 μg/Kg 1,000 μg/Kg	10/06/05	10/13/05
Lab ID :	Methyl tert-butyl ether (MTBE)	33	•	1,000 μg/Kg 10 μg/Kg	10/06/05	10/13/05
STR05101223-04A	Di-isopropyl Ether (DIPE)	ND		20 μg/Kg	10/06/05	10/13/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND		20 μg/Kg	10/06/05	10/13/05
	1,2-Dichloroethane	ND		20 μg/Kg	10/06/05	10/13/05
	Benzene	18		10 μg/Kg	10/06/05	10/13/05
	Tertiary Amyl Methyl Ether (TAME)	ND		20 μg/Kg	10/06/05	10/13/05
	Toluene	ND	v	10 μg/Kg	10/06/05	10/13/05
	Ethylbenzene	340		10 μg/Kg	10/06/05	10/13/05
	m,p-Xylene	790		10 μg/Kg	10/06/05	10/13/05
	o-Xylene	ND	V	10 μ <b>g/Kg</b>	10/06/05	10/13/05
Client ID :	TPH Purgeable	ND		1,000 µg/Kg	10/06/05	10/18/05
EX-3-11	Tertiary Butyl Alcohol (TBA)	ND		500 μg/Kg	10/06/05	10/18/05
Lab ID :	Methyl tert-butyl ether (MTBE)	ND		5.0 μg/Kg	10/06/05	10/18/05
STR05101223-05A	Di-isopropyl Ether (DIPE)	ND		20 μg/Kg	10/06/05	10/18/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND		20 μg/Kg	10/06/05	10/18/05
	1,2-Dichloroethane	ND		20 μg/Kg	10/06/05	10/18/05
	Benzene	ND		5.0 μg/Kg	10/06/05	10/18/05
	Tertiary Amyl Methyl Ether (TAME)	ND		20 μg/Kg	10/06/05	10/18/05
	Toluene	ND		5.0 μg/Kg	10/06/05	10/18/05
	Ethylbenzene	ND		5.0 µg/Kg	10/06/05	10/18/05
	m,p-Xylene	ND		5.0 μg/Kg	10/06/05	10/18/05
	o-Xylene	ND		5.0 μg/Kg	10/06/05	10/18/05
Client ID:	TPH Purgeable	ND		1,000 µg/Kg	10/06/05	10/13/05
EX-3-15.5	Tertiary Butyl Alcohol (TBA)	ND		500 μg/Kg	10/06/05	10/13/05
Lab ID :	Methyl tert-butyl ether (MTBE)	ND		5.0 μg/Kg	10/06/05	10/13/05
STR05101223-06A	Di-isopropyl Ether (DIPE)	ND		20 μg/Kg	10/06/05	10/13/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND		20 μg/Kg	10/06/05	10/13/05
	1,2-Dichloroethane	ND		20 μg/Kg	10/06/05	10/13/05
	Benzene	ND		5.0 µg/Kg	10/06/05	10/13/05
	Tertiary Amyl Methyl Ether (TAME)	ND		20 μg/Kg	10/06/05	10/13/05
	Tolucne	ND		5,0 μg/ <b>K</b> g	10/06/05	10/13/05
	Ethylbenzene	ND		5.0 μg/Kg	10/06/05	10/13/05
	m,p-Xylene	ND		5.0 μg/Kg	10/06/05	10/13/05
	o-Xylene	ND		5.0 μg/Kg	10/06/05	10/13/05
Client ID:	TPH Purgeable	ND		1,000 µg/Kg	10/06/05	10/13/05
EX-3-20.5	Tertiary Butyl Alcohol (TBA)	ND		500 μg/Kg	10/06/05	10/13/05
Lab ID:	Methyl tert-butyl ether (MTBE)	ND		5.0 μg/Kg	10/06/05	10/13/05
STR05101223-07A	Di-isopropyl Ether (DIPE)	ND		20 μ <b>g/Kg</b>	10/06/05	10/13/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND		20 μg/Kg	10/06/05	10/13/05
	1,2-Dichloroethane	ND		20 μg/Kg	10/06/05	10/13/05
	Benzene	ND		5.0 μg/Kg	10/06/05	10/13/05
	Tertiary Amyl Methyl Ether (TAME)	ND		20 μg/Kg	10/06/05	10/13/05
	Toluene	ND		5.0 μg/Kg	10/06/05	10/13/05
	Ethylbenzene	ND		5.0 μg/Kg	10/06/05	10/13/05
	m,p-Xylene	ND		5.0 μg/Kg	10/06/05	10/13/05
	o-Xylene	ND		5.0 μg/Kg	10/06/05	10/13/05



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EX-4-6	Client ID:	TPH Purgeable	1,400	1,000 µg/Kg	10/06/05	10/13/05
Lab ID :   Methyl tert-burly ether (DIPE)   ND   2.0 μg/Kg   1006005   1013005   10	EX-4-6	_	· ·			
STR05101223-08A	Lab ID :					
Ethyl Teriary Buyl Ether (ETBE)   ND   20 μg/Kg   100-6015   1013/05     1.2-Dichloroethane   ND   20 μg/Kg   100-6015   1013/05     Penzzne   20   50 μg/Kg   100-6015   1013/05     Toltuene   ND   20 μg/Kg   100-6015   1013/05     Toltuene   ND   5.0 μg/Kg   100-6015   1013/05     Edhylbenzene   ND   5.0 μg/Kg   100-6015   1013/05     mg-xylene   ND   5.0 μg/Kg   100-6015   1013/05     EX-411   Teriary Buyl Alcohol (TBA)   ND   5.0 μg/Kg   100-6015   1013/05     EX-411   Teriary Buyl Alcohol (TBA)   ND   5.0 μg/Kg   100-6015   1013/05     EX-411   Di-isonyopyl Ether (DIPE)   ND   5.0 μg/Kg   100-6015   1013/05     EX-411   Expressione   ND   5.0 μg/Kg   100-6015   1013/05     Expressione   ND   5.0 μg/Kg	STR05101223-08A	Di-isopropyl Ether (DIPE)	ND		10/06/05	
1.2. Dichloroethane   ND   20 μg/Kg   1006/05   1013/05     Penzzne   20   5.0 μg/Kg   1006/05   1013/05     Penzzne   ND   20 μg/Kg   1006/05   1013/05     Poluene   ND   5.0 μg/Kg   1006/05   1013/05     Ethylbenzne   ND   5.0 μg/Kg   1006/05   1013/05     Phylorene		Ethyl Tertiary Butyl Ether (ETBE)	ND		10/06/05	
Penzene   Penzene   20   5.0 μg/Kg   100605   101305		1,2-Dichloroethane	ND		10/06/05	10/13/05
Partiany Amyl Methyl Ether (TAME)   ND   20 μg/Kg   100605   1013005     Foliupe   ND   5.0 μg/Kg   100605   1013005     Fo		Benzene	20		10/06/05	10/13/05
Foliuse   Fol		Tertiary Amyl Methyl Ether (TAME)	ND		10/06/05	10/13/05
Eflythenzene   13   5.0 μg/Kg   1006/05   10/13/05		Toluene	ND		10/06/05	10/13/05
ND   S.0 µg/Kg   10/6005   10/13/05   10/1		Ethylbenzene	13		10/06/05	10/13/05
Chient ID :		m,p-Xylene	ND	5.0 μg/Kg	10/06/05	
EX-4-11   Tertiary Butyl Alcohol (TBA)   ND   500 μg/Kg   10/16/05   10/13/05   Lab ID :   Methyl tert-butyl ether (MTBE)   ND   5.0 μg/Kg   10/16/05   10/13/05   STR05101223-09A   Di-isopropyl Ether (DIFE)   ND   20 μg/Kg   10/16/05   10/13/05   1.2-Dichloroethane   ND   20 μg/Kg   10/16/05   10/13/05   1.2-Dichloroethane   ND   20 μg/Kg   10/16/05   10/13/05   1.2-Dichloroethane   ND   20 μg/Kg   10/16/05   10/13/05   10		o-Xylene	ND		10/06/05	10/13/05
EX-4-11         Tertiary Butyl Alcohol (TBA)         ND         500 μg/Kg         10/66/05         10/13/05           Lab ID:         Methyl terr-butyl ether (MTBE)         ND         5.0 μg/Kg         10/66/05         10/13/05           STR05101223-09A         Di-isopropal Ether (DIPE)         ND         20 μg/Kg         10/66/05         10/13/05           Ethyl Terriary Butyl Ether (ETBE)         ND         20 μg/Kg         10/66/05         10/13/05           Benzene         64         5.0 μg/Kg         10/66/05         10/13/05           Terriary Arnyl Methyl Ether (TAME)         ND         20 μg/Kg         10/66/05         10/13/05           Edhylbenzene         67         5.0 μg/Kg         10/66/05         10/13/05           Edhylbenzene         67         5.0 μg/Kg         10/06/05         10/13/05           EX-4-16.5         Tertiary Arnyl Methyl Ether (TAME)         ND         V         20,000 μg/Kg         10/06/05         10/13/05           EX-4-16.5         Tertiary Butyl Alcohol (TBA)         ND         V         20,000 μg/Kg         10/06/05         10/13/05           EX-4-16.5         Tertiary Butyl Ether (DIPE)         ND         V         200,000 μg/Kg         10/06/05         10/13/05           EX-4-16.5         T	Client ID:	TPH Purgeable	26,000	1,000 µg/Kg	10/06/05	10/13/05
Labi ID :   Methyl terr-butyl ether (MTBE)   ND   20 μg/Kg   10/06/05   10/13/05   10	EX-4-11	Tertiary Butyl Alcohol (TBA)			10/06/05	10/13/05
STR05101223-09A	Lab ID :	Methyl tert-butyl ether (MTBE)	ND		10/06/05	10/13/05
1,2-Dichloroethane   ND   20 μg/Kg   10/06/05   10/13/05     Benzene   64   5.0 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   20 μg/Kg   10/06/05   10/13/05     Toluene   15   5.0 μg/Kg   10/06/05   10/13/05     Ethylbenzene   67   5.0 μg/Kg   10/06/05   10/13/05     m,p-Xylene   240   5.0 μg/Kg   10/06/05   10/13/05     m,p-Xylene   320   5.0 μg/Kg   10/06/05   10/13/05     EX-4-16.5   Tertiary Butyl Alcohol (TBA)   ND   V   20,000 μg/Kg   10/06/05   10/13/05     EX-4-16.5   Tertiary Butyl ether (MTBE)   ND   V   20,000 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   V   400 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Amyl Methyl Ether (TAME)   ND   V   400 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Amyl Methyl Ether (TAME)   ND   V   400 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Amyl Methyl Ether (TAME)   ND   V   400 μg/Kg   10/06/05   10/13/05     Ethylbenzene   3,600   200 μg/Kg   10/06/05   10/13/0	STR05101223-09A		ND		10/06/05	10/13/05
Benzene		Ethyl Tertiary Butyl Ether (ETBE)	ND	20 μg/Kg	10/06/05	10/13/05
Tertiary Amyl Methyl Ether (TAME) ND   20 μg/Kg   10/06/05   10/13/05     Toluene   15   5.0 μg/Kg   10/06/05   10/13/05     Ethylhenzene   67   5.0 μg/Kg   10/06/05   10/13/05     mp-Xylene   240   5.0 μg/Kg   10/06/05   10/13/05     mp-Xylene   320   5.0 μg/Kg   10/06/05   10/13/05     Client ID : TPH Purgeable   510,000   40,000 μg/Kg   10/06/05   10/13/05     EX-4-16.5   Tertiary Butyl Alcohol (TBA)   ND   V   20,000 μg/Kg   10/06/05   10/13/05     Lab ID : Methyl tert-butyl ether (MTBE)   ND   V   200 μg/Kg   10/06/05   10/13/05     Edhyl Tertiary Butyl Ether (ETBE)   ND   V   400 μg/Kg   10/06/05   10/13/05     Edhyl Tertiary Butyl Ether (ETBE)   ND   V   400 μg/Kg   10/06/05   10/13/05     1,2-Dichloroethane   ND   V   400 μg/Kg   10/06/05   10/13/05     Ethylbenzene   1,100   200 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   V   400 μg/Kg   10/06/05   10/13/05     Toluene   3,600   200 μg/Kg   10/06/05   10/13/05     Ethylbenzene   2,200   200 μg/Kg   10/06/05   10/13/05     Ethylbenzene   3,000   200 μg/Kg   10/06/05   10/13/05     Ethylbenzene   3,000   200 μg/Kg   10/06/05   10/13/05     Ethylbenzene   3,000   200 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Alcohol (TBA)   ND   500 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Alcohol (TBA)   ND   500 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Alcohol (TBA)   ND   500 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Ether (MTBE)   ND   500 μg/Kg   10/06/05   10/13/05     EX-4-21   Di-isopropyl Ether (MTBE)   ND   500 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   500 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Edhyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Edhyl Tertiary Amyl Methyl Ether (MTBE)   ND   50.0 μg/Kg   10/06/05   10/13/05     Enzene   68   50.0 μg/Kg   10/06/05   10/13/05		1,2-Dichloroethane	ND	20 μg/Kg	10/06/05	10/13/05
Tertiary Amyl Methyl Ether (TAME) ND   20 μg/Kg   10/06/05   10/13/05     Toluene   15   5.0 μg/Kg   10/06/05   10/13/05     Ethylhenzene   67   5.0 μg/Kg   10/06/05   10/13/05     mp-Xylene   240   5.0 μg/Kg   10/06/05   10/13/05     mp-Xylene   320   5.0 μg/Kg   10/06/05   10/13/05     Client ID : TPH Purgeable   510,000   40,000 μg/Kg   10/06/05   10/13/05     EX-4-16.5   Tertiary Butyl Alcohol (TBA)   ND   V   20,000 μg/Kg   10/06/05   10/13/05     Lab ID : Methyl tert-butyl ether (MTBE)   ND   V   200 μg/Kg   10/06/05   10/13/05     Edhyl Tertiary Butyl Ether (ETBE)   ND   V   400 μg/Kg   10/06/05   10/13/05     Edhyl Tertiary Butyl Ether (ETBE)   ND   V   400 μg/Kg   10/06/05   10/13/05     1,2-Dichloroethane   ND   V   400 μg/Kg   10/06/05   10/13/05     Ethylbenzene   1,100   200 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   V   400 μg/Kg   10/06/05   10/13/05     Toluene   3,600   200 μg/Kg   10/06/05   10/13/05     Ethylbenzene   2,200   200 μg/Kg   10/06/05   10/13/05     Ethylbenzene   3,000   200 μg/Kg   10/06/05   10/13/05     Ethylbenzene   3,000   200 μg/Kg   10/06/05   10/13/05     Ethylbenzene   3,000   200 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Alcohol (TBA)   ND   500 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Alcohol (TBA)   ND   500 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Alcohol (TBA)   ND   500 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Ether (MTBE)   ND   500 μg/Kg   10/06/05   10/13/05     EX-4-21   Di-isopropyl Ether (MTBE)   ND   500 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   500 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Edhyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Edhyl Tertiary Amyl Methyl Ether (MTBE)   ND   50.0 μg/Kg   10/06/05   10/13/05     Enzene   68   50.0 μg/Kg   10/06/05   10/13/05		Benzene	64	5.0 μg/ <b>K</b> g	10/06/05	10/13/05
Ethylbenzene		Tertiary Amyl Methyl Ether (TAME)	ND		10/06/05	10/13/05
m.p-Xylene o-Xylene   240   5.0 μg/Kg   10/06/05   10/13/05		Toluene	15	5.0 μg/Kg	10/06/05	10/13/05
O-Xylene   320   5.0 μg/Kg   10/06/05   10/13/05		Ethylbenzene	67	5.0 μg/Kg	10/06/05	10/13/05
Client ID : TPH Purgeable   510,000   40,000 μg/Kg   10/06/05   10/13/05		m,p-Xylene	240	5.0 μg/Kg	10/06/05	10/13/05
EX-4-16.5 Tertiary Butyl Alcohol (TBA) ND V 20,000 μg/Rg 10/06/05 10/13/05 Lab ID: Methyl tert-butyl ether (MTBE) ND V 200 μg/Rg 10/06/05 10/13/05 STR05101223-10A Di-isopropyl Ether (DIPE) ND V 400 μg/Rg 10/06/05 10/13/05 Ethyl Tertiary Butyl Ether (ETBE) ND V 400 μg/Rg 10/06/05 10/13/05 1,2-Dichloroethane ND V 400 μg/Rg 10/06/05 10/13/05 1,2-Dichloroethane ND V 400 μg/Rg 10/06/05 10/13/05 10/13/05 1,2-Dichloroethane ND V 400 μg/Rg 10/06/05 10/13/0		o-Xylene	320	5.0 μg/Kg	10/06/05	10/13/05
Lab ID :   Methyl tert-butyl ether (MTBE)   ND   V   200 μg/Kg   10/06/05   10/13/05     STR05101223-10A   Di-isopropyl Ether (DIPE)   ND   V   400 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   V   400 μg/Kg   10/06/05   10/13/05     1,2-Dichloroethane   ND   V   400 μg/Kg   10/06/05   10/13/05     Benzene   1,100   200 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   V   400 μg/Kg   10/06/05   10/13/05     Toluene   3,600   200 μg/Kg   10/06/05   10/13/05     Ethylbenzene   2,200   200 μg/Kg   10/06/05   10/13/05     Ethylene   30,000   200 μg/Kg   10/06/05   10/13/05     mp-Xylene   30,000   200 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Alcohol (TBA)   ND   1,000 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Alcohol (TBA)   ND   500 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Ether (MTBE)   ND   5.0 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Ether (MTBE)   ND   5.0 μg/Kg   10/06/05   10/13/05     EX-4-21   Di-isopropyl Ether (DIPE)   ND   5.0 μg/Kg   10/06/05   10/13/05     Expyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Benzene   68   5.0 μg/Kg   10/06/05   10/13/05     Enzene   68   5.0 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   20 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   20 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   20 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   20 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   5.0 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   5.0 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   5.0 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   5.0 μg/Kg   10/06/05   10/13/05     Tertiar	Client ID:	TPH Purgeable	510,000	40,000 μg/Kg	10/06/05	10/13/05
STR05101223-10A	EX-4-16.5	Tertiary Butyl Alcohol (TBA)	ND V	20,000 μg/Kg	10/06/05	10/13/05
Ethyl Tertiary Butyl Ether (ETBE)   ND   V   400 μg/Kg   10/06/05   10/13/05     1,2-Dichloroethane   ND   V   400 μg/Kg   10/06/05   10/13/05     Benzene   1,100   200 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   V   400 μg/Kg   10/06/05   10/13/05     Toluene   3,600   200 μg/Kg   10/06/05   10/13/05     Ethylbenzene   2,200   200 μg/Kg   10/06/05   10/13/05     Ethylbenzene   30,000   200 μg/Kg   10/06/05   10/13/05     m,p-Xylene   30,000   200 μg/Kg   10/06/05   10/13/05     o-Xylene   13,000   200 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Alcohol (TBA)   ND   500 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl ether (MTBE)   ND   5.0 μg/Kg   10/06/05   10/13/05     EX-3-21   Tertiary Butyl ether (MTBE)   ND   5.0 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl ether (MTBE)   ND   20 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl ether (MTBE)   ND   20 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl ether (MTBE)   ND   20 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl ether (MTBE)   ND   20 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl ether (MTBE)   ND   20 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl ether (MTBE)   ND   20 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl ether (MTBE)   ND   20 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   20 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   20 μg/Kg   10/06/05   10/13/05     Toluene   ND   5.0 μg/Kg	Lab ID:	Methyl tert-butyl ether (MTBE)	ND V	200 μg/Kg	10/06/05	10/13/05
1,2-Dichloroethane	STR05101223-10A	Di-isopropyl Ether (DIPE)	ND V	400 μg/Kg	10/06/05	10/13/05
Benzene		Ethyl Tertiary Butyl Ether (ETBE)	ND V	400 μg/Kg	10/06/05	10/13/05
Tertiary Amyl Methyl Ether (TAME) ND V 400 μg/Kg 10/06/05 10/13/05 Toluene 3,600 200 μg/Kg 10/06/05 10/13/05 Ethylbenzene 2,200 200 μg/Kg 10/06/05 10/13/05 m,p-Xylene 30,000 200 μg/Kg 10/06/05 10/13/05 ο-Xylene 13,000 200 μg/Kg 10/06/05 10/13/05  Client ID: TPH Purgeable ND 1,000 μg/Kg 10/06/05 10/13/05  EX-4-21 Tertiary Butyl Alcohol (TBA) ND 500 μg/Kg 10/06/05 10/13/05  EX-4-21 Tertiary Butyl ether (MTBE) ND 5.0 μg/Kg 10/06/05 10/13/05  STR05101223-11A Di-isopropyl Ether (DIPE) ND 20 μg/Kg 10/06/05 10/13/05  Ethyl Tertiary Butyl Ether (ETBE) ND 20 μg/Kg 10/06/05 10/13/05  Ethyl Tertiary Butyl Ether (ETBE) ND 20 μg/Kg 10/06/05 10/13/05  1,2-Dichloroethane ND 20 μg/Kg 10/06/05 10/13/05  Benzene 68 5.0 μg/Kg 10/06/05 10/13/05  Tertiary Amyl Methyl Ether (TAME) ND 20 μg/Kg 10/06/05 10/13/05  Tertiary Amyl Methyl Ether (TAME) ND 20 μg/Kg 10/06/05 10/13/05  Toluene ND 5.0 μg/Kg 10/06/05 10/13/05		1,2-Dichloroethane	ND V	400 μg/Kg	10/06/05	10/13/05
Toluene   3,600   200 μg/Kg   10/06/05   10/13/05     Ethylbenzene   2,200   200 μg/Kg   10/06/05   10/13/05     m,p-Xylene   30,000   200 μg/Kg   10/06/05   10/13/05     o-Xylene   13,000   200 μg/Kg   10/06/05   10/13/05     Client ID : TPH Purgeable   ND   1,000 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Alcohol (TBA)   ND   500 μg/Kg   10/06/05   10/13/05     Lab ID : Methyl tert-butyl ether (MTBE)   ND   5.0 μg/Kg   10/06/05   10/13/05     STR05101223-11A   Di-isopropyl Ether (DIPE)   ND   20 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Lab ID : Di-isopropyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     Di-isopropyl Ether (TAME)   ND   20 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   20 μg/Kg   10/06/05   10/13/05     Toluene   ND   5.0 μg/Kg   10/06/05   10/13/05		Benzene	1,100	200 μg/Kg	10/06/05	10/13/05
Ethylbenzene   2,200   200 μg/Kg   10/06/05   10/13/05     m,p-Xylene   30,000   200 μg/Kg   10/06/05   10/13/05     o-Xylene   13,000   200 μg/Kg   10/06/05   10/13/05     Client ID : TPH Purgeable   ND   1,000 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Alcohol (TBA)   ND   500 μg/Kg   10/06/05   10/13/05     Lab ID : Methyl tert-butyl ether (MTBE)   ND   5.0 μg/Kg   10/06/05   10/13/05     STR05101223-11A   Di-isopropyl Ether (DIPE)   ND   20 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     1,2-Dichloroethane   ND   20 μg/Kg   10/06/05   10/13/05     Benzene   68   5.0 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   20 μg/Kg   10/06/05   10/13/05     Toluene   ND   5.0 μg/Kg   10/06/05   10/13/05     Toluene   Toluene   Toluene   Toluene   Toluene   Toluene		Tertiary Amyl Methyl Ether (TAME)	ND V	400 μg/Kg	10/06/05	10/13/05
mp-Xylene   30,000   200 μg/Kg   10/06/05   10/13/05     o-Xylene   13,000   200 μg/Kg   10/06/05   10/13/05     Client ID : TPH Purgeable   ND   1,000 μg/Kg   10/06/05   10/13/05     EX-4-21   Tertiary Butyl Alcohol (TBA)   ND   500 μg/Kg   10/06/05   10/13/05     Lab ID : Methyl tert-butyl ether (MTBE)   ND   5.0 μg/Kg   10/06/05   10/13/05     STR05101223-11A   Di-isopropyl Ether (DIPE)   ND   20 μg/Kg   10/06/05   10/13/05     Ethyl Tertiary Butyl Ether (ETBE)   ND   20 μg/Kg   10/06/05   10/13/05     1,2-Dichloroethane   ND   20 μg/Kg   10/06/05   10/13/05     Benzene   68   5.0 μg/Kg   10/06/05   10/13/05     Tertiary Amyl Methyl Ether (TAME)   ND   20 μg/Kg   10/06/05   10/13/05     Toluene   ND   5.0 μg/Kg   10/06/05     Toluene   ND   5.0 μg/Kg   10		Toluene	3,600	200 μ <b>g/</b> Kg	10/06/05	10/13/05
c-Xylene       13,000       200 μg/Kg       10/06/05       10/13/05         Client ID:       TPH Purgeable       ND       1,000 μg/Kg       10/06/05       10/13/05         EX-4-21       Tertiary Butyl Alcohol (TBA)       ND       500 μg/Kg       10/06/05       10/13/05         Lab ID:       Methyl tert-butyl ether (MTBE)       ND       5.0 μg/Kg       10/06/05       10/13/05         STR05101223-11A       Di-isopropyl Ether (DIPE)       ND       20 μg/Kg       10/06/05       10/13/05         Ethyl Tertiary Butyl Ether (ETBE)       ND       20 μg/Kg       10/06/05       10/13/05         1,2-Dichloroethane       ND       20 μg/Kg       10/06/05       10/13/05         Benzene       68       5.0 μg/Kg       10/06/05       10/13/05         Tertiary Amyl Methyl Ether (TAME)       ND       20 μg/Kg       10/06/05       10/13/05         Toluene       ND       5.0 μg/Kg       10/06/05       10/13/05		Ethylbenzene	2,200	200 μg/Kg	10/06/05	10/13/05
Client ID: TPH Purgeable ND 1,000 µg/Kg 10/06/05 10/13/05  EX-4-21 Tertiary Butyl Alcohol (TBA) ND 500 µg/Kg 10/06/05 10/13/05  Lab ID: Methyl tert-butyl ether (MTBE) ND 5.0 µg/Kg 10/06/05 10/13/05  STR05101223-11A Di-isopropyl Ether (DIPE) ND 20 µg/Kg 10/06/05 10/13/05  Ethyl Tertiary Butyl Ether (ETBE) ND 20 µg/Kg 10/06/05 10/13/05  1,2-Dichloroethane ND 20 µg/Kg 10/06/05 10/13/05  Benzene 68 5.0 µg/Kg 10/06/05 10/13/05  Tertiary Amyl Methyl Ether (TAME) ND 20 µg/Kg 10/06/05 10/13/05  Toluene ND 5.0 µg/Kg 10/06/05 10/13/05		m,p-Xylene	30,000	200 μg/Kg	10/06/05	10/13/05
EX-4-21 Tertiary Butyl Alcohol (TBA) ND 500 μg/Kg 10/06/05 10/13/05 Lab ID: Methyl tert-butyl ether (MTBE) ND 5.0 μg/Kg 10/06/05 10/13/05 STR05101223-11A Di-isopropyl Ether (DIPE) ND 20 μg/Kg 10/06/05 10/13/05 Ethyl Tertiary Butyl Ether (ETBE) ND 20 μg/Kg 10/06/05 10/13/05 1,2-Dichloroethane ND 20 μg/Kg 10/06/05 10/13/05 Benzene 68 5.0 μg/Kg 10/06/05 10/13/05 Tertiary Amyl Methyl Ether (TAME) ND 20 μg/Kg 10/06/05 10/13/05 Toluene ND 5.0 μg/Kg 10/06/05 10/13/05		o-Xylene	13,000	200 μg/Kg	10/06/05	10/13/05
Lab ID:       Methyl tert-butyl ether (MTBE)       ND       5.0 μg/Kg       10/06/05       10/13/05         STR05101223-11A       Di-isopropyl Ether (DIPE)       ND       20 μg/Kg       10/06/05       10/13/05         Ethyl Tertiary Butyl Ether (ETBE)       ND       20 μg/Kg       10/06/05       10/13/05         1,2-Dichloroethane       ND       20 μg/Kg       10/06/05       10/13/05         Benzene       68       5.0 μg/Kg       10/06/05       10/13/05         Tertiary Amyl Methyl Ether (TAME)       ND       20 μg/Kg       10/06/05       10/13/05         Toluene       ND       5.0 μg/Kg       10/06/05       10/13/05	Client ID:	TPH Purgeable	ND	1,000 µg/Kg	10/06/05	10/13/05
STR05101223-11A       Di-isopropyl Ether (DIPE)       ND       20 μg/Kg       10/06/05       10/13/05         Ethyl Tertiary Butyl Ether (ETBE)       ND       20 μg/Kg       10/06/05       10/13/05         1,2-Dichloroethane       ND       20 μg/Kg       10/06/05       10/13/05         Benzene       68       5.0 μg/Kg       10/06/05       10/13/05         Tertiary Amyl Methyl Ether (TAME)       ND       20 μg/Kg       10/06/05       10/13/05         Toluene       ND       5.0 μg/Kg       10/06/05       10/13/05	EX-4-21	Tertiary Butyl Alcohol (TBA)	ND	500 μg/Kg	10/06/05	10/13/05
Ethyl Tertiary Butyl Ether (ETBE) ND 20 μg/Kg 10/06/05 10/13/05 1,2-Dichloroethane ND 20 μg/Kg 10/06/05 10/13/05 Benzene 68 5.0 μg/Kg 10/06/05 10/13/05 Tertiary Amyl Methyl Ether (TAME) ND 20 μg/Kg 10/06/05 10/13/05 Toluene ND 5.0 μg/Kg 10/06/05 10/13/05	Lab ID:	Methyl tert-butyl ether (MTBE)	ND	5.0 μg/Kg	10/06/05	10/13/05
1,2-Dichloroethane ND 20 μg/Kg 10/06/05 10/13/05  Benzene 68 5.0 μg/Kg 10/06/05 10/13/05  Tertiary Amyl Methyl Ether (TAME) ND 20 μg/Kg 10/06/05 10/13/05  Toluene ND 5.0 μg/Kg 10/06/05 10/13/05	STR05101223-11A	Di-isopropyl Ether (DIPE)	ND	20 μg/Kg	10/06/05	10/13/05
Benzene       68       5.0 μg/Kg       10/06/05       10/13/05         Tertiary Amyl Methyl Ether (TAME)       ND       20 μg/Kg       10/06/05       10/13/05         Toluene       ND       5.0 μg/Kg       10/06/05       10/13/05		Ethyl Tertiary Butyl Ether (ETBE)	ND	20 μ <b>g/K</b> g	10/06/05	10/13/05
Tertiary Amyl Methyl Ether (TAME) ND 20 μg/Kg 10/06/05 10/13/05 Toluene ND 5.0 μg/Kg 10/06/05 10/13/05		1,2-Dichloroethane	ND	20 μ <b>g/K</b> g	10/06/05	10/13/05
Toluene ND 5.0 μg/Kg 10/06/05 10/13/05		Benzene	68	5.0 μg/Kg	10/06/05	10/13/05
		Tertiary Amyl Methyl Ether (TAME)	ND	20 μg/Kg	10/06/05	10/13/05
Ethylbenzene 13 5.0 up/Kg 10/06/05 10/13/05			ND	5.0 μg/Kg	10/06/05	10/13/05
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		Ethylbenzene	13	5.0 μg/Kg	10/06/05	10/13/05
m.p-Xylene 19 5.0 μg/Kg 10/06/05 10/13/05		m,p-Xylene	19	5.0 μg/Kg	10/06/05	10/13/05
o-Xylene 10 5.0 μg/Kg 10/06/05 10/13/05		o-Xylene	10	5.0 μg/Kg	10/06/05	10/13/05



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Client ID:	TPH Purgeable	18,000	1,000 µg/Kg	10/06/05	10/13/05
EX-4-25.5	Tertiary Butyl Alcohol (TBA)	ND	500 µg/Kg	10/06/05	10/13/05
Lab ID:	Methyl tert-butyl ether (MTBE)	ND	5.0 μg/Kg	10/06/05	10/13/05
STR05101223-12A	Di-isopropyl Ether (DIPE)	ND	20 μg/ <b>K</b> g	10/06/05	10/13/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND	20 μ <b>g/Kg</b>	10/06/05	10/13/05
	1,2-Dichloroethane	ND	20 μg/Kg	10/06/05	10/13/05
	Benzene	ND	5.0 μg/ <b>K</b> g	10/06/05	10/13/05
	Tertiary Amyl Methyl Ether (TAME)	ND	20 μg/Kg	10/06/05	10/13/05
	Toluene	ND	5.0 μg/Kg	10/06/05	10/13/05
	Ethylbenzene	8.0	5.0 μg/Kg	10/06/05	10/13/05
	m,p-Xylene	110	5.0 μg/Kg	10/06/05	10/13/05
	o-Xylene	68	5.0 μg/Kg	10/06/05	10/13/05

Reported in micrograms per kilogram, per client request.

V = Reporting Limits were increased due to high concentrations of target analytes.

ND = Not Detected

Roger Scholl 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

Report Date



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Date: 21-Oct-05	QC	Sı	ımmar	y Repoi	nt			<b>Work Order:</b> 05101223
Method Blank	Туј	oe: M	BLK T	est Code: E	PA Met	hod SW80	015B/DHS LUFT M	anual
File ID: C:\HPCHEM\MS07\DATA\051	I013\05101306.D		В	atch ID: MS	07S331	4B	Analysis Date	10/13/2005 09:45
Sample ID: MBLK MS07W1013B	Units : µg/Kg		Run ID: M	SD_07_051	013A		Prep Date:	10/13/2005
Analyte	Result P	QL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit RPDRe	fVal %RPD(Limit) Qual
TPH Purgeable	ND	1000						
Surr: 1,2-Dichloroethane-d4	199		200		99.7	68	119	
Surr: Toluene-d8	190		200		95	84	116	
Surr: 4-Bromofluorobenzene	208		200		104	72	118	,
Laboratory Control Spike	Тур	e: Lo	CS T	est Code: El	PA Met	hod SW80	015B/DHS LUFT M	anual
File ID: C:\HPCHEM\M\$07\DATA\051	013\05101314.D		В	atch ID: MS	07 <b>S</b> 331	4B	Analysis Date:	10/13/2005 12:47
Sample ID: GLCS MS07S3314B	Units : µg/Kg		Run ID: M	SD_07_0510	013A		Prep Date:	10/13/2005
Analyte	Result Po	QL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit RPDRet	Wal %RPD(Limit) Qual
TPH Purgeable	17400 2	2000	16000		108	60	153	<del>-</del>
Surr: 1,2-Dichloroethane-d4	393		400		98	68	119	
Surr: Toluene-d8	371		400		93	84	116	
Surr: 4-Bromofluorobenzene	392		400		98	72	118	
Sample Matrix Spike	Тур	e: M	s Te	est Code: El	PA Meti	hod SW80	15B/DHS LUFT M	anual
File ID: C:\HPCHEM\MS07\DATA\051	013\05101320.D		Ba	atch ID: MS(	78331	4B	Analysis Date:	10/13/2005 15:00
Sample ID: 05101223-07AGS	Units : μg/Kg		Run ID: MS	SD_07_0510	)13A		Prep Date:	10/13/2005
Analyte	Result PC	QL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit RPDRef	Val %RPD(Limit) Qual
TPH Purgeable	17200 2	2000	16000	0	107	8	177	
Surr: 1,2-Dichloroethane-d4	378		400		94	68	119	
Surr: Toluene-d8	384		400		96	84	116	
Surr: 4-Bromofluorobenzene	400		400		100	72	118	
Sample Matrix Spike Duplicate	Тур	e:M	SD Te	est Code: El	PA Meti	hod SW80	15B/DHS LUFT Ma	anual
File ID: C:\HPCHEM\MS07\DATA\051	013\05101321.D		Ba	atch ID: MS0	783314	4B	Analysis Date:	10/13/2005 15:22
Sample ID: 05101223-07AGSD	Units : µg/Kg		Run ID: MS	SD_07_0510	)13A		Prep Date:	10/13/2005
Analyte	Result PC	QL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit RPDRef	Val %RPD(Limit) Qual
TPH Purgeable	16000 2	000	16000	0	100	8	177 1718	30 7.1(45)
Surr: 1,2-Dichloroethane-d4	375		400		94	68	119	• •
Surr: Toluene-d8	379		400		95	84	116	
Surr: 4-Bromofluorobenzene	397		400		99	72	118	

#### 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 kilogram, per client request.



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Date: 21-Oct-05		C Sı	ımmar	y Repo	rt			Work Order: 05101223
Method Blank		Type: M	BLK T	est Code: E	PA Met	thod SW8:	260B	
File ID: C:\HPCHEM\MS07\DATA\051	013\05101306.D		В	atch ID: MS	075331	4A	Analysis Da	te: 10/13/2005 09:45
Sample ID: MBLK MS07W1013A	Units : µg/Kg	}	Run ID: M	SD_07_051	013A		Prep Date:	10/13/2005
Analyte	Result	PQL	SpkVal	SpkRefVal	1 %REC	LowLimit	HighLimit RPDF	RefVal %RPD(Limit) Qual
Tertiary Butyl Alcohol (TBA)	ND	500						
Methyl tert-butyl ether (MTBE)	ND	5						
Di-isopropyl Ether (DIPE) Ethyl Tertiary Butyl Ether (ETBE)	ND ND	20 20						
1,2-Dichloroethane	ND	20						
Benzene	ND	5						
Tertiary Amyl Methyl Ether (TAME)	ND	20						
Toluene	ND	5						
Ethylbenzene m,p-Xylene	ND ND	5 5						
o-Xylene	ND ND	5 5						
Surr: 1,2-Dichloroethane-d4	199	Ū	200		99.7	68	119	
Surr: Toluene-d8	190		200		95	84	116	
Surr: 4-Bromofluorobenzene	208		200		104	72	118	· · · · · · · · · · · · · · · · · · ·
Laboratory Control Spike		Type: LC	S T	est Code: E	PA Met	hod SW82	260B	
File ID: C:\HPCHEM\MS07\DATA\0510	)13\05101313.D		В	atch ID: MS(	078331	4A	Analysis Dat	e: 10/13/2005 12:24
Sample ID: LCS MS07S3314A	Units : µg/Kg	ı	Run ID: MS	SD_07_051	013A		Prep Date:	10/13/2005
Analyte	Result	PQL				LowLimit	HighLimit RPDR	efVal %RPD(Limit) Qual
Benzene	410	10	400		103	58	147	
Toluene	400	10	400		99.9	58	148	
Ethylbenzene	400	10	400		100	59	151	
m,p-Xylene	409	10	400		102	60	155	
o-Xylene Surr: 1,2-Dichloroethane-d4	399 414	10	400 400		99.8 103	62 68	155 119	
Surr: Toluene-d8	393		400		98	84	116	
Surr: 4-Bromofluorobenzene	414		400		104	72	118	
Samuela Materia Satila		Type: MS	· T/	est Code: El	DA Mati	204 CIMO2	END	
Sample Matrix Spike File ID: C:\HPCHEM\MS07\DATA\0510		rype. wie		atch ID: MS0				e: 10/13/2005 14:15
Sample ID: 05101223-07AMS	Units : µg/Kg	F		SD_07_0510			Prep Date:	10/13/2005
Analyte	· · · -	PQL .				LowLimit	•	efVal %RPD(Limit) Qual
Benzene	409	10	400	0	102	30	151	
Toluene	401	10	400	ő	100	25	159	
Ethylbenzene	409	10	400	0	102	27	161	
m,p-Xylene	416	10	400	0	104	22	170	
o-Xylene Surr: 1,2-Dichloroethane-d4	407 395	10	400	0	102	22	171	
Surr: Toluene-d8	402		400 400		99 101	68 84	119 116	
Surr: 4-Bromofluorobenzene	398		400		99.6	72	118	
Sample Matrix Spiles Duplicate	-	Type: MS	n Te	st Code: EF	OA Math	od SW82	eur eur	
Sample Matrix Spike Duplicate File ID: C:\HPCHEM\MS07\DATA\0510		ypc. Inc		tch ID: MS0				e: 10/13/2005 14:38
Sample ID: 05101223-07AMSD	Units : µg/Kg	=		D_07_0510		·^	Prep Date:	10/13/2005
Analyte		PQL				Lowl imit	-	efVal %RPD(Limit) Qual
Benzene	405	10	400	0	101	30	151 40	
Toluene	405	10	400	0	101	25	159 400	
Ethylbenzene	408	10	400	Ö	102	27	161 408	
m,p-Xylene	419	10	400	0	105	22	170 415	5.7 0.9(40)
o-Xylene	406	10	400	0	102	22	171 406	6.7 0.1(41)
Surr: 1,2-Dichloroethane-d4 Surr: Toluene-d8	394 403		400 400		99 101	68 84	119 116	
Surr: 4-Bromofluorobenzene	403 406		400		101 102	84 72	116 118	
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Date: 21-Oct-05

## **QC Summary Report**

Work Order: 05101223

#### 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: 10/20/2005

Date of Notice: 10/12/2005 11:34:46

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 : 2007-005	7-01/ US/	<b>A</b> 57
Project Manager: Scott Bittinger	Client's EMail: sbittinger( Client's Phone: (530) 676-	_	
Work Order Number: STR05101223	Date Received: 10/12/200		Client's FAX: (530) 676-6005 Received by: Graciela Navarrete
Cha	in of Custody (COC) Inform	<u>ation</u>	
Carrier name: <u>FedEx</u>			
Chain of custody present ?	Yes 🗹	□ No	
Custody seals intact on shippping 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 🗌	<b>≥</b> No	
Sub Contract Lab Used :	None 🗹	SEM	Other (see comments)
<u> </u>	Sample Receipt Information	<u>1</u>	
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 Prese	ervation and Hold Time (HT	) Informa	ation
All samples received within holding time?	Yes 🗹	No	Cooler Temperature
Container/Temp Blank temperature in compliance (0-6°C)?	Yes 🗹	No	4°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 ☑
Anal	vtical Requirement Informa	<u>ition</u>	
Are non-Standard or Modified methods requested?	Yes 🗌	Z No	
Are there client specific Project requirements?	Yes 🗌 💆	No	If YES : see the Chain of Custody (COC)
Comments :			

#### Billing Information:

Client:

Suite 550

QC Level: \$3

## CHAIN-OF-CUSTODY RECORD

Page: 1 of 2

## Alpha Analytical, Inc.

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

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

Scott Bittinger

TEL: (530) 676-6009

FAX: (530) 676-6005

EMail: sbittinger@stratusinc.net

Cameron Park, CA 95682-8861

3330 Cameron Park Drive

Stratus Environmental

Report Attention: Scott Bittinger CC Report :

2007-0057-01/ USA 57 Job:

PO·

= Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Client's COC #: 6506

EDD Required: Yes

Sampled by : Justin Crose

Cooler Temp:

WorkOrder: STR05101223

Report Due By: 5:00 PM On: 20-Oct-05

4 °C

Date Printed:

12-Oct-05

**Requested Tests** Alpha Client Collection No. of Bottles TPH/P S VOC\_S Sample ID Sample ID Matrix Date ORG SUB TAT PWS# Sample Remarks STR05101223-01A EX-2-11 SO 10/07/05 0 6 BTXE/GAS/ BTXE/GAS/ 08:45 50xys/1,2- 50xys/1,2-DCA C DCA C STR05101223-02A EX-1-11 10/06/05 BTXE/GAS/: BTXE/GAS/ 16:28 50xys/1,2-50xys/ 1,2-DCA\_C DCA C STR05101223-03A EX-1-16 10/06/05 BTXE/GAS/ BTXE/GAS/ 6 16:38 5oxys/1,2-Sexys/1,2-DCA\_C DCA\_C STR05101223-04A EX-1-21 10/06/05 1 BTXE/GAS/ BTXE/GAS/ 16:56 50xys/1,2-5oxys/1,2-DCA\_C DCA C STR05101223-05A EX-3-11 SO 10/06/05 BTXE/GAS/ BTXE/GAS/ 12:59 50xys/ 1,2-50xys/ 1,2-DCA C DCA\_C STR05101223-06A EX-3-15.5 SO 10/06/05 1 BTXE/GAS/ BTXE/GAS/ 13:27 50xvs: 1.2-50xys/1,2-DCA\_C DCA C STR05101223-07A EX-3-20.5 SO 10/06/05 BTXE/GAS/ BTXE/GAS/ 13:51 50xys: 1.2-50xys/ 1,2-DCA C DCA\_C STR05101223-08A EX-4-6 10/06/05 BTXE/GAS/ BTXE/GAS/ 09:06 50xys/ 1,2-50xys/1,2-

Comments:

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

Logged in by:

Print Name

DCA C

Company

Date/Time

Alpha Analytical, Inc.

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

DCA C

Billing Information:

## CHAIN-OF-CUSTODY RECORD

Page: 2 of 2

## Alpha Analytical, Inc.

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

WorkOrder: STR05101223

Report Due By: 5:00 PM On: 20-Oct-05

Client:

Stratus Environmental 3330 Cameron Park Drive

Suite 550

Cameron Park, CA 95682-8861

Report Attention: Scott Bittinger CC Report :

QC Level: S3

PO:

Scott Bittinger TEL: (530) 676-6009 FAX: (530) 676-6005

EMail: sbittinger@stratusinc.net

Job: 2007-0057-01/ USA 57

Client's COC #: 6506

EDD Required: Yes

Sampled by : Justin Crose

Cooler Temp:

Date Printed:

12-Oct-05

= Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Maha or	4	<b>.</b>					ļ·		Requested Tests	
_ `		Collection	No. of	Bottles	•		TPH/P_S	VOC_S	-	
•	ample ID Matr	rix Date	ORG	SUB	TAT	PWS#	· [			Sample Remarks
STR05101223-09A E		10/06/05 09:18	1	0	6		BTXE/GAS/ 50xys/1,2- DCA_C			oumple Nemarks
STR05101223-10A E		10/06/05 09:48	1	0	6	<del></del> -	BTXE/GAS/	BTXE/GAS/		
STR05101223-11A E		10/06/05 10:06	1	0	6		BTXE/GAS/ 50xys/ 1.2- DCA C	BTXE/GAS/		
STR05101223-12A E	EX-4-25.5 SO	10/06/05 10:25	1	0	6	<del></del>	BTXE/GAS/	BTXE/GAS/		

Comments:

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

Print Name

Company

Date/Time

Name Structus Environmental Address 3330 Cameron Park Or Suits City, State, Zip Comeron Park (A 9569	Alpha Analy 255 Glendale Ave Sparks, Nevada 8 Phone (775) 355-	nue, Suite 21 9431-5778	Samples Collecte AZ CA ID OR	ed From Which State NV WA F OTHER F	e? Page # _   _ of _
City, State, Zip Comeron Fork (A 9568) Phone Number (536) 676-6004 Fax (530) 676-6		06	Analyses	Required	6506.
Address  O 7 CiC) Mac Arthur Blue  City, State, Zip  O K O A C  Time Date Sampled Matrix Office Use Sampled by Only  Balow Lab ID Number	Phone # (530) 676 - 2067  Report Attention Birtinger TAT F	7 - ∞57-01  Total and type of containers "See below"	777	EDD /	Required QC Level?  I II III IV  EDF? YES V NO  REMARKS
16:28 10/6 50 2 16:38 10/6 56 3 10:56 10/6 50 4 12:49 10/6 50 5 13:27 10/6 50 6 13:51 10/6 50 7 9:06 10/6 50 7 9:18 10/6 50 9 9:18 10/6 50 10 0:06 10/6 50 11	EX-2-11 EX-1-16 EX-1-21 EX-1-21 S EX-3-15.5 S EX-3-20.5 EX-4-6 EX-4-11 S EX-4-16.5 EX-4-21 EX-4-21 S EX-4-21	1 B V V V			
ADDITIONAL INSTRUCTIONS:					
Received by  Received by  Reinquished by  Reinquished by  Reinquished by	Print Name  Justin Crose  LISA BRYLA  Gillewarre te	Stratus ALPHA		10-1 FOS	
Relinquished by  Received by  Key: AQ - Aqueous SO - Soil WA - Waste	OT - Other **: L-Liter	J-Voa S-Soil Jar	O-Orbo T-Tedlar	B-Brass P-Plastic	0T-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.



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# FILE GOPY

#### ANALYTICAL REPORT

Stratus Environmental 3330 Cameron Park Drive Cameron Park, CA 956828861

Gowri Kowtha Attn: Phone: (530) 676-6001

NOV 1 7 2005

Fax:

(530) 676-6005 Date Received: 10/26/05

Job#:

2007-0057-01/ USA 57

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

		Parameter	Concentration	Reporting Limit	Date Sampled	Date Analyzed
Client ID:	S-1					
Lab ID :	STR05102634-01A	Methanol	ND	5,000 µg/L	10/24/05	10/27/05
		Ethanol	ND	5,000 μg/L	10/24/05	10/27/05
Client ID:	S-2					
Lab ID:	STR05102634-02A	Methanol	ND	5,000 μg/L	10/24/05	10/27/05
		Ethanol	ND	5,000 μg/L	10/24/05	10/27/05
Client ID:	MW-3					
Lab ID:	STR05102634-03A	Methanol	ND	5,000 μg/L	10/24/05	10/27/05
		Ethanol	ND	5,000 μg/L	10/24/05	10/27/05
Client ID:	MW-4					
Lab ID:	STR05102634-04A	Methanol	ND	5,000 μg/L	10/24/05	10/27/05
		Ethanol	ND	5,000 μg/L	10/24/05	10/27/05
Client ID:	MW-5					
Lab ID:	STR05102634-05A	Methanol	ND	5,000 μg/L	10/24/05	10/27/05
		Ethanol	ND	5,000 μg/L	10/24/05	10/27/05
Client ID:	MW-7					
Lab ID:	STR05102634-06A	Methanol	ND	5,000 μg/L	10/24/05	10/27/05
		Ethanol	ND	5,000 μg/L	10/24/05	10/27/05
Client ID:	MW-8					
Lab ID:	STR05102634-07A	Methanol	ND ND	5,000 μg/L	10/24/05	10/27/05
		Ethanol	ND	5,000 μg/L	10/24/05	10/27/05
Client ID:	EX-1					
Lab ID:	STR05102634-08A	Methanol	ND	5,000 µg/L	10/24/05	10/27/05
		Ethanol	ND	5,000 µg/L	10/24/05	10/27/05
Client ID:	EX-2					
Lab ID:	STR05102634-09A	Methanol	ND	5,000 μg/L	10/24/05	10/27/05
		Ethanol	ND	5,000 μg/L	10/24/05	10/27/05
Client ID:	EX-3					
Lab ID :	STR05102634-10A	Methanol	ND	5,000 μg/L		10/27/05
		Ethanol	ND	5,000 μg/L	10/24/05	10/27/05
Client ID :	EX-4					
Lab ID:	STR05102634-11A	Methanol	ND	5,000 μg/L	10/24/05	10/27/05
		Ethanol	ND	5,000 μg/L		10/27/05



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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

Report Date



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#### **ANALYTICAL REPORT**

Stratus Environmental 3330 Cameron Park Drive Cameron Park, CA 956828861 Attn: Gowri Kowtha Phone: (530) 676-6001 Fax: (530) 676-6005 Date Received: 10/26/05

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	Date	Date
C!:+ ID ·	TOTE D. 11	222	Limit	-	Analyzed
Client ID:	TPH Purgeable	320	50 μg/L	10/24/05	10/28/05
S-1	Tertiary Butyl Alcohol (TBA)	ND	10 μg/L	10/24/05	10/28/05
Lab ID:	Methyl tert-butyl ether (MTBE)	37	0.50 μg/L	10/24/05	10/28/05
STR05102634-01A	Di-isopropyl Ether (DIPE)	ND	1.0 μg/L	10/24/05	10/28/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 μg/L	10/24/05	10/28/05
	1,2-Dichloroethane	2.2	1.0 μg/L	10/24/05	10/28/05
	Benzene	5.0	0.50 μg/L	10/24/05	10/28/05
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 µg/L	10/24/05	10/28/05
	Toluene	ND	0.50 μg/L	10/24/05	10/28/05
	1,2-Dibromoethane (EDB)	ND	2.0 μg/L	10/24/05	10/28/05
	Ethylbenzene	1.1	0.50 μg/L	10/24/05	10/28/05
	m,p-Xylene	ND	0.50 μg/L	10/24/05	10/28/05
	o-Xylene	ND	0.50 μg/L	10/24/05	10/28/05
Client ID:	TPH Purgeable	1,200	100 μg/L	10/24/05	10/28/05
S-2	Tertiary Butyl Alcohol (TBA)	33	10 μg/L	10/24/05	10/28/05
Lab ID:	Methyl tert-butyl ether (MTBE)	69	0.50 μg/L	10/24/05	10/28/05
STR05102634-02A	Di-isopropyl Ether (DIPE)	ND	1.0 μg/L	10/24/05	10/28/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	10/24/05	10/28/05
	1,2-Dichloroethane	35	1.0 μg/L	10/24/05	10/28/05
	Benzene	100	0.50 μg/L	10/24/05	10/28/05
	Tertiary Amyl Methyl Ether (TAME)	ND	1,0 μg/L	10/24/05	10/28/05
	Toluene	13	0.50 μg/L	10/24/05	10/28/05
	1,2-Dibromoethane (EDB)	ND V	4.0 μg/L	10/24/05	10/28/05
	Ethylbenzene	52	0.50 μg/L	10/24/05	10/28/05
	m,p-Xylene	27	0,50 μg/L	10/24/05	10/28/05
	o-Xylene	14	0.50 μg/L	10/24/05	10/28/05
Client ID:	TPH Purgeable	2,100	500 μg/L	10/24/05	10/28/05
MW-3	Tertiary Butyl Alcohol (TBA)	750	50 μg/L	10/24/05	10/28/05
Lab ID :	Methyl tert-butyl ether (MTBE)	300	2.5 μg/L	10/24/05	10/28/05
STR05102634-03A	Di-isopropyl Ether (DIPE)	ND V	5.0 μg/L	10/24/05	10/28/05
•	Ethyl Tertiary Butyl Ether (ETBE)	ND V	5.0 μg/L	10/24/05	10/28/05
	1,2-Dichloroethane	210	5.0 μg/L	10/24/05	10/28/05
	Benzene	460	2.5 μg/L	10/24/05	10/28/05
	Tertiary Amyl Methyl Ether (TAME)	ND V	5.0 μg/L	10/24/05	10/28/05
	Toluene	6.9	2.5 μg/L	10/24/05	10/28/05
	1,2-Dibromoethane (EDB)	ND V	20 μg/L	10/24/05	10/28/05
	Ethylbenzene	7.7	2.5 μg/L	10/24/05	10/28/05
	m,p-Xylene	8,8	2.5 μg/L	10/24/05	10/28/05
	o-Xylene	3.1	2.5 μg/L	10/24/05	10/28/05
	-		10		



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		7.0			
Client ID:	TPH Purgeable	ND	50 μg/L	10/24/05	10/28/05
MW-4	Tertiary Butyl Alcohol (TBA)	ND	10 μg/L	10/24/05	10/28/05
Lab ID :	Methyl tert-butyl ether (MTBE)	ND	0.50 μg/L	10/24/05	10/28/05
STR05102634-04A	Di-isopropyl Ether (DIPE)	ND	1.0 μg/L	10/24/05	10/28/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 μg/L	10/24/05	10/28/05
	1,2-Dichloroethane	ND	1.0 μg/L	10/24/05	10/28/05
	Benzene	ND	$0.50~\mu g/L$	10/24/05	10/28/05
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 μg/L	10/24/05	10/28/05
	Toluene	ND	0.50 μg/L	10/24/05	10/28/05
	1,2-Dibromoethane (EDB)	ND	2.0 μg/L	10/24/05	10/28/05
	Ethylbenzene	ND	0.50 μg/L	10/24/05	10/28/05
	m,p-Xylene	ND	0.50 μ <i>g</i> /L	10/24/05	10/28/05
	o-Xylene	ND	0.50 μg/L	10/24/05	10/28/05
Client ID:	TPH Purgeable	ND	50 μg/L	10/24/05	10/28/05
MW-5	Tertiary Butyl Alcohol (TBA)	ND	10 μg/L	10/24/05	10/28/05
Lab ID:	Methyl tert-butyl ether (MTBE)	ND	0.50 μg/L	10/24/05	10/28/05
STR05102634-05A	Di-isopropyl Ether (DIPE)	ND	1.0 μg/L	10/24/05	10/28/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 μg/L	10/24/05	10/28/05
	1,2-Dichloroethanc	ND	1.0 μg/L	10/24/05	10/28/05
	Benzene	ND	0,50 μg/L	10/24/05	10/28/05
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 μg/L	10/24/05	10/28/05
	Toluene	ND	0.50 μg/L	10/24/05	10/28/05
	1,2-Dibromoethane (EDB)	ND	2.0 μg/L	10/24/05	10/28/05
	Ethylbenzene	ND	0.50 μg/L	10/24/05	10/28/05
	m,p-Xylene	ND	0.50 μg/L	10/24/05	10/28/05
	o-Xylene	ND	0.50 μ <b>g/</b> L	10/24/05	10/28/05
Client ID :	TPH Purgeable	ND	50 μg/L	10/24/05	10/28/05
MW-7	Tertiary Butyl Alcohol (TBA)	ND	10 μg/L	10/24/05	10/28/05
Lab ID :	Methyl tert-butyl ether (MTBE)	ND	0.50 μg/L	10/24/05	10/28/05
STR05102634-06A	Di-isopropyl Ether (DIPE)	ND	1.0 μg/L	10/24/05	10/28/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 µg/L	10/24/05	10/28/05
•	1,2-Dichloroethane	ND	1.0 μg/L	10/24/05	10/28/05
	Benzene	ND	0.50 μg/L	10/24/05	10/28/05
	Tertiary Amyl Methyl Ether (TAME)	ND	0.30 μg/L 1.0 μg/L	10/24/05	10/28/05
	Toluene	ND	1.0 μg/L 0.50 μg/L	10/24/05	10/28/05
	1,2-Dibromoethane (EDB)	ND	0.50 μg/L 2.0 μg/L	10/24/05	10/28/05
	Ethylbenzene	ND	2.0 μg/L 0.50 μg/L	10/24/05	10/28/05
	m,p-Xylene	ND	0.50 μg/L 0.50 μg/L	10/24/05	10/28/05
	o-Xylene	ND	0.50 μg/L 0.50 μg/L	10/24/05	10/28/05
	o-Aylene	ND	0.50 µg/L	10/24/03	10/26/03
Client ID:	TPH Purgeable	ND	50 μg/L	10/24/05	10/28/05
MW-8	Tertiary Butyl Alcohol (TBA)	ND	10 μg/L	10/24/05	10/28/05
Lab ID:	Methyl tert-butyl ether (MTBE)	ND	0.50 μg/L	10/24/05	10/28/05
STR05102634-07A	Di-isopropyl Ether (DIPE)	ND	1.0 μg/L	10/24/05	10/28/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND	1.0 μg/L	10/24/05	10/28/05
	1,2-Dichloroethane	ND	1.0 μg/L	10/24/05	10/28/05
	Benzene	ND	0.50 μ <b>g/L</b>	10/24/05	10/28/05
	Tertiary Amyl Methyl Ether (TAME)	ND	1.0 μg/L	10/24/05	10/28/05
	Toluene	ND	0.50 μg/L	10/24/05	10/28/05
	1,2-Dibromoethane (EDB)	ND	2.0 μ <b>g/L</b>	10/24/05	10/28/05
	Ethylbenzene	ND	0.50 μg/L	10/24/05	10/28/05
	m,p-Xylene	ND	0.50 μg/L	10/24/05	10/28/05
	o-Xylene	ND	0.50 μg/L	10/24/05	10/28/05



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Client ID:	TPH Purgeable	5,000		100 μg/L	10/24/05	10/31/05
EX-1	Tertiary Butyl Alcohol (TBA)	120		100 μg/L 10 μg/L	10/24/05	10/31/05
Lab ID :	Methyl tert-butyl ether (MTBE)	360		0.50 μg/L	10/24/05	10/31/05
STR05102634-08A	Di-isopropyl Ether (DIPE)	ND		1.0 μg/L	10/24/05	10/31/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND		1.0 μg/L	10/24/05	10/31/05
	1,2-Dichloroethane	ND		1.0 μg/L	10/24/05	10/31/05
	Benzene	140		0.50 μg/L	10/24/05	10/31/05
	Tertizry Amyl Methyl Ether (TAME)	ND		1.0 µg/L	10/24/05	10/31/05
	Toluene	8.4		0.50 μg/L	10/24/05	10/31/05
	1,2-Dibremoethane (EDB)	ND	V	4.0 μg/L	10/24/05	10/31/05
	Ethylhenzene	20		0.50 µg/L	10/24/05	10/31/05
	m,p-Xylene	160		0.50 μg/L	19/24/05	10/31/05
	o-Xylane	35		0.50 μg/L	10/24/05	10/31/05
Client ID:	TPH Purgeable	42,000		20,000 μg/L	10/24/05	10/28/05
EX-2	Tertiary Butyl Alcohol (TBA)	ND	V	2,000 μg/L	10/24/05	10/28/05
Lab ID :	Methyl tert-butyl ether (MTBE)	410	,	100 μg/L	10/24/05	10/28/05
STR05102634-09A	Di-isopropyl Ether (DIPE)	ND	$\mathbf{v}$	200 μg/L	10/24/05	10/28/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND	v	200 μg/L	10/24/05	10/28/05
	1,2-Dichloroethane	ND	v	200 μg/L	10/24/05	10/28/05
	Benzene	13,900		100 µg/L	10/24/05	10/28/05
	Tertiary Amyl Methy! Ether (TAME)	ND	v	200 μg/L	10/24/05	10/28/05
	Toluene	1,300		100 μg/L	10/24/05	10/28/05
	1,2-Dibromoethane (EDB)	ND	V	800 μg/L	10/24/05	10/28/05
	Ethylbenzene	1,300		100 μg/L	10/24/05	10/28/05
	m,p-Xylene	1,600		100 µg/L	10/24/05	10/28/05
	o-Xylene	980		100 μg/L	10/24/05	10/28/05
Client ID:	TPH Purgeable	20,000		2,000 µg/L	10/24/05	10/28/05
EX-3	Tertiary Butyl Alcohol (TBA)	ND	V	200 μg/L	10/24/05	10/28/05
Lab ID:	Methyl tert-butyl ether (MTBE)	ND	V	10 μg/L	10/24/05	10/28/05
STR05102634-10A	Di-isopropyi Ether (DIPE)	ND	V	20 μg/L	10/24/05	10/28/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND	V	20 μ <b>g/L</b>	10/24/05	10/28/05
	1,2-Dichloroethane	ND	V	20 μ <b>g</b> /L	10/24/05	10/28/05
	Benzene	220		10 μg/L	10/24/05	10/28/05
	Tertiary Amyl Methyl Ether (TAME)	ND	V	20 μg/L	10/24/05	10/28/05
	Toluene	21		10 μg/L	10/24/05	10/28/05
	1,2-Dibromoethane (EDB)	ND	V	80 μg/L	10/24/05	10/28/05
	Ethylbenzene	660		10 μg/L	10/24/05	10/28/05
	m,p-Xylene	2,800		10 μg/L	10/24/05	10/28/05
	o-Xylene	310		10 μg/L	10/24/05	10/28/05
Client ID:	TPH Purgeable	1,900		500 μg/L	10/24/05	10/28/05
EX-4	Tertiary Butyl Alcohol (TBA)	51		50 μ <b>g/</b> L	10/24/05	10/28/05
Lab ID :	Methyl tert-butyl ether (MTBE)	11		$2.5~\mu g/L$	10/24/05	10/28/05
STR05102634-11A	Di-isopropy! Ether (DIPE)	ND	V	5.0 μ <b>g/</b> L	10/24/05	10/28/05
	Ethyl Tertiary Butyl Ether (ETBE)	ND	V	5.0 μg/L	10/24/05	10/28/05
	1,2-Dichloroethane	ND	V	5.0 μ <b>g/</b> L	10/24/05	10/28/05
	Benzene	390		2.5 μg/L	10/24/05	10/28/05
	Terriary Amyl Methyl Ether (TAME)	ND	V	5.0 μg/ <b>L</b>	10/24/05	10/28/05
	Toluene	69		2.5 µg/L	10/24/05	10/28/05
	1,2-Dibromoethane (EDB)	ND	V	20 μg/L	10/24/05	10/28/05
	Ethylbenzene	8.8		2.5 μg/L	10/24/05	10/28/05
	m,p-Xylene	54		2.5 μg/L	10/24/05	10/28/05
	o-Xylene	36		2.5 μg/L	10/24/05	10/28/05



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Reported in micrograms per liter, per client request.

V = Reporting Limits were increased due to high concentrations of target analytes.

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

Report Date





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## **VOC Sample Preservation Report**

Work Order: STR05102634

Project: 2007-0057-01/ USA 57

Alpha's Sample ID	Client's Sample ID	Matrix	pН
05102634-01A	S-1	Aqueous	5
05102634-02A	S-2	Aqueous	3
05102634-03A	MW-3	Aqueous	3
05102634-04A	MW-4	Aqueous	3
05102634-05A	MW-5	Aqueous	3
05102634-06A	MW-7	Aqueous	3
05102634-07A	MW-8	Aqueous	2
05102634-08A	EX-1	Aqueous	6
05102634-09A	EX-2	Aqueous	5
05102634-10A	EX-3	Aqueous	5
05102634-11A	EX-4	Aqueous	5

11/2/05

Report Date



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<b>Date:</b> 03-Nov-05	(	OC Si	ımmar	y Repoi	rt				Work Order: 05102634
Method Blank		Туре: М	BLK T	est Code: E	PA Met	hod SW8	015B/DHS	LUFT Ma	nual
File ID: 05102810.D			В	atch ID: MS	08W10:	28B	Analy	sis Date:	10/28/2005 13:25
Sample ID: MBLK MS08W1028B	Units : µg/L		Run ID: M	SD_08_051	028A		Prep	Date:	10/28/2005
Analyte	Result	PQL	SpkVai	SpkRefVal	%REC	LowLimit	HighLimit	RPDRef\	al %RPD(Limit) Qual
TPH Purgeable	ND	50							
Surr: 1,2-Dichloroethane-d4	9.75		10		98	76	127		
Surr: Toluene-d8	10.7		10		107	84	113		
Surr: 4-Bromofluorobenzene	9.98		10		99.8	79	119		
Laboratory Control Spike		Type: Lo	CS T	est Code: E	PA Met	hod SW80			
File ID: <b>05102808.D</b>			В	atch ID: MS	08W102	28B	•		10/28/2005 12:39
Sample ID: GLCS MS08W1028B	Units : μg/L		Run ID: M	SD_08_051	028A		Prep I	Date:	10/28/2005
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefV	al %RPD(Limit) Qual
TPH Purgeable	399	50	400		99.7	78	127		
Surr: 1,2-Dichloroethane-d4	9.78		10		98	76	127		
Surr: Toluene-d8	10.1		10		101	84	113		
Surr: 4-Bromofluorobenzene	9.57		10		96	79	119		
Sample Matrix Spike		Type: M	S Te	est Code: E	PA Met	hod SW8(	)15B/DHS	LUFT Ma	nual
File ID: <b>05102813.D</b>			Ва	atch ID: MS	08W102	28B	Analys	sis Date:	10/28/2005 14:33
Sample ID: 05102630-01AGS	Units : µg/L		Run ID: MS	SD_08_051	028A		Prep I	Date:	10/28/2005
Analyte	Result	PQL				LowLimit	•		al %RPD(Limit) Qual
TPH Purgeable	2270	250	2000	71.89	110	70	139		
Surr: 1,2-Dichloroethane-d4	48.2		50		96	76	127		
Surr: Toluene-d8	51.1		50		102	84	113		
Surr: 4-Bromofluorobenzene	48.6		50		97	79	119		
Sample Matrix Spike Duplicate		Type: M	SD T	est Code: El	PA Met	hod SW80	15B/DHS	LUFT Ma	nual
File ID: 05102814.D			Ва	atch ID: MS	08W102	28B	Analys	sis Date:	10/28/2005 14:56
Sample ID: 05102630-01AGSD	Units : µg/L		Run ID: MS	SD_08_0510	028A		Prep [	Date:	10/28/2005
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefV	al %RPD(Limit) Qual
TPH Purgeable	2250	250	2000	71.89	-	70	139	2275	1.2(12)
Surr: 1,2-Dichloroethane-d4	47.4		50		95	76	127	•	
Surr: Toluene-d8	51.1		50		102	84	113		
Surr: 4-Bromofluorobenzene	48.8		50		98	79	119		

#### 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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<b>Date:</b> 03-Nov-05		OC S	ummar	y Repoi	rt				<b>Work Order:</b> 05102634
Method Blank File ID: 05102810.D		Type: N		est Code: E				sis Date:	10/28/2005 13:25
Sample ID: MBLK MS08W1028A	Units : µg/L		Run ID: M	SD_08_051	028A		Prep		10/28/2005
Analyte	Result	PQL				LowLimi	t HighLimit	RPDRef	/al %RPD(Limit) Qual
Tertiary Butyl Alcohol (TBA)	ND	10	)						
Methyl tert-butyl ether (MTBE)	ND	0.5							
Di-isopropyl Ether (DIPE) Ethyl Tertiary Butyl Ether (ETBE)	ND ND	-							
1,2-Dichloroethane	ND	-							
Benzene	ND	0.5							
Tertiary Amyl Methyl Ether (TAME)	ND	1							
Toluene	ND	0.5							
1,2-Dibromoethane (EDB) Ethylbenzene	ND ND	0.5							
m,p-Xylene	ND	0.5							
o-Xylene	ND	0.5							
Surr: 1,2-Dichloroethane-d4	9.75		10		98	76	127		
Surr: Toluene-d8	10.7		10		107	84	113		
Surr: 4-Bromofluorobenzene	9.98		10		99.8	79	119		
Laboratory Control Spike		Type: L	cs T	est Code: El	PA Met	thod SW8	260B		
File ID: <b>05102807.D</b>			В	atch ID: MS(	)8W10	28A	Analy	sis Date:	10/28/2005 12:16
Sample ID: LCS MS08W1028A	Units : µg/L		Run ID: M	SD_08_0510	028A		Prep	Date:	10/28/2005
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRef\	/al %RPD(Limit) Qual
Benzene	11	0.5	10		110	81	122		
Toluene	11.5	0.5			115	80	120		
Ethylbenzene m,p-Xylene	11.9	0.5			119	80	120		
o-Xylene	11.8 11.9	0.5 0.5			118 119	80 80	129 129		
Surr: 1,2-Dichloroethane-d4	10.3	0.0	10		103	76	127		
Surr: Toluene-d8	10.4		10		104	84	113		
Surr: 4-Bromofluorobenzene	9.08		10		91	79	119		
Sample Matrix Spike		Type: N	IS To	est Code: El	PA Met	hod SW8	260B		
File ID: <b>05102811.D</b>			Ba	atch ID: MS0	8W102	28A	Analy	sis Date:	10/28/2005 13:48
Sample ID: 05102630-01AMS	Units : µg/L		Run ID: MS	SD_08_0510	)28A		Prep I	Date:	10/28/2005
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LowLimit	HighLimit	RPDRefV	/al %RPD(Limit) Qual
Benzene	46.1	1.3	50	0	92	74	125		
Toluene	75.6	1.3		28.88	94	76	120		
Ethylbenzene m,p-Xylene	50.5 50.5	1.3 1.3		0.69	101 99.6	77 73	124 130		
o-Xylene	51.5	1.3		0.09	103	74	131		
Surr: 1,2-Dichloroethane-d4	48.4		50	·	97	76	127		
Surr: Toluene-d8	52.1		50		104	84	113		
Surr: 4-Bromofluorobenzene	45.3		50		91	79	119	·	<del> </del>
Sample Matrix Spike Duplicate		Туре: М	ISD Te	est Code: EF	A Met	hod SW82	260B		
File ID: 05102812.D			Ba	atch ID: MS0	8W102	28A	Analys	sis Date:	10/28/2005 14:11
Sample ID: 05102630-01AMSD	Units : μg/L		Run ID: MS	SD_08_0510	28A		Prep [		10/28/2005
Analyte	Result	PQL				LowLimit	HighLimit		al %RPD(Limit) Qual
Benzene	49.3	1.3		0	99	74	124	46.13	
Toluene	80.2	1.3		28.88		76	119	75.63	
Ethylbenzene	53.6	1.3	50	0	107	77	124	50.46	6.1(13)
m,p-Xylene o-Xylene	53.5	1.3		0.69	106	73 74	130	50.51	
Surr: 1,2-Dichloroethane-d4	53.8 49.8	1.3	50 50	0	108 99.7	74 76	131 127	51.46	4.5(13)
Surr: Toluene-d8	51.8		50		104	84	113		
Surr: 4-Bromofluorobenzene	45.9		50		92	79	119		



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**Date:** 03-Nov-05

**OC Summary Report** 

Work Order: 05102634

#### 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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<b>Date:</b> 03-Nov-05			Work Order: 05102634					
Method Blank File ID: C:\HPCHEM\MS11\DATA\051027\051 Sample ID: MBLK-13404 Analyte	Units : µg/L	Type: M	Bun ID: M	est Code: E atch ID: 134 SD_11_051	04 027 <b>A</b>		Analysis Date Prep Date:	: 10/27/2005 10:12 10/27/2005
Methanol Ethanol Surr. Hexafluoro-2-propanol	Result ND ND 483	PQL 5000 5000	· · · · · · · · · · · · · · · · · · ·	Spкнегva:	%H±C	63	t HighLimit RPDRe	fVal %RPD(Limit) Qual
Laboratory Control Spike File ID: C:\HPCHEM\MS11\DATA\051027\051 Sample ID: LCS-13404 Analyte	02704.D Units : µg/L Result	Type: Lo	Ba Run ID: <b>M</b> :	est Code: <b>E</b> atch ID: <b>134</b> SD_11_051 SpkRefVal	04 027A		Analysis Date: Prep Date:	: 10/27/2005 10:32 10/27/2005 (Val %RPD(Limit) Qual
Methanol Ethanol Surr: Hexafluoro-2-propanol	270 252 468	50 5	250	·	108 101 94	45 51 63	155 144 137	
Sample Matrix Spike File ID: C:\HPCHEM\MS11\DATA\051027\051 Sample ID: 05102634-02AMS Analyte	02706.D Units : µg/L Result	Type: M	Ba Run ID: <b>M</b> \$	est Code: <b>E</b> atch ID: 134 SD_11_051 SpkRefVal	04 027A		Analysis Date: Prep Date:	10/27/2005 11:12 10/27/2005 Val %RPD(Limit) Qual
Methanol Ethanol Surr: Hexafluoro-2-propanol	292 266 469	50 5	250 250 500	0	117 106 94	45 50 63	163 149 137	
Sample Matrix Spike Duplicate File ID: C:\HPCHEM\MS11\DATA\051027\051 Sample ID: 05102634-02AMSD Analyte	02707.D Units : µg/L Result	Type: M	Ba Run ID: MS	est Code: Ei atch ID: 134 SD_11_0510 SpkRefVal	04 027A		Analysis Date: Prep Date:	10/27/2005 11:33 10/27/2005 Val %RPD(Limit) Qual
Methanol Ethanol Surr: Hexafluoro-2-propanol	274 268 471	50 5	250 250 500	0		45 50 63	163 291 149 265. 137	6 6.3(22)

#### 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: 11/3/2005

Date of Notice: 10/26/2005 4:02:12

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-	57	
Project Manager: Gowri Kowtha	Client's EMail: gkowti Client's Phone: (530)	_	c.net Client's FAX: <b>(530) 676-6005</b>
Work Order Number: STR05102634	Date Received: 10/26/		Received by: Graciela Navarrete
Chair	of Custody (COC) Int	formation	
Carrier name: FedEx			
Chain of custody present ?	Yes 🗹	☐ No	
Custody seals intact on shippping 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)
<u>s</u>	ample Receipt Inform	ation .	
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 Prese	rvation and Hold Time	(HT) Informa	tion
All samples received within holding time?	Yes 🗹	☐ No	Cooler Temperature
Container/Temp Blank temperature in compliance (0-6°C)?	Yes 🗹	☐ No	<b>4°</b> 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 🗹
Analy	tical Requirement Info	rmation	
Are non-Standard or Modified methods requested?	Yes 🗌	<b>✓</b> No	
Are there client specific Project requirements?	Yes 🗌	<b>✓</b> No	If YES : see the Chain of Custody (COC)
Comments :	1800 T. 180 T		

## CHAIN-OF-CUSTODY RECORD

Page: 1 of 2

Alpha Analytical, Inc.

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

WorkOrder: STR05102634

Report Due By: 5:00 PM On: 03-Nov-05

Client:

Stratus Environmental 3330 Cameron Park Drive

Suite 550

STR05102634-02A S-2

Cameron Park, CA 95682-8861

Report Attention : CC Report:

Gowri Kowtha Steve Carter

Gowri Kowtha

(530) 676-6001 (530) 676-6005

EMail: gkowtha@stratusinc.net

6

Steve Carter

TEL: (530) 676-6008 FAX: (530) 676-6005

Client's COC #: none

GAS-C

BTEX

EDB C

**Print Name** 

EMail: scarter@stratusinc.net

EDD Required: Yes

Sampled by: Vince Zalutka

2007-0057-01/ USA 57

Cooler Temp: 4°C

Date Printed: 26-Oct-05

QC Level: S3

= Final Rpt, MBLK, LCS, MS/MSD With Surrogates

10/24/05

Requested Tests Alpha Client Collection No. of Bottles ALCOHOL TPH/P W VOC W Sample ID Sample ID Matrix Date ORG SUB TAT PWS# Sample Remarks STR05102634-01A S-1 10/24/05 6 MeOH / GAS-C BTEX 09:44 EtOH 5OXY 1,2-DCA/ EDB C

MeOH /

14:20 **EtOH** 50XY: 1,2-DCA. EDB C STR05102634-03A MW-3 AQ 10/24/05 5 6 MeOH / GAS-C BTEX 08:27 **EtOH** 50XY/1,2-DCA-EDB C STR05102634-04A MW-4 10/24/05

5

PO:

5 MeOH / GAS-C BTEX/ 10:50 E<sub>1</sub>OH 50XY/1,2-DCA'EDB C STR05102634-05A MW-5 10/24/05 MeOH / GAS-C BTEX 14.31 **EtOH** 50XY/1,2-DČA/

EDB C STR05102634-06A MW-7 10/24/05 MeOH / BTEX 12:46 E<sub>1</sub>OH 50XY-1.2-DCA'

Comments:

Logged in by:

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

Signature

Company

Alpha Analytical, Inc. //

Date/Time

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	3

## CHAIN-OF-CUSTODY RECORD

Page: 2 of 2

## Alpha Analytical, Inc.

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

Report Due By: 5:00 PM

On: 03-Nov-05

Client:

Stratus Environmental 3330 Cameron Park Drive

Suite 550

Cameron Park, CA 95682-8861

CC Report :

Steve Carter

Report Attention: Gowri Kowtha

Job : PO:

TEL: (530) 676-6001

FAX: (530) 676-6005

EMail: gkowtha@stratusinc.net

2007-0057-01/ USA 57

Gowri Kowtha

EMail: scarter@stratusinc.net

TEL: (530) 676-6008

FAX: (530) 676-6005

Client's COC #: none

Steve Carter

EDD Required : Yes

Sampled by: Vince Zalutka

Cooler Temp:

WorkOrder: STR05102634

Date Printed: 26-Oct-05

QC Level: S3

= Final Rpt, MBLK, LCS, MS/MSD With Surrogates

lipha	Client	Collection	No of	i B-44		ļ	<del></del>	Reques	ted Tests		
	Sample ID	Matrix Date	ORG	SUB TA	T PWS#	ALCOHOL_	TPH/P_W	VOC_W			
STR05102634-07A	MVV-8	AQ 10/24/05 09:58	5	0 6		MeOH / EtOH	GAS-C	BTEX/ 5OXY/ 1,2-			Sample Remarks
STR05102634-08A	EX-1	AQ 10/24/05 11:04	5	0 6		MeOH / EtOH	GAS-C	DCA/ EDB_C BTEX/ 5OXY(1,2-		· · · · · · · · · · · · · · · · · · ·	
TR05102634-09A	EX-2	AQ 10/24/05 08:10	5	0 6		MeOH / EtOH	GAS-C	DCA/ EDB_C BTEX/ 5OXY/1,2-			
TR05102634-10A	EX-3	AQ 10/24/05 13:56	5	0 6		MeOH / EtOH	GAS-C	DCA/ EDB_C BTEX/ 50XY/1.2-	İ		
TR05102634-11A	EX-4	AQ 10/24/05 14:07	5	0 6		MeOH / EtOH	GAS-C	DCA/ EDB_C BTEX/			
	· ·			<b></b>		: 1	<del></del>	SOXY/ 1,2- DCA/ EDB_C	ļ	<u> </u> 	

Comments:

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

Signature Logged in by:

**Print Name** 

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		Stratus E	Environmental		Global ID:	T0600101808					—						
Addre		3330 Came	eron Park Driv	e	EDF:						Nna Nna	lytica			,		
Cily, State, Z		Cameron	Park, CA 9566	7	Project #	2007-0057-01			-	13	•		7		Al, or Analy	ical, Inc.	
Fax: 530-6	676-6005	Phone:	530-676-6	5001	Email:				$\dashv$	/₹/			\ <u>``</u> [		250 - 3 and <b>ale ∆v</b> ei	1.J- <del>3</del>	
	<del></del>				Report Attention	on: Gowri / Steve	···		┪	$ \mathbf{I} $			]]]		Stille 1.1		
Clies			SA 57		Sampled By:	Vince Zalutka	<del></del>		┪	(3)	1		\$		Sparks, NV 89431		
Addres			lcArthur Blvd.						1	/	ronm	ental	/		(775) 355-1044		
City, State, Zi	ip:	Oak	land, CA						_  _ Page	.# 4	l of				(775) <b>35</b> 5-0406 Fa	X.	
		T -							, uge			s Requ	ested		1		
ne Date pled Sampled	Matrix	Lab ID (For Lat	a Line ONII VI					TAT (Working	TPH-G	BTEX	1,2-DCA	EDB			CA Le	forz	
		05/026	24 - (1	-	Sample Descri	ption	Containers	Days)	直	BTEX	1 2	BG 4		[ ]			
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