2002 1st QUARTER GROUNDWATER MONITORING REPORT

FOR

FORMER ANGELES CHEMICAL COMPANY FACILITY 8915 SORENSEN AVENUE SANTA FE SPRINGS, CALIFORNIA

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1.0) INTRODUCTION

Blakely Environmental Investigations, Inc. (BEII) was contracted by Greve Financial Services ((310) 753-5770) to perform quarterly groundwater monitoring at the former Angeles Chemical Company, Inc. facility located at 8915 Sorensen Avenue, Santa Fe Springs, California (See Figure 1, Site Location Map). The quarterly groundwater monitoring was requested by the Department of Toxics Substance Control (DTSC) correspondence dated September 18, 2001.

2.0) SITE LOCATION AND HISTORY

The site is approximately 1.8 acres in size and completely fenced. The site was bound to Sorensen Avenue on the east, Air Liquide Corporation to the north and northwest, Plastall Metals Corporation to the north, and a Southern Pacific Railroad easement and Mckesson Chemical Company to the south.

The property was owned by Southern Pacific Transportation Company and was not developed until 1976.

The Angeles Chemical Company has operated as a chemical repackaging facility since 1976. A total of thirty-four (34) underground storage tanks (USTs) existed beneath the site. Two (2) USTs, one gasoline and one diesel, and sixteen (16) chemical USTs were excavated and removed under the oversight of the Santa Fe Springs Fire Department. All 16 remaining chemical USTs were decommissioned in place and slurry filled.

In January 1990, SCS Engineers, Inc. (SCS) conducted a site investigation. SCS advanced eight borings from 5' below grade (bg) to 50' bg. Soil samples collected and analyzed identified benzene, 1,1-Dichloroethane (1,1-DCA), 1,1-Dichloroethene (1,1-DCE), MEK, methyl isobutyl ketone (MIBK), toluene, 1,1,1 Trichloroethane (1,1,1-TCA), Tetrachloroethylene (PCE), and xylenes at detectable concentrations.

In June 1990, SCS performed an additional site investigation at the site by advancing six additional borings advanced from 20.5' bg to 60' bg. A monitoring well (MW-1) was also installed. Soil sample analysis identified detectable concentrations of the above mentioned VOCs in addition to acetone and methylene chloride. Dissolved benzene, 1,1-DCA, 1,1-DCE, PCE, Trichloroethylene (TCE), and trans-1,2-dichloroethene were detected in MW-1 above maximum contaminant levels.

Between 1993 and 1994, SCS performed further testing at the site. Soil samples were collected from nine borings. Five borings were converted to groundwater monitoring wells MW-2, MW-3, MW-4, MW-6, and MW-7 (See Figure 2, Well Location Map). The predominant compounds detected in soil were acetone, MEK, MIBK, PCE, toluene, 1,1,1-TCA, TCE, and xylenes. Groundwater sample collection performed in

February 1994 by SCS identified the following using EPA method 624 (laboratory results included in Remedial Investigation Report dated August 1994 by SCS):

Component Analyzed	MW-1	MW-2	MW-3	MW-4	MW-6	MW-7
Benzene	194	<100	63	111	795	46
1,1-DCA	649	1,130	85	1,410	2,260	2,130
1,2-DCA	<100	<100	<50	<100	1,140	31
1,1-DCE	2,210	2,460	2,800	806	1,240	151
Ethylbenzene	333	1,720	115	1,180	1,910	45
Methylene Chloride	1,220	2,980	6,530	4,760	21,400	<50
PCE	662	2,150	5,370	3,320	2,130	134
Toluene	560	7,390	579	12,700	13,500	398
1,1,1-TCA	9,370	3,470	444	36,200	114,000	90
TCE	7,160	3,040	1,730	14,300	1,320	45
Xylenes	1,750	7,790	1,014	4,362	4,710	186
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L

In 1996, SCS performed separate soil vapor extraction pilot testing beneath the site at approximately 10' bg and 22' bg. Laboratory analysis identified maximum soil vapor gas concentrations as 1,1,1-TCA (30,300 ppmV) with detectable concentrations of 1,1-DCE, TCE, methylene chloride, toluene, PCE and xylenes. The maximum radius of influence from the various extraction units used were measured as 35 feet at 10' bg and 80 feet at 22' bg.

In November 1997, SCS performed a soil vapor survey at the site. Soil vapor samples were collected at twenty-three locations at 5' bg. In addition, soil vapor samples were collected at 15' bg in five of the twelve sampling points. The soil vapor survey identified maximum VOC contaminants near the railroad tracks on site, the location where a rail tanker reportedly had an accidental release.

In July 2000, BEII contracted BLC Surveying, Inc. to perform a site survey. Well locations were recorded using the California Plane coordinate systems. A copy of the survey is on file with the DTSC.

In September 2000, Blaine Tech Services, Inc. gauged the six on-site monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-6, and MW-7) under the supervision of BEII. Free product (FP) was identified in monitoring well MW-4 at 0.21-feet in thickness. Approximately 0.5 liters of FP were removed from the well and placed in a sealed 55-gallon drum.

BEII performed a soil vapor gas survey at the site from November 27 to December 1, 2000. A total of 36 soil vapor sample points, labeled SV1 through SV36, were selected by BEII and approved by the DTSC for analysis. Two discrete soil vapor samples were collected from each soil vapor sample point, one at 8' bg and one at 20' bg. SV1 was an exception since the first soil vapor sample was collected at 10' bg instead of

8' bg. Based on the soil vapor sample results, BEII identified relatively low level concentrations of VOCs in the silty clay soils at 8' bg. However, the concentrations of VOCs are significantly higher in the sandy soils at 20' bg in OU-1. Results were submitted to the DTSC by BEII in a Report of Findings dated January 10, 2001 with laboratory reports (BEII Report of Findings dated January 10, 2001).

On November 30, 2000, Blaine Tech Services, Inc. (Blaine) was contracted to perform groundwater sampling at the site. Groundwater monitoring wells MW-4 and MW-6 identified were not sampled due to the presence of free product. These wells were installed to monitor a perched groundwater body to the north. Free product was identified in MW-1 during sample collection, upon completion of well purging. The potentiometric groundwater level was above the well screen. Groundwater purging lowered the potentiometric level below the screened interval, allowing free product to enter. Groundwater sample analysis identified thirteen constituents of concern (COCs) in the dissolved phase as VOCs only. Laboratory analysis of metals and SVOCs identified concentrations below allowable levels for those constituents. Results were submitted by BEII to the DTSC in a Report of Findings dated January 10, 2001 with laboratory reports.

3.0) REGIONAL GEOLOGY/HYDROGEOLOGY

The site is located near the northern boundary of the Santa Fe Springs Plain within the Los Angeles Coastal Plain at an elevation of approximately 150 feet above mean sea level. Surficial sediments consist of fluvial deposits composed of inter-bedded gravel, sand, silt, and clay. Available data from California Water Resources Bulletin No. 104 (June 1961) indicate that the surficial sediments may be Holocene and/or part of the upper Pleistocene Lakewood Formation, which ranges from 40 to 50 feet thick beneath the site. The Lakewood Formation has lateral lithologic changes with discontinuous permeable zones that vary in particle size. Stratified deposits of sand, silty sand, silt, and fine gravel comprising the upper portion of the lower Pleistocene San Pedro Formation underlies the Lakewood Formation.

The site lies within the Central Basin Pressure area, a division of the Central Ground Water Basin, which extends over most of the Coastal Plain. The Gasper aquifer, a part of the basal coarse unit of Holocene deposits, is found within old channels of the San Gabriel and other rivers. The Gasper aquifer may be 40-feet in thickness, with its base at a depth of about 80 to 100-feet bg. The underlying Gage aquifer is found within the Pleistocene Lakewood Formation. The Hollydale aquifer is the uppermost regional aquifer in the Pleistocene San Pedro Formation. Bulletin 104 indicates that this aquifer averages approximately 30-feet in thickness in this area, with its top at a depth of about 70 feet bg. The major water producing aquifers in the region are the Lynwood aquifer located approximately 200-feet bg, the Silverado aquifer located at approximately 275-feet bg, and the Sunnyside aquifer located at approximately 600-feet bg.

4.0) SITE GEOLOGY/HYDROGEOLOGY

SCS identified silty clays with some minor amounts of silt and sand in the shallow subsurface from surface grade to approximately 15' bg. Below the silty clay, poorly sorted coarse-grained sand and gravel from 15' bg to 26' bg. SCS referenced a less permeable silty clay layer between 35' and 50' bg, which contained stringers of fine sand and silt that is part of the Gaspur/Hollydale aquifer.

A perched aquifer was encountered at approximately 23' bg by SCS and referenced as such by SCS. Based on a review of McKesson files, Harding Lawson Associates (HLA) stated that in January 1975 prior to McKesson operating their neighboring facility, no groundwater was encountered to a depth of 45' bg beneath the McKesson property. In March 1986, during operation of the neighboring McKesson facility, groundwater was encountered at 22' bg beneath the McKesson property as stated by HLA. Based on the HLA statements, BEII concludes with SCS that the first encountered groundwater is part of a shallow perched aquifer. Monitoring wells MW-4 and MW-6 will be noted as perched water monitoring wells.

SCS also referenced that the Gaspur/Hollydale aquifer was encountered at 20' to 35' bg beneath the site. Further review of Bulletin 104 by BEII, identified that the SCS referenced Gaspur/Hollydale aquifer was in fact the Gage/Hollydale aquifer. Monitoring wells MW-1, MW-2, MW-3, and MW-7 will be noted as Gage/Hollydale monitoring wells.

The groundwater gradient flowed historically to the southwest as identified by SCS. In February 2002, the groundwater was identified between 26.44' bg to 37.39' bg beneath the site. Only monitoring wells (MW-1, MW-2, MW-3, and MW-7) installed in the Gage/Hollydale aquifer were used to calculate the groundwater gradient and identified a flow to the south (See Figure 3, Groundwater Gradient Map).

5.0) GROUNDWATER MONITORING PROTOCOL

The purpose of the proposed groundwater monitoring was to provide data regarding the piezometric surface, water quality, and the presence of free product (FP), if any on a quarterly basis to the DTSC. Groundwater monitoring consisted of such activities as water level measurement, well sounding for detection of FP, collection of groundwater samples, field analysis, laboratory analysis, and reporting. The proposed work was performed as follows:

The depth to groundwater was measured in each well using a decontaminated water level indicator capable of measuring to with 1/100th of a foot. Prior to and following collection of measurements from each well, the portions of the water level indicator entering groundwater were decontaminated using a 3-stage decontamination consisting of a potable wash with water containing Liquinox soap followed by a double purified water rinse. Wells were monitored in the order of least contaminated to the most

contaminated based on past analysis. For the Angeles Chemical Co. wells, the following order of wells was followed: MW-7, MW-3, MW-2, MW-1, MW-4, and MW-6.

The well box and casing were opened carefully to minimize the amount of debris or dirt falling into the open casing. Once the well cap was removed, the water level indicator was lowered into the well until a consistent tone was registered. Several soundings were repeated to verify the measured depth to groundwater. The depth of groundwater was measured from a reference point marked on the lip of each well casing. A licensed surveyor has surveyed the elevation of each reference point. The result was recorded on the field sampling log for each well. Other relevant information such as physical condition of the well, presence of hydrocarbon odors, etc. was also recorded as appropriate on the field sampling log.

The well sounder used for this project was equipped to measure FP layers thicker than 0.1 inches. FP was indicated as light non-aqueous phase liquid (LNAPL) or dense non-aqueous phase liquid (DNAPL).

Groundwater purging was conducted immediately following the collection of a groundwater depth measurement from all monitoring wells. Groundwater samples were analyzed for the following constituents:

- Volatile organic compounds (VOCs) using EPA Method 8260B to include all Tentatively Identified Compounds (TICs).
- Title 22 (CAM 17 heavy metals) metals using EPA Method 7000 series.

5.1) Well Purging and Measurement of Field Parameters

Wells were purged in the following order MW-7, MW-3, MW-2, and MW-1 to minimize the potential for cross contamination. The wells were purged by Blaine Tech Services, Inc (Blaine) and sampled by BEII on February 15, 2002 in the presence of Mr. Harlan Jeche of the DTSC. The purge protocol was presented in the Field Sampling Plan as Appendix A in the Groundwater Monitoring Work Plan dated October 23, 2001 and submitted to the DTSC.

Prior to purging, casing volumes was calculated based on total well depth, standing water level, and casing diameter. One casing volume was calculated as:

$$V = \pi(d/2)^2 h \times 7.48$$

where:

V is the volume of one well casing of water (in gallons, 1 ft^3 = 7.48 gallon);
d is the inner diameter of the well casing (in feet); and
h is the total depth of water in the well - the depth to water level (in feet).

A minimum of three casing volumes of water was purged from each well. Water was collected into a measured bucket to record the purge volume. All purged groundwater was containerized in 55-gallon hazardous waste drum for disposal at a later date.

After each well casing volume was purged; water temperature, pH, specific conductance (EC), and turbidity were measured using field test meters and the measurements were recorded on Well Monitoring Data Sheets (See Appendix A). Samples were collected after these parameters have stabilized; indicating that representative formation water has entered the well. The temperature, pH, and specific conductance should not vary by more than 10 percent from reading to reading. Turbidity should be less then 5 NTUs, however, the purging process stirred up silty material in each well which made the turbidity measurements of 5 NTUs unattainable. Groundwater samples were collected after water levels recharged to 80 percent of the static water column. Notations of water quality including color, clarity, odors, sediment, etc. were also noted in the data sheets.

All field meters were calibrated according to manufacturers' guidelines and specifications before and after each day of field use. Field meter probes were decontaminated before and after use at each well. The pH, conductivity, and temperature were measured with a Myron-L Ultra Meter and turbidity was measured with a HF Scientific DRT-15C meter. The calibration standards used for pH were 4 and 7 with expiration dates of June 2002. Conductivity was calibrated to a 3900 μs standard with an expiration date of July 2002. A 0.02 NTU standard was used to calibrate the turbidity with an expiration date of July 2002.

5.2) Well Sampling

Groundwater samples were collected by lowering a separate disposable bailer into each well. Groundwater was transferred from the bailer directly into the appropriate sample containers with preservative, if required, chilled, and processed for shipment to the laboratory. When transferring samples, care was taken not to touch the bailer-emptying device to the sample containers. Water samples were transported to Southland Technical Services, Inc., a certified laboratory by the California Department of Health Services (Cert. #1986) to perform the requested analysis.

Groundwater samples were collected from monitoring wells MW-7, MW-3, MW-2, and MW-1 only. Monitoring wells MW-1, MW-4, and MW-6 identified FP as LNAPL at a thickness of 0.01', 0.04' and 0.94', respectively.

Vials for VOC analysis were filled first to minimize aeration of groundwater collected in the bailer. The laboratory provided vials containing

sufficient HCl preservative to lower the pH to less than 2. The vials were filled directly from the bottom-emptying device. The vial was capped with a cap containing a Teflon septum. The vial was inverted and tapped to check for bubbles to insure zero headspace.

Groundwater sample collection for dissolved metals followed. The laboratory provided 500-mL poly containers containing sufficient HNO_3 preservative. The containers were filled directly from the bottom-emptying device.

New nitrile gloves were worn during by sampling personnel for each well to prevent cross contamination of the samples. A solvent free label was affixed to each sample container/vial denoting the well identification, date and time of sampling, and an identifying code to distinguish each individual bottle.

5.3) Sample Handling

VOA vials and 500-mL poly containers, including laboratory trip blanks and rinse blanks, were placed inside of one new Ziplock bag per well and stored in a cooler chilled to approximately 4°C with bagged ice. Water samples were logged on the chain-of-custody forms immediately following sampling of each well to insure proper tracking through analysis to the laboratory.

5.4) Waste Management

FP, purged groundwater, and decontamination water were stored in sealed 55-gallon drums for a period not exceeding 90 days. Stored wastes will be profiled for hazardous constituents and characterized as Non-Hazardous, California Hazardous, or RCRA Hazardous, as appropriate. Any transportation of waste will be under appropriate manifest.

6.0) GROUNDWATER SAMPLE RESULTS

Monitoring wells MW-1, MW-4, and MW-6 identified FP as LNAPL at a thickness of 0.01', 0.04' and 0.94', respectively. A ½-gallon of FP was recovered from MW-6 on February 15, 2002. Monitoring well MW-4 contained such a small amount of fluid within the well that a bailer was unable to retrieve any liquid. Groundwater was collected from monitoring well MW-1 since it contained only a sheen of FP.

Groundwater sample results from the Gage/Hollydale aquifer identified relatively low VOC concentrations to the north end of the site and relatively high VOC concentrations to the south end of the site along the McKesson property (See Table 1).

Dissolved BTEX concentrations were identified as 1,767.6 µg/L in MW-7 located along the northern boundary of the property. On the south side of the property, dissolved

BTEX concentrations ranged from 9,746 μg/L to 359 μg/L in monitoring wells MW-1 through MW-3 (See Figure 4, Dissolved BTEX Concentrations). Most of the dissolved BTEX concentrations from all Gage/Hollydale monitoring wells consisted of toluene and xylene as 84-89% of the total BTEX, with the exception of MW-2 which identified mostly benzene and ethylbenzene as 89% of the total BTEX. However, monitoring well MW-2 contained the least amount of total dissolved BTEX at 359 μg/L.

Concentrations of dissolved PCE and TCE were identified as 8.2 μg/L and 6.8 μg/L, respectively, in MW-7 located along the northern boundary of the property. Dissolved PCE concentrations ranged from 302 μg/L to 3.3 μg/L in monitoring wells MW-1 through MW-3 along the southern boundary of the property (See Figure 5, Dissolved PCE Concentrations). Dissolved TCE concentrations ranged from 260 μg/L to 2.5 μg/L in monitoring wells MW-1 through MW-3 (See Figure 6, Dissolved TCE Concentrations). Again, dissolved VOC concentrations were detected at higher levels along the south side of the property.

No detectable concentrations of 1,1,1 TCA (<125 μg/L to <10 μg/L) were identified in the Gage/Hollydale monitoring wells. No significant concentrations of parent VOC concentrations (PCE, TCE, or 1,1,1 TCA) were identified beneath the former Angeles Chemical site.

Concentrations of dissolved chlorinated VOC daughter products were relatively elevated compared to their respective parent VOCs and also show a trend of higher dissolved concentrations along the southern boundary of the property.

1,1 DCA is a daughter product from reductive dehalogenation of 1,1,1-TCA and from carbon-carbon double bond reduction of 1,1 DCE, another daughter product. Dissolved 1,1 DCA was identified at a concentration of 5,490 μg/L in MW-7, which is located along the north side of the property. Concentrations of dissolved 1,1 DCA along the southern side of the property were identified as 20,600 μg/L in MW-1, 2,310 μg/L in MW-2, and 1,350 μg/L in MW-3 (See Figure 7 for Dissolved 1,1 DCA Concentrations).

Dissolved 1,1 DCE, a daughter product of the dehydrohalogenation of 1,1,1 TCA and reductive dehalogenation of TCE, was identified at a concentration of 778 μg/L in MW-7. Dissolved 1,1 DCE was identified in wells MW-1 through MW-3 at concentrations of 4,050 μg/L to 1,480 μg/L (See Figure 8 for Dissolved 1,1 DCE Concentrations). Concentrations of dissolved 1,1 DCE were 2 to 5 times greater along the southern side of the property compared to the northern side.

Cis-1,2 DCE is also a daughter product of the dehydrohalogenation of 1,1,1 TCA and reductive dehalogenation of TCE. Concentrations of dissolved cis-1,2 DCE were identified along the north side of the property at 268 μg/L. The south side of the property identified dissolved cis-1,2 DCE from 29,100 μg/L to 7,960 μg/L in monitoring wells MW-1 through MW-3 (See Figure 9 for Dissolved cis-1,2 DCE Concentrations).

Dissolved cis-1,2 DCE concentrations were 29 to 108 times greater along the southern side of the property compared to the northern side.

Vinyl chloride (VC) is a by product from the dehydrohalogenation and reductive dehalogenation of the chlorinated VOC daughter products mentioned above. Dissolved VC were identified along the southern side of the property in monitoring wells MW-1 through MW-3 at concentrations from 1,060 μg/L and 197 μg/L (See Figure 10 for Dissolved VC Concentrations). Concentrations of dissolved VC were identified along the northern side of the property in MW-7 at 517 μg/L. Again, dissolved VOC concentrations were detected at higher levels along the southern side of the property (Groundwater laboratory results are included as Appendix B).

Groundwater samples were filtered by the laboratory and analyzed for dissolved metals (See Table 2 for Dissolved Metal Results). Arsenic was identified above the maximum contaminant level (MCL) of 50 μg/L, as 68 μg/L in MW-1 and 113 μg/L in MW-7. All other metals identified concentrations below their respective MCLs. The exceptions were Antimony, Cadmium, and Thallium because the method detection limits were above their respective MCLs.

7.0) CONCLUSIONS

Based on the recent groundwater sample results, BEII concludes that the site is impacted by dissolved VOCs and, to an extent, dissolved metals. Dissolved VOC concentrations were detected along the southern property boundary at up to 108 times greater than the dissolved VOC concentrations identified along the northern property boundary. Of the monitoring wells located along the south side of the property, MW-1 identified the maximum concentrations of dissolved VOCs as expected by the presence of a FP sheen. No other Gage/Hollydale monitoring wells identified FP. This data supports that soil VOC residuals from a southern source may be impacting the well. However, further groundwater monitoring is needed to determine whether this is in fact occurring. Dissolved arsenic was the only metal detected from groundwater analysis.

BEII also concludes that the recent groundwater sampling data provides preliminary support that the site has potential for intrinsic biodegradation. Groundwater parent VOC concentrations were identified at less than 125 μg/L. Daughter VOC constituents identified dissolved concentrations of up to 29,100 μg/L. However, further groundwater monitoring is needed to determine whether intrinsic biodegradation is occurring.

8.0) RECOMMENDATIONS

BEII recommends that quarterly groundwater monitoring for VOCs and dissolved

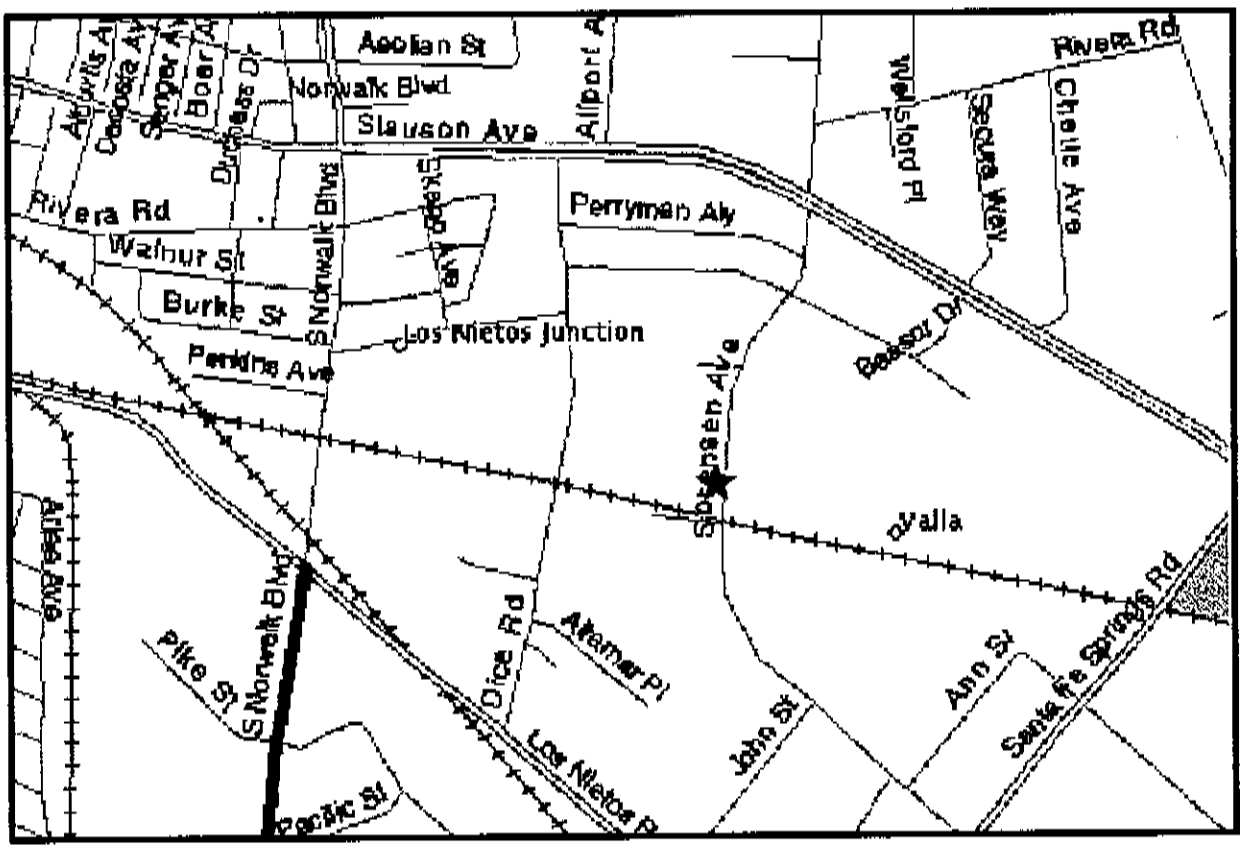
metals be continued at the former Angeles Chemical Co. property. BEII further recommends that free product removal be performed on a monthly basis to reduce its mass.

Furthermore, at the request of the DTSC, future laboratory detection limits of those chemical constituents mentioned in the DTSC letter dated February 15, 2002 will be lowered to include drinking water MCLs.

FIGURES

800-322-3022

Recycled Stock # Blakley-6-S



★ 8915 Sorensen Avenue

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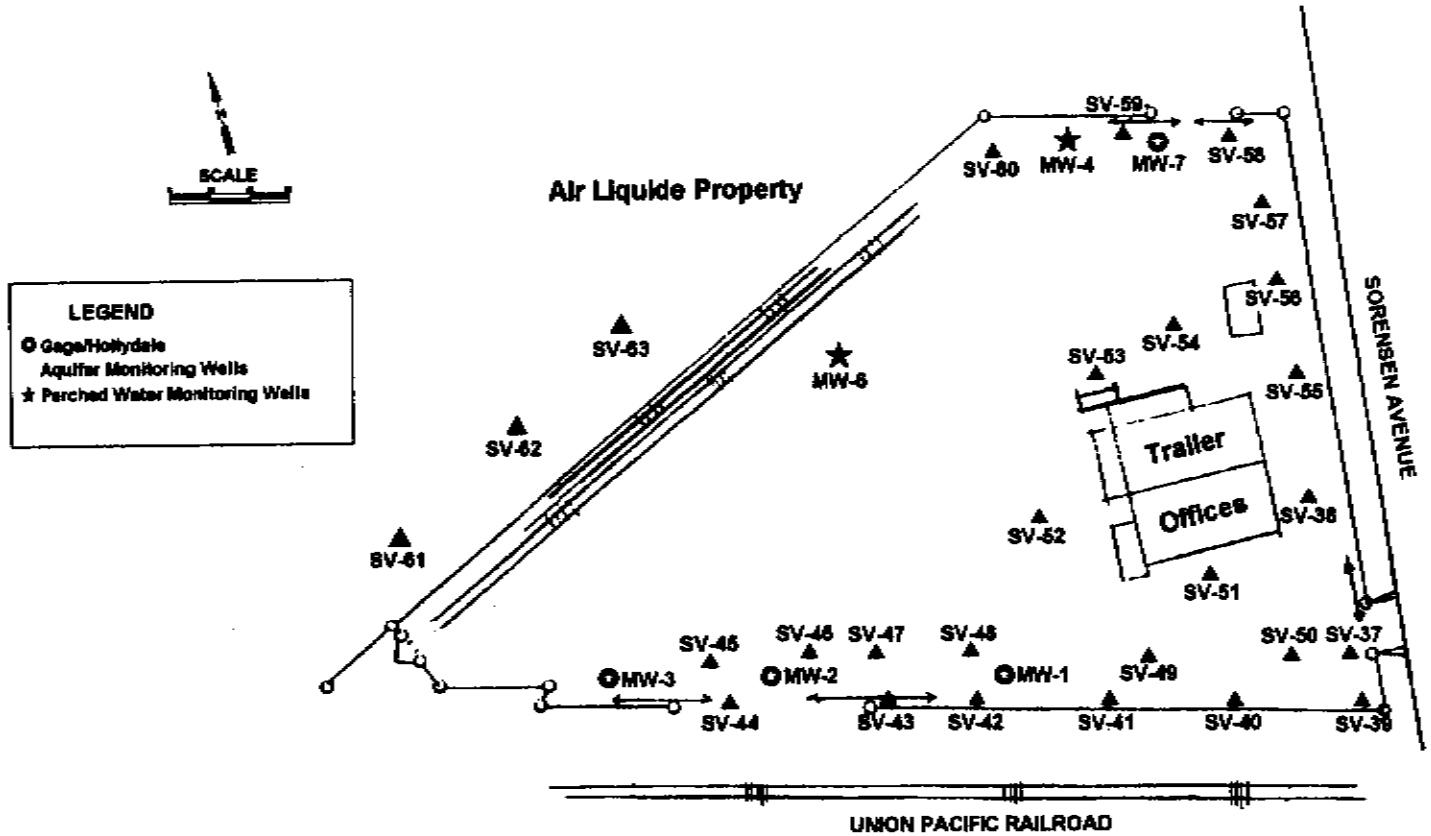
Blakely Environmental Investigations, Inc. 9605 Arrow Route, Suite "T" Rancho Cucamonga, CA 91730	**Site Location** **Former Angeles Chemical Comany** **8915 Sorensen Avenue** **Santa Fe Springs, CA**	**Figure 1**

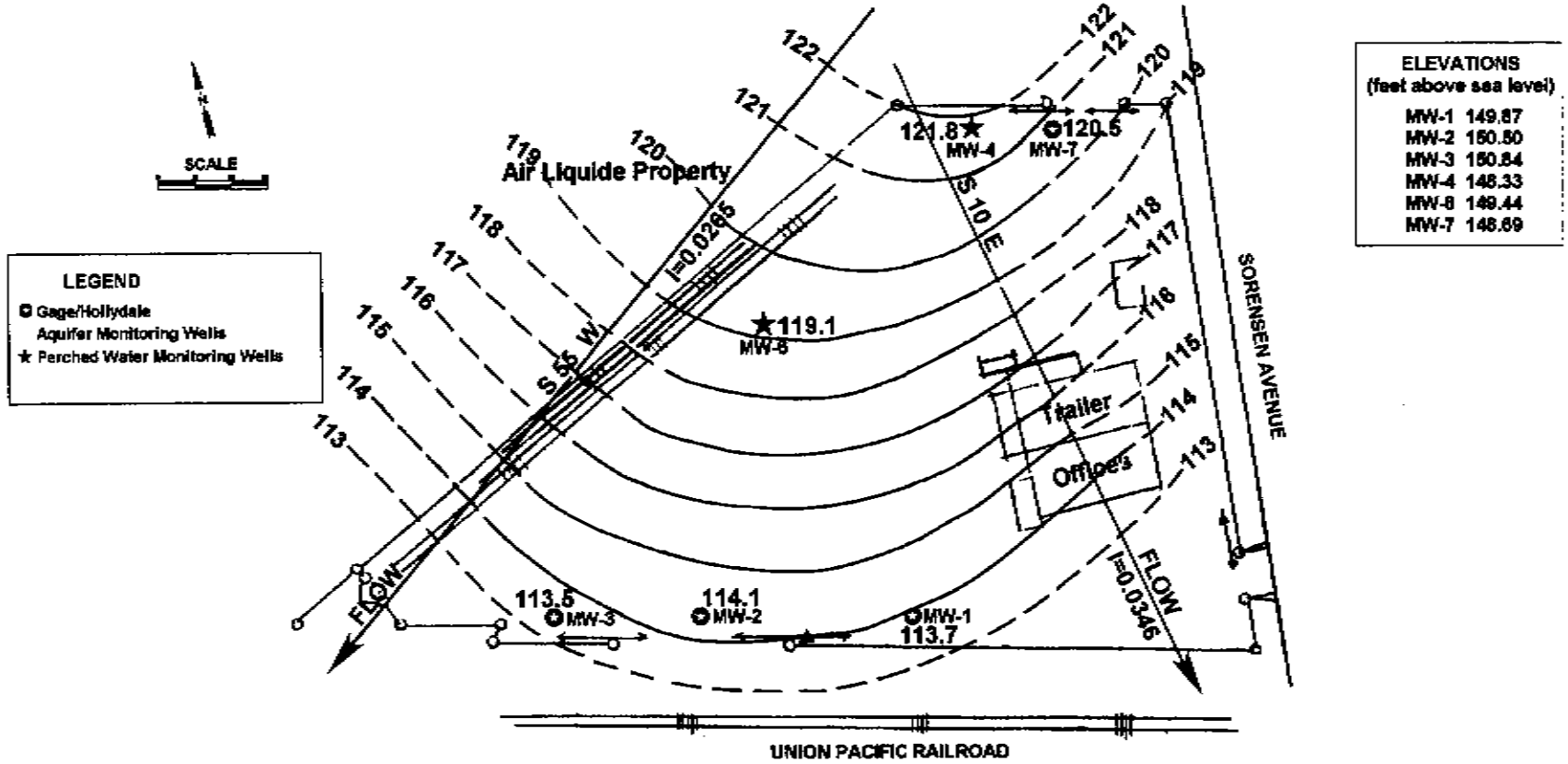
ANINS000013



Site Location Map

FIGURE 2

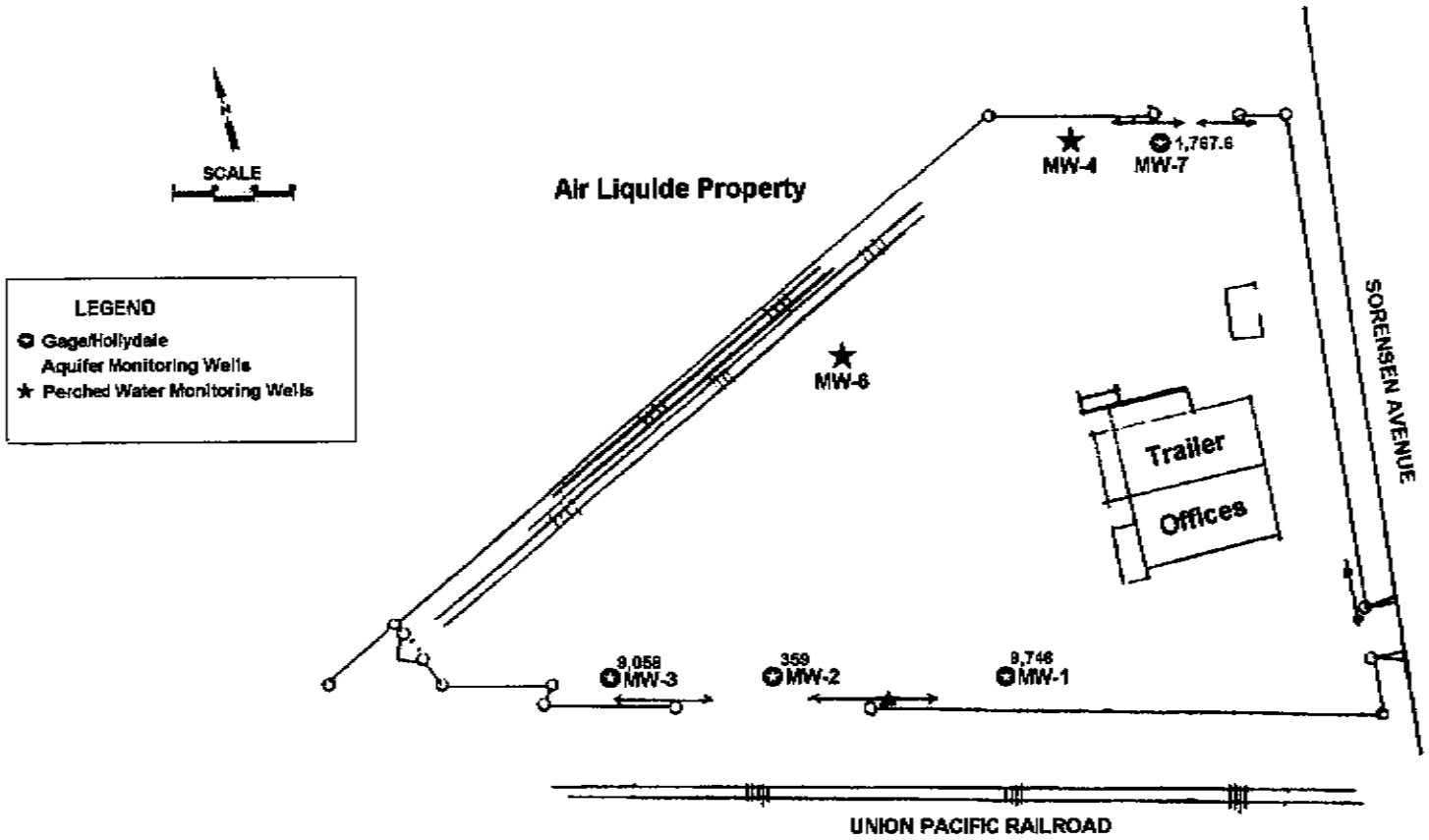
ANINS000014



Groundwater Gradient Map

FIGURE 3

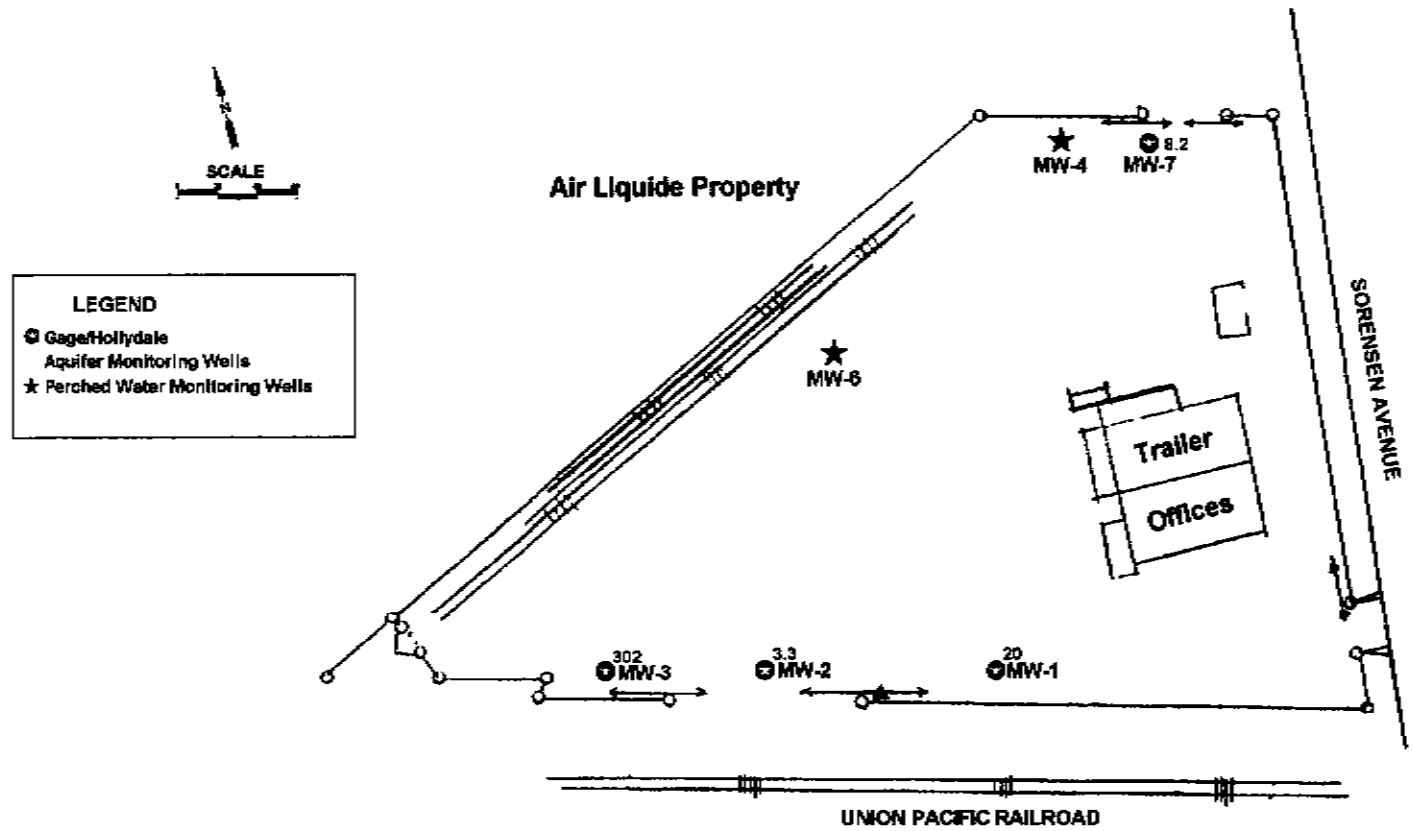
ANINS000015



Dissolved BTEX Concentrations (ug/L)

FIGURE 4

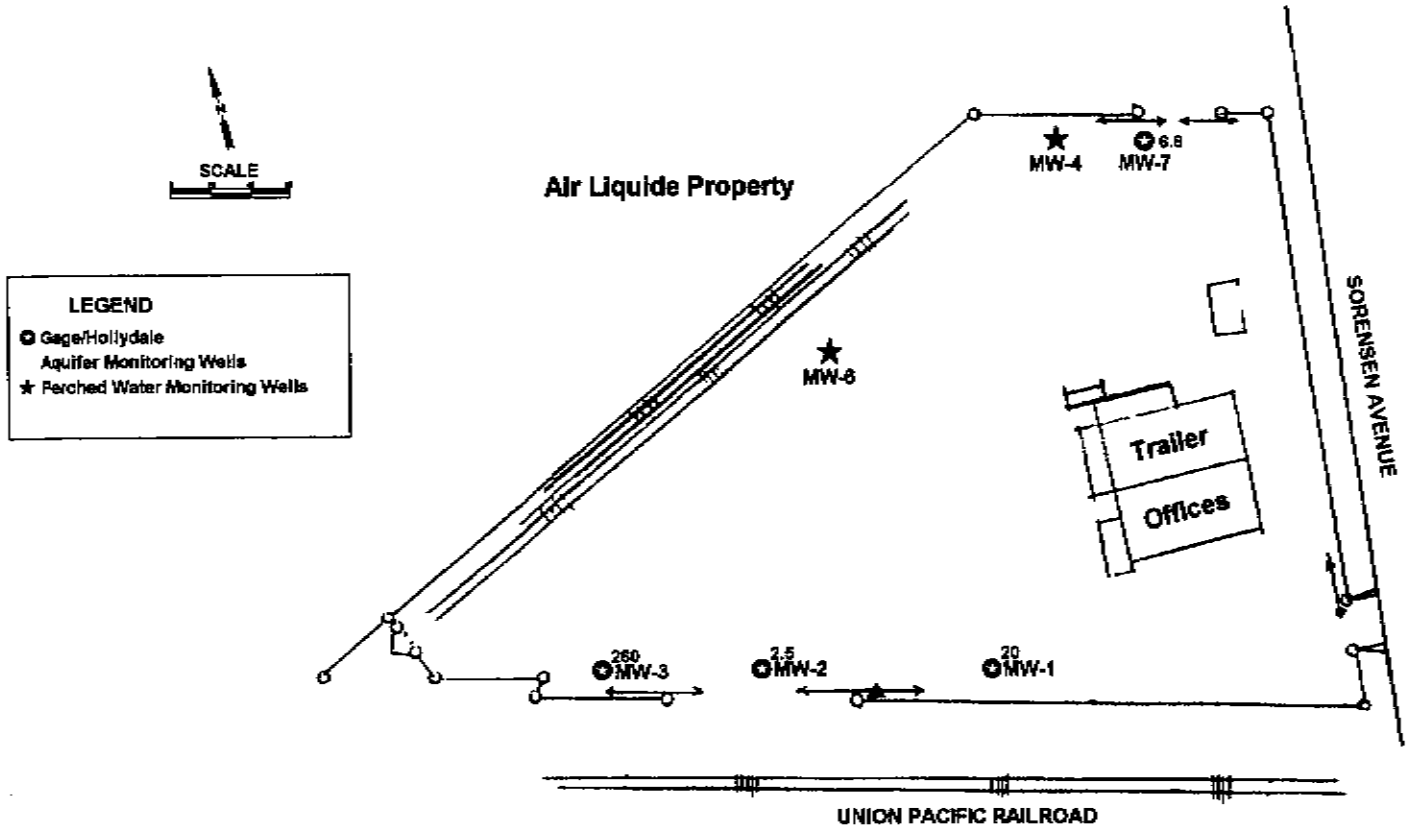
ANINS000016



Dissolved PCE Concentrations (ug/L)

FIGURE 5

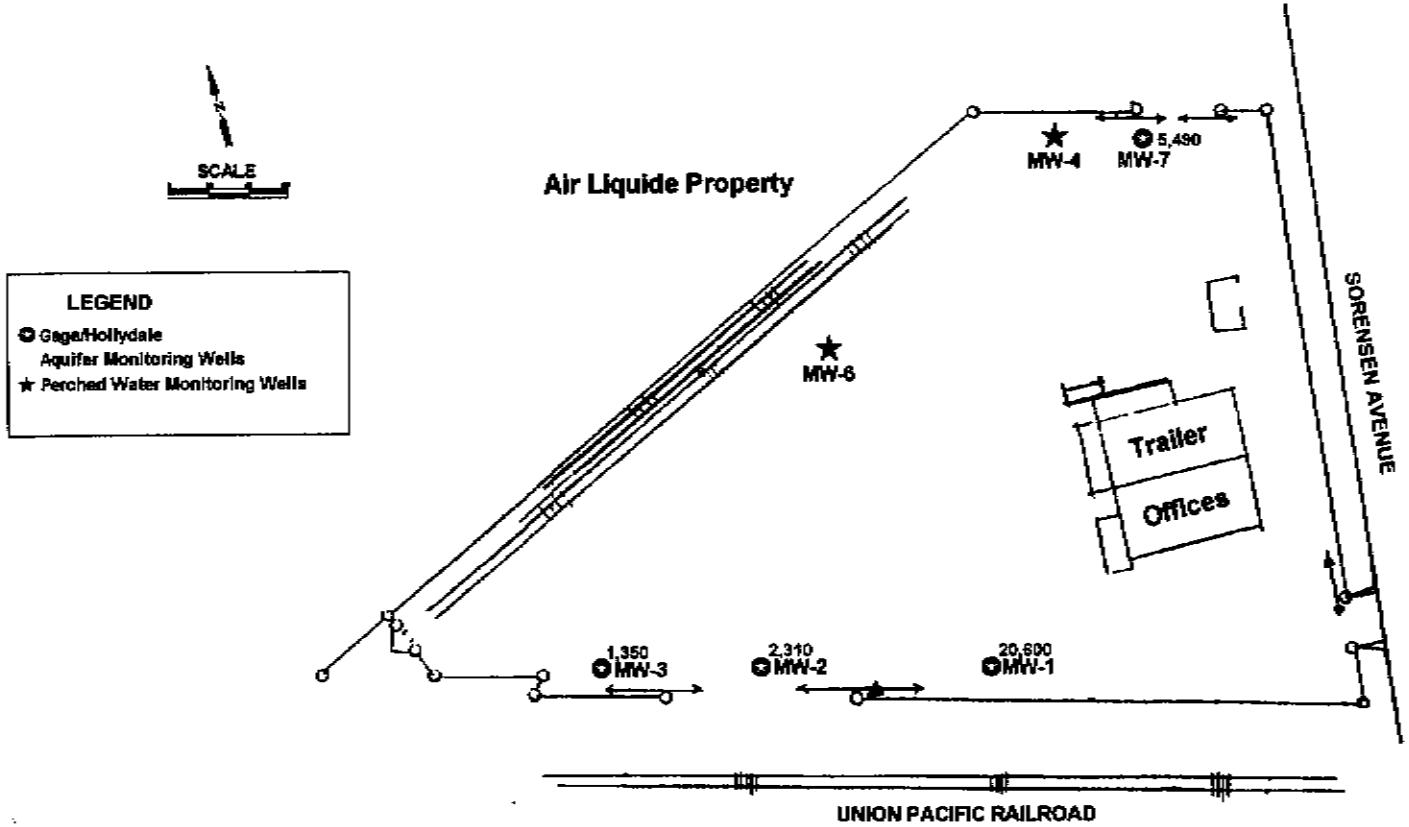
ANINS000017



Dissolved TCE Concentrations (ug/L)

6

ANINS000018



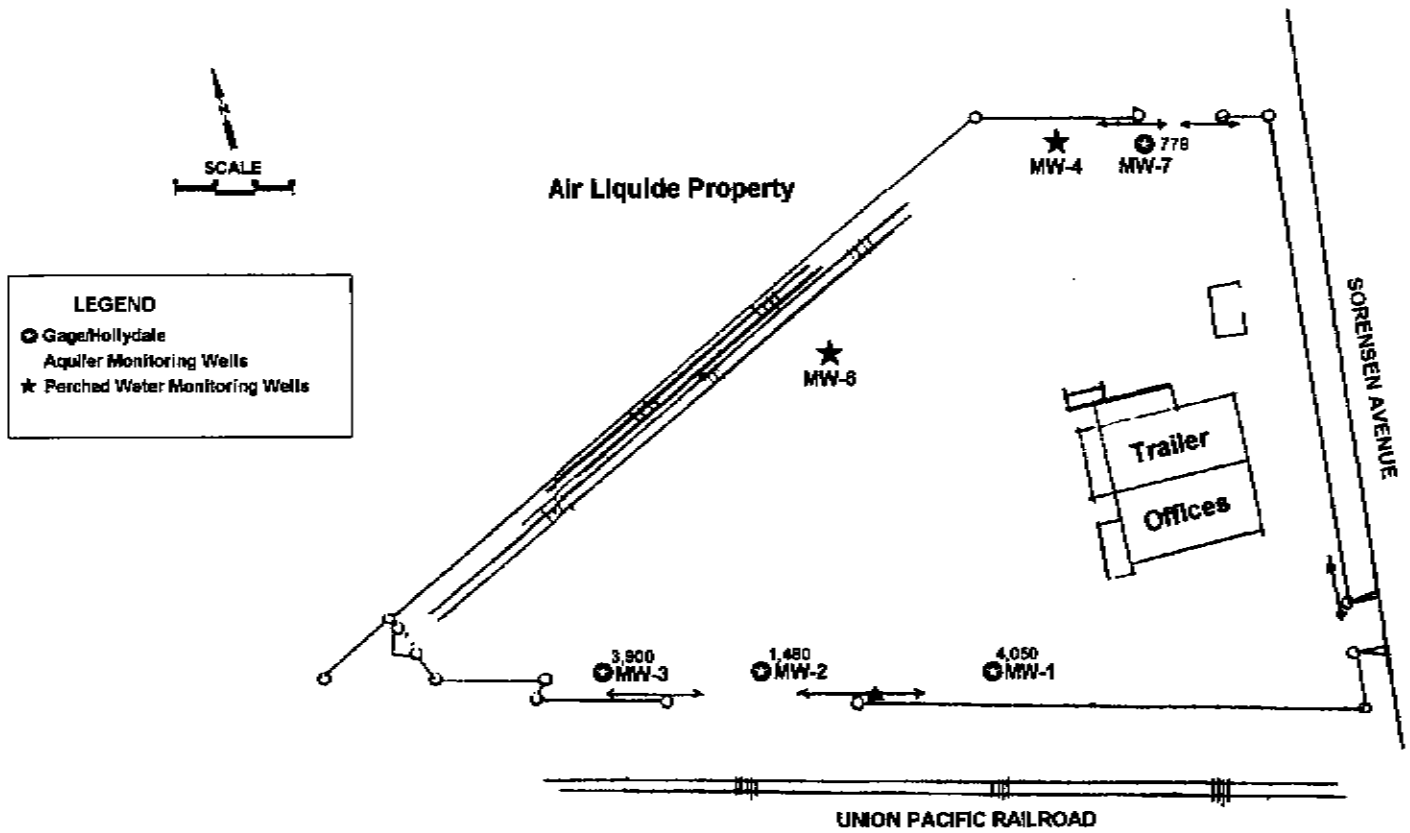
Dissolved 1,1 DCA Concentrations (ug/L)

Former Angeles Chemical Company Property
6915 Sorensen Avenue
Santa Fe Springs, CA

Mabely Environmental Investigations, Inc.
8800 Amberfield, Ste. T
Rancho Cucamonga, CA 91730

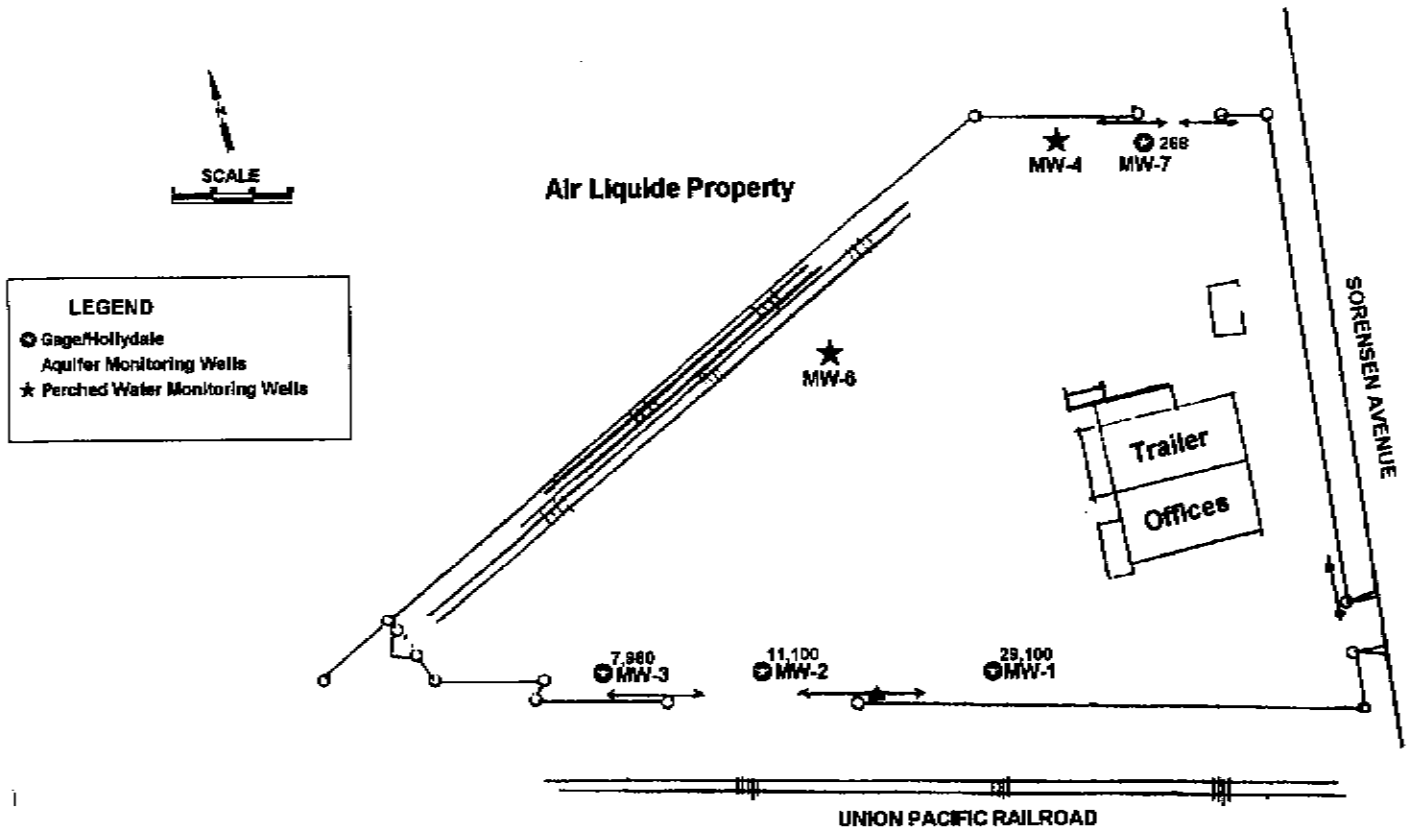
FIGURE 7

ANINS000019



Dissolved 1,1 DCE Concentrations (ug/L)	[illegible]	[illegible]	FIGURE 8

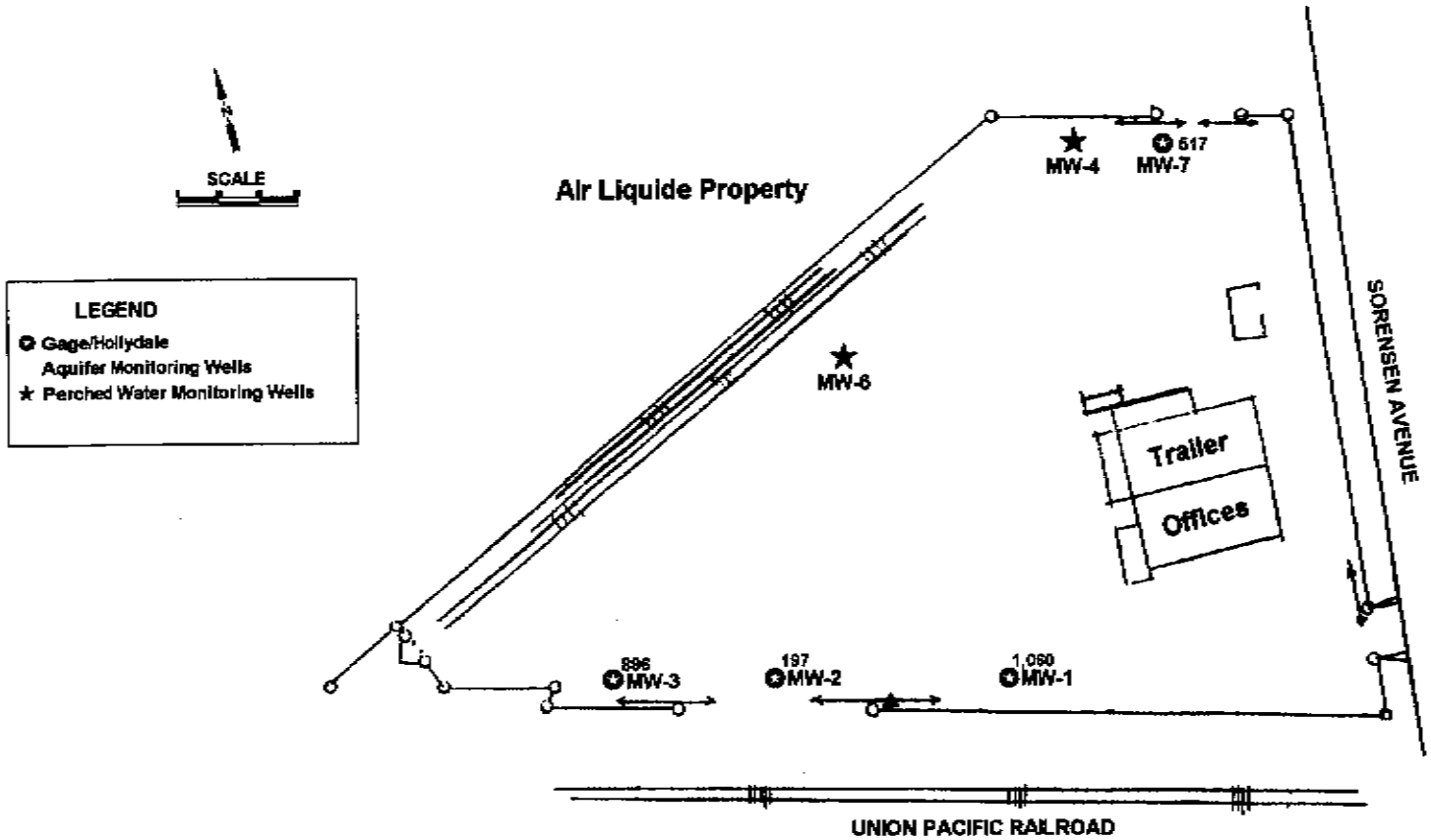
ANINS000020



Dissolved Cis 1-2 DCE Concentrations (ug/L)

FIGURE 9

ANINS000021



Dissolved VC Concentrations (ug/L)	Former Angeles Chemical Company Property 5216 Sorensen Avenue Santa Fe Springs, CA	Stanley Environmental Investigations, Inc. 5900 Jumbo Route, No. 1 Rancho Cucamonga, CA 91738	FIGURE 10

ANINS000022

TABLES

1-800-322-3022

Recycled Stock # Blakley-6-S

Table 1: Detected VOCs from Groundwater Sample Results using EPA Method 8260 (ug/L)

VOCs	Date	MW-1	MW-2	MW-3	MW-4	MW-6	MW-7	Dup
1,2,4-Trimethylbenzene	Oct-01	1,590	18.9	345	NS-NW	22,100,000	200	
	Feb-02	2,800	231	668	NS-FP	NS-FP	234	3,000
1,3,5-Trimethylbenzene	Oct-01	470	62.9	145	NS-NW	5,400,000	25	
	Feb-02	955	57.8	126	NS-FP	NS-FP	45.6	1,090
Toluene	Feb-94	560	7,390	579	12,700	15,300	398	
	Nov-00	4,000	57	3,700	NS-FP	NS-FP	800	
	Oct-01	2,470	26	5,150	NS-NW	9,010,000	975	
	Feb-02	4,880	26.2	4,520	NS-FP	NS-FP	1,330	4,590
Vinyl Chloride	Oct-01	1,350	75	<5	NS-NW	<5,000	188	
	Feb-02	1,060	197	896	NS-FP	NS-FP	517	943
Xylenes	Feb-94	2,192	7,790	1,014	4,362	4,710	186	
	Nov-00	3,400	<500	2,500	NS-FP	NS-FP	247	
	Oct-01	2,770	<2	3,720	NS-NW	10,370,000	301	
	Feb-02	3,760	14.8	3,070	NS-FP	NS-FP	280	3,690
DTW	Feb-94	30.05'	28.80'	29.70'	23.35'	24.85'	24.53'	
	Nov-00	35.62'	35.28'	36.42'	26.20'	28.52'	28.19'	
	Oct-01	37.41'	37.91'	39.19'	26.35'	NA	28.70'	
	Nov-01	NA	NA	NA	26.36'	28.85'	NA	
	Feb-02	36.2'	36.39'	37.39'	26.44'	30.32'	29.21'	
Screened Interval		30'-50' bg		30'-50' bg	29'-49' bg	17'-27' bg	20'-30' bg	35'-55' bg

DTW= Depth to Water.
NA= Not Analyzed.
NS-FP= Not Sampled Free Product present.
NS-NW= Not Sampled Not Enough Water present.

Blue= Chemicals stored on-site.
Red= Transformation compounds from chemicals stored on-site.

Table 1: Detected VOCs from Groundwater Sample Results using EPA Method 8260 (ug/L)

VOCs	Date	MW-1	MW-2	MW-3	MW-4	MW-6	MW-7	Dup
trans 1,2-Dichloroethene	Feb-94	NA	NA	NA	NA	NA	NA	
	Nov-00	<2,500	<500	<500	NS-FP	NS-FP	<500	
	Oct-01	<250	<50	<125	NS-NW	<5,000	<25	
	Feb-02	<125	<12.5	<100	NS-FP	NS-FP	<10	<10
Ethylbenzene	Feb-94	333	1,720	115	1,180	1,910	45	
	Nov-00	960	120	1,000	NS-FP	NS-FP	82	
	Oct-01	805	197	1,550	NS-NW	4,320,000	107	
	Feb-02	875	115	1,360	NS-FP	NS-FP	94.4	928
Methylene Chloride	Feb-94	1,220	2,980	6,530	4,760	21,400	<50	
	Nov-00	1,100	180	5,600	NS-FP	NS-FP	180	
	Oct-01	<1,250	<250	<625	NS-NW	<5,000	<125	
	Feb-02	<250	18.5	3,960	NS-FP	NS-FP	<20	<250
4-Methyl-2-pentanone	Oct-01	<1,250	<250	4,130	NS-NW	<25,000	625	
	Feb-02	<625	<62.5	3,470	NS-FP	NS-FP	376	<625
Naphthalene	Oct-01	185	76	<125	NS-NW	1,680,000	85	
	Feb-02	195	64	122	NS-FP	NS-FP	74.8	365
Tetrachloroethene	Feb-94	662	2,150	5,370	3,320	2,130	134	
	Nov-00	<2,500	<500	130	NS-FP	NS-FP	<500	
	Oct-01	<100	<20	130	NS-NW	531,000	100	
	Feb-02	20	3.3	302	NS-FP	NS-FP	8.2	20.5
1,1,1-Trichloroethane	Feb-94	9,370	3,470	444	36,200	114,000	90	
	Nov-00	<2,500	<500	70	NS-FP	NS-FP	<500	
	Oct-01	<250	<50	<125	NS-NW	28,100,000	<25	
	Feb-02	<125	<12.5	<100	NS-FP	NS-FP	<10	<125
Trichloroethene	Feb-94	7,160	3,040	1,730	14,300	1,320	45	
	Nov-00	<2,500	<500	1,500	NS-FP	NS-FP	<500	
	Oct-01	<100	<20	100	NS-NW	753,000	<10	
	Feb-02	20	2.5	260	NS-FP	NS-FP	6.8	20

Table 1: Detected VOCs from Groundwater Sample Results using EPA Method 8260 (ug/L)

VOCs	Date	MW-1	MW-2	MW-3	MW-4	MW-6	MW-7	Dup
Acetone	Oct-01	<1,250	<250	<625	NS-NW	<25,000	1,190	
	Feb-02	<625	<62.5	3,150	NS-FP	NS-FP	746	<625
Benzene	Feb-94	194	<100	63	111	795	46	
	Nov-00	<2,500	61	73	NS-FP	NS-FP	65	
	Oct-01	125	105	110	NS-NW	110,000	55	
	Feb-02	231	204	108	NS-FP	NS-FP	63.2	250
2-Butanone (MEK)	Feb-94	NA	NA	NA	NA	NA	NA	
	Nov-00	3,100	<10,000	<10,000	NS-FP	NS-FP	1,400	
	Oct-01	<1,250	<250	500	NS-NW	<25,000	980	
	Feb-02	<625	<62.5	<500	NS-FP	NS-FP	<50	<625
Chloroethane	Feb-02	<125	119	<100	NS-FP	NS-FP	17	<125
1,1-Dichloroethane	Feb-94	649	1,130	85	1410	2,260	2,130	
	Nov-00	17,000	1,800	800	NS-FP	NS-FP	2,800	
	Oct-01	8,190	1,500	1,030	NS-NW	592,000	2,670	
	Feb-02	20,600	2,310	1,350	NS-FP	NS-FP	5,490	18,400
1,2-Dichloroethane	Feb-94	<100	<100	<50	<100	1140	31	
	Nov-00	<2,500	<500	<500	NS-FP	NS-FP	<500	
	Oct-01	<250	<50	<125	NS-NW	<5,000	<25	
	Feb-02	<125	<12.5	<100	NS-FP	NS-FP	43.4	<125
1,1-Dichloroethene	Feb-94	2,210	2,460	2,800	806	1,240	151	
	Nov-00	3,000	<500	2,900	NS-FP	NS-FP	350	
	Oct-01	1,200	1,120	4,090	NS-NW	417,000	355	
	Feb-02	4,050	1,480	3,900	NS-FP	NS-FP	778	3,860
cis 1,2-Dichloroethene	Feb-94	NA	NA	NA	NA	NA	NA	
	Nov-00	20,000	9,500	5,700	NS-FP	NS-FP	210	
	Oct-01	10,300	9,150	7,000	NS-NW	1,060,000	194	
	Feb-02	29,100	11,100	7,960	NS-FP	NS-FP	268	27,900

Table 2: **Dissolved Metal Sample Results (mg/L)**

Dissolved Metals	EPA Method	Date	MW-1	MW-2	MW-3	MW-4	MW-6	MW-7	Dup
Antimony	7040	Oct-01	<0.5	<0.5	<0.5	NS-FP	NS-FP	<0.5	
		Feb-02	<0.1	<0.1	<0.1	NS-FP	NS-FP	<0.1	<0.1
Arsenic	7060	Oct-01	0.026	0.061	<0.005	NS-FP	NS-FP	0.071	
		Feb-02	0.068	0.044	0.006	NS-FP	NS-FP	0.113	0.068
Barium	7080	Oct-01	<0.5	<0.5	<0.5	NS-FP	NS-FP	<0.5	
		Feb-02	<0.005	<0.005	<0.005	NS-FP	NS-FP	<0.005	<0.005
Beryllium	7090	Oct-01	<0.05	<0.05	<0.05	NS-FP	NS-FP	<0.05	
		Feb-02	<0.005	<0.005	<0.005	NS-FP	NS-FP	<0.005	<0.005
Cadmium	7130	Oct-01	<0.05	<0.05	<0.05	NS-FP	NS-FP	<0.05	
		Feb-02	<0.04	<0.04	<0.04	NS-FP	NS-FP	<0.04	<0.04
Chromium	7190	Oct-01	<0.1	<0.1	<0.1	NS-FP	NS-FP	<0.1	
		Feb-02	<0.02	<0.02	<0.02	NS-FP	NS-FP	<0.02	<0.02
Cobalt	7200	Oct-01	<0.1	0.12	<0.1	NS-FP	NS-FP	<0.1	
		Feb-02	<0.04	<0.04	<0.04	NS-FP	NS-FP	<0.04	<0.04
Copper	7210	Oct-01	<0.05	<0.05	<0.05	NS-FP	NS-FP	<0.05	
		Feb-02	<0.005	<0.005	<0.005	NS-FP	NS-FP	<0.005	<0.005
Lead	7240	Oct-01	<0.1	<0.1	<0.1	NS-FP	NS-FP	<0.1	
		Feb-02	<0.002	<0.002	<0.002	NS-FP	NS-FP	<0.002	<0.002
Mercury	7471	Oct-01	<0.001	<0.001	<0.001	NS-FP	NS-FP	<0.001	
		Feb-02	<0.001	<0.001	<0.001	NS-FP	NS-FP	<0.001	<0.001
Molybdenum	7480	Oct-01	<0.4	<0.4	<0.4	NS-FP	NS-FP	<0.4	
		Feb-02	<0.1	<0.1	<0.1	NS-FP	NS-FP	<0.1	

Table 2 (cont.): Dissolved Metal Sample Results (mg/L)

Dissolved Metals	EPA Method	Date	MW-1	MW-2	MW-3	MW-4	MW-6	MW-7	Dup
Nickel	7520	Oct-01	<0.1	<0.1	<0.1	NS-FP	NS-FP	<0.1	
		Feb-02	<0.04	<0.04	<0.04	NS-FP	NS-FP	<0.04	<0.04
Selenium	7740	Oct-01	<0.005	<0.005	<0.005	NS-FP	NS-FP	<0.005	
		Feb-02	<0.005	<0.005	<0.005	NS-FP	NS-FP	<0.005	<0.005
Silver	7760	Oct-01	<0.05	<0.05	<0.05	NS-FP	NS-FP	<0.05	
		Feb-02	<0.005	<0.005	<0.005	NS-FP	NS-FP	<0.005	<0.005
Thallium	7840	Oct-01	<0.2	<0.2	<0.2	NS-FP	NS-FP	<0.2	
		Feb-02	<0.005	<0.005	<0.005	NS-FP	NS-FP	<0.005	<0.005
Vanadium	7910	Oct-01	<0.5	<0.5	<0.5	NS-FP	NS-FP	<0.5	
		Feb-02	0.03	0.05	0.16	NS-FP	NS-FP	0.14	0.05
Zinc	7950	Oct-01	<0.05	<0.05	<0.05	NS-FP	NS-FP	<0.05	
		Feb-02	<0.01	<0.01	<0.01	NS-FP	NS-FP	<0.01	<0.01

NS-FP= Not Sampled Free Product present.

APPENDICES

1-800-322-3022

Recycled Stock # Blakley-6-S

322-3022

Recycled Stock # Blakley-6-S

WELL MONITORING DATA SHEET

Project #: 020215-JS-1	Client: Blakely Env.
Sampler: JS	Start Date: 2-15-02
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 61.63	Depth to Water: 36.20
Before: After:	Before: (After:) 36.15
Depth to Free Product: 36.18	Thickness of Free Product (feet): 0.02
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

Bailer
Disposable Bailer
Middleburg
(Electric Submersible)
Waterra
Peristaltic
Extraction Pump
Other_____

Sampling Method: Bailer
(Disposable Bailer)
Extraction Port
Dedicated Tubing
Other: _____

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

16.5 (Gals.) X 3 = 49.5 Gals.
1 Case Volume — Specified Volumes — Calculated Volume

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1220	71.5	6.69	2140	6	17	Odor
1238	72.9	6.73	2089	3	34	"
1254	72.3	6.75	2043	2	49.5	"

Did well dewater? Yes (No)	Gallons actually evacuated: 49.5
Sampling Time: 1415	Sampling Date: 2-15-02
Sample I.D.: MW-1	Laboratory: STS
Analyzed for: TPH-G BTEX MTBE TPH-D (Other:) VOCs + Metals	
Equipment Blank I.D.: @ Time	Duplicate I.D.: DUP
Analyzed for: TPH-G BTEX MTBE TPH-D (Other:)	

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 020215-JS-1	Client: Blakely Env.
Sampler: JS	Start Date: 2-15-02
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 51.96	Depth to Water: 36.39
Before: After:	Before: (After) 40.12
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

Bailer
Disposable Bailer
Middleburg
(Electric Submersible)
Waterra
Peristaltic
Extraction Pump
Other_____

Sampling Method: Bailer
(Disposable Bailer)
Extraction Port
Dedicated Tubing
Other: _____

Start = 1032

10.1 (Gals.) X 3 = 30.3 Gals.
1 Case Volume — Specified Volumes — Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1042	71.6	6.67	1859	44	11	Odor & Grey
1055	71.5	6.64	1879	121	21	" " Cloudy
1141	76.5	6.74	1949	6	31	"

Did well dewater? Yes (No)	Gallons actually evacuated: 31
Sampling Time: 1405	Sampling Date: 2-15-02
Sample I.D.: MW-2	Laboratory: STS
Analyzed for: TPH-G BTEX MTBE TPH-D (Other)	VOCs & Metals
Equipment Blank I.D.: @ Time	Duplicate I.D.: ANINS000029
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 020215-JS-1	Client: Blakely Env.
Sampler: JS	Start Date: 2-15-02
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 51.74	Depth to Water: 37.39
Before: After:	Before: (After)
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

Bailer
Disposable Bailer
Middleburg
(Electric Submersible)
Waterra
Peristaltic
Extraction Pump
Other_____

Sampling Method: Bailer
(Disposable Bailer)
Extraction Port
Dedicated Tubing
Other: _____

9.3 (Gals.) X 3 = 27.9 Gals.
1 Case Volume — Specified Volumes — Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1014	65.3	6.78	1384	69	10	Odor & Grey Cloudy
~~1015~~	Well	Dewatered @ 18 gals.			~~20~~	
1313	72.8	7.06	1916	31	20	" "
1314	73.6	6.96	1974	87	28	" " "

Did well dewater? (Yes) No	Gallons actually evacuated: ~~18~~ 28
Sampling Time: 1430	Sampling Date: 2-15-02
Sample I.D.: MW-3	Laboratory: STS
Analyzed for: TPH-G BTEX MTBE TPH-D (Other) VOCs & Metals	
Equipment Blank I.D.: @ Time	Duplicate I.D.: ANINS000030
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 020215-JS-1	Client: Blakely Env.
Sampler: JS	Start Date: 2-15-02
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth: 51.95	Depth to Water: 29.21
Before: After:	Before: After: 29.15
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

Bailer
Disposable Bailer
Middleburg
(Electric Submersible)
Waterra
Peristaltic
Extraction Pump
Other_____

Sampling Method: Bailer
(Disposable Bailer)
Extraction Port
~~Dedicated Tubing~~
Other: _____

Start = 931 ppm = 1.0 10.8

~~17.8~~ 3.6 (Gals.) X 3 = ~~47.4~~ Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
935	71.0	6.72	3096	102	4	Odor & Grey Cloudy
939	72.6	6.70	2848	28	8	" & Grey
942	72.4	6.74	2810	10	11	" "

Did well dewater? Yes (No)	Gallons actually evacuated: 11
Sampling Time: 1355	Sampling Date: 2-15-02
Sample I.D.: MW-7	Laboratory: STS
Analyzed for: TPH-G BTEX MTBE TPH-D (Other) VOCs & Metals	
Equipment Blank I.D.: @ Time	Duplicate I.D.: ANINS000031
Analyzed for: TPH-G BTEX MTBE TPH-D Other:	

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

B

1-800-322-3022

Recycled Stock # Blakley-6-S

STS

Southland Technical Services, Inc.
Environmental Laboratories

7801 Telegraph Road, Suite L
Montebello, CA 90640

Phone (323) 888-0728
Fax (323) 888-1509

03-01-2002

Mr. Hiram Garcia
Blakely Environmental Investigations, Inc.
9605 Arrow Highway, Suite T
Rancho Cucamonga, CA 91730

Project: Angeles Chemical Co.
Project Site: Santa Fe Springs, CA
Sample Date: 02-15-2002
Lab Job No.: BL20290

Dear Mr. Garcia:

Enclosed please find the analytical report for the sample(s) received by STS Environmental Laboratories on 02-15-2002 and analyzed for the following parameters:

EPA 8260B (VOCs)
EPA 7000 for CAM Metals

All analyses have met the QA/QC criteria of this laboratory.

The sample(s) arrived in good conditions (i.e., chilled, intact) and with a chain of custody record attached.

STS Environmental Laboratory is certified by CA DHS (Certificate Number 1986). Thank you for giving us the opportunity to serve you. Please feel free to call me at (323) 888-0728 if our laboratory can be of further service to you.

Sincerely,

Roger Wang, Ph. D.
Laboratory Director

Enclosures

This cover letter is an integral part of this analytical report.

STS

Southland Technical Services, Inc.
Environmental Laboratories

7801 Telegraph Road, Suite L
Montebello, CA 90640

Phone (323) 888-0728
Fax (323) 888-1509

Client: Blakely Environmental Investigations, Inc. Lab Job No.: BL20290 Date Reported: 03-01-2002
Project: Angeles Chemical Co. Matrix: Water Date Sampled: 02-15-2002

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE ANALYZED		02-19	02-19-02	02-19-02	02-19-02	02-19-02	02-19-02	02-19-02
DILUTION FACTOR			25	2.5	20	2	25	1
LAB SAMPLE I.D.			BL0290-1	BL0290-2	BL0290-3	BL0290-4	BL0290-5	BL0290-6
CLIENT SAMPLE I.D.			MW-1	MW-2	MW-3	MW-7	Dup	Trip Blank
COMPOUND	MDL	MB						
Dichlorodifluoromethane	5	ND	ND	ND	ND	ND	ND	ND
Chloromethane	5	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	5	ND	1,060	197	896	517	943	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	ND	ND	119	ND	17	ND	ND
Trichlorofluoromethane	5	ND	ND	ND	120	ND	ND	ND
1,1-Dichloroethene	5	ND	4,050	1,480	3,900	778*	3,860	ND
Iodomethane	5	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	10	ND	ND	18.5	3,960	ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	20,600*	2,310	1,350	5,490*	18,400	ND
2,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	ND	29,100*	11,100	7,960	268	27,900	ND
Bromochloromethane	5	ND	ND	ND	ND	ND	ND	ND
Chloroform	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5	ND	ND	ND	ND	43.4	ND	ND
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	5	ND	ND	ND	ND	ND	ND	ND
Benzene	1	ND	231	204	108	63.2	250	ND
Trichloroethene	1	ND	20j	2.5j	260	6.8	20j	ND
1,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	5	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	5	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	5	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	5	ND	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	5	ND	ND	ND	ND	ND	ND	ND
Bromoform	5	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	128	22.5	ND	ND	120	ND
Bromobenzene	5	ND	ND	ND	ND	ND	ND	ND

STS

Southland Technical Services, Inc.
Environmental Laboratories

7801 Telegraph Road, Suite L
Montebello, CA 90640

Phone (323) 888-0728
Fax (323) 888-1509

Client: Blakely Environmental Investigations, Inc. Lab Job No.: BL20290 Date Reported: 03-01-2002

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	MB	MW-1	MW-2	MW-3	MW-7	Dup	Trip Blank
Toluene	1	ND	4,880	26.2	4,520	1,330	4,590	ND
Tetrachloroethene	1	ND	20j	3.3	302	8.2	20.5j	ND
1,2-Dibromoethane(EDB)	5	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	37.0	ND	15.9	ND	ND
1,1,1,2-Tetrachloroethan	5	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1	ND	875	115	1,360	94.4	928	ND
Total Xylenes	2	ND	3,760	14.8	3,070	280	3,690	ND
Styrene	5	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethan	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	5	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	5	ND	210	26.7	ND	ND	225	ND
2-Chlorotoluene	5	ND	ND	12.5	ND	ND	ND	ND
4-Chlorotoluene	5	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	5	ND	955	57.8	126	45.6	1,090	ND
tert-Butylbenzene	5	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	5	ND	2,800	231	668	234	3,000	ND
Sec-Butylbenzene	5	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	5	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	5	ND	ND	19.5	ND	ND	ND	ND
n-Butylbenzene	5	ND	160	14.0	ND	18.4	215	ND
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	5	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	5	ND	ND	ND	ND	ND	ND	ND
Naphthalene	5	ND	195	64	122	74.8	365	ND
1,2,3-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND
Acetone	25	ND	ND	ND	3,150	746	ND	ND
2-Butanone (MEK)	25	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	25	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	25	ND	ND	ND	3,470	376	ND	ND
2-Hexanone	25	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	25	ND	ND	ND	ND	ND	ND	ND
MTBE	2	ND	ND	ND	ND	ND	ND	ND
ETBE	2	ND	ND	ND	ND	ND	ND	ND
DIPE	2	ND	ND	ND	ND	ND	ND	ND
TAME	2	ND	ND	ND	ND	ND	ND	ND
T-Butyl Alcohol	10	ND	ND	ND	ND	ND	ND	ND

MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected (below DF × MDL). * Obtained from a higher dilution analysis
j=trace level concentration, below reporting limit. The result is included for information only.

STS

Southland Technical Services, Inc.
Environmental Laboratories

7801 Telegraph Road, Suite L
Montebello, CA 90640

Phone (323) 888-0728
Fax (323) 888-1509

03-01-2002

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.
Project Site: Santa Fe Springs, CA
Matrix: Water
Digestion Method: EPA 3050B
Batch No.: 0219-M1

Lab Job No.: BL20290

Date Sampled: 02-15-2002
Date Received: 02-15-2002
Date Digested: 02-15-2002
Date Analyzed: 02-19-2002

EPA 7000 Series for Cam Metals (TTLC)
Reporting Units: mg/kg (ppm)

Element	EPA Method	Method Blank	MW-1	MW-2	MW-3	MW-7	DUP		MDL
			BL0290-1	BL0290-2	BL0290-3	BL0290-4	BL0290-5		
Antimony (Sb)	7040	ND	ND	ND	ND	ND	ND		0.10
Arsenic (As)	7060	ND	0.068	0.044	0.006	0.113	0.068		0.005
Barium (Ba)	7080	ND	ND	ND	ND	ND	ND		0.005
Beryllium (Be)	7090	ND	ND	ND	ND	ND	ND		0.005
Cadmium (Cd)	7130	ND	ND	ND	ND	ND	ND		0.04
Chromium (Cr)	7190	ND	ND	ND	ND	ND	ND		0.02
Cobalt (Co)	7200	ND	ND	ND	ND	ND	ND		0.04
Copper (Cu)	7210	ND	ND	ND	ND	ND	ND		0.005
Lead (Pb)	7420	ND	ND	ND	ND	ND	ND		0.002
Mercury (Hg)	7471	ND	ND	ND	ND	ND	ND		0.001
Molybdenum (Mo)	7480	ND	ND	ND	ND	ND	ND		0.10
Nickel (Ni)	7520	ND	ND	ND	ND	ND	ND		0.04
Selenium (Se)	7740	ND	ND	ND	ND	ND	ND		0.005
Silver (Ag)	7760	ND	ND	ND	ND	ND	ND		0.005
Thallium (Tl)	7840	ND	ND	ND	ND	ND	ND		0.005
Vanadium (V)	7910	ND	0.03	0.05	0.16	0.14	0.05		0.02
Zinc (Zn)	7950	ND	ND	ND	ND	ND	ND		0.01

ND: Not Detected (at the specified limit).

STS

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03-01-2002

EPA 8260B
Batch QA/QC Report

Client: Blakely Environmental Investigations, Inc.
Project: Angeles Chemical Co.
Matrix: Water
Batch No: 0219-VOA

Lab Job No.: BL20290
Sample ID: R0299-1
Date Analyzed: 02-19-2002

I. MS/MSD Report
Unit: ppb

Compound	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
1,1-Dichloroethene	ND	20	20.9	21.6	104.5	108.0	3.3	30	70-130
Benzene	ND	20	22.5	22.3	112.5	111.5	0.9	30	70-130
Trichloro-ethene	ND	20	16.1	16.7	80.5	83.5	3.7	30	70-130
Toluene	ND	20	18.1	20.4	90.5	102.0	11.9	30	70-130
Chlorobenzene	ND	20	19.0	20.6	95.0	103.0	8.1	30	70-130

II. LCS Result
Unit: ppb

Analyte	LCS Value	True Value	Rec.%	Accept. Limit
1,1-Dichloroethene	22.7	20	113.5	80-120
Benzene	23.6	20	118.0	80-120
Trichloro-ethene	18.0	20	90.0	80-120
Toluene	20.2	20	101.0	80-120
Chlorobenzene	22.0	20	110.0	80-120

ND: Not Detected.

SOUTHLAND TECHNICAL SERVICES, INC.

CHAIN OF CUSTODY RECORD

Lab Job Number BL20290

Client: Blakely Env. Inv., Inc.

Address: 9605 Arrow Route, Suite T Rancho Cucamonga, CA 91730

Report Attention: | Phone: 909 989-9550 | Fax: 909 989-9556 | Sampled by: HG.

Project Name/No.: | Project Site: Angeles Chemical Co.

T.A.T. Requested: ☐ Rush 8 12 24 hours ☐ 2-3 days ☒ Normal

Sample Condition: ☒ Chilled ☒ Intact ☐ Sample seals

Client Sample ID	Lab Sample ID	Sample Collect Date	Sample Collect Time	Matrix Type	Sample Preseve	No.,type* & size of container	602/8021 (BTEX,MTBE)	8015M (Gasoline)	8015M (Diesel)	8260B (VOCs)	8260B (Oxygenates)	8260B (MTBE Confirm.)	CAM 17 metals						Remarks
MW-1	BL0290-1	2/15/02		Water	HCl	2-40mL				X									
MW-1	-1	"		"	HNO_3	2-Poly							X						
MW-2	-2	"		"	HCl	2-40mL				X									
MW-2	-2	"		"	HNO_3	2-Poly							X						
MW-3	-3	"		"	HCl	2-40mL				X									
MW-3	-3	"		"	HNO_3	2-Poly							X						
MW-7	-4	"		"	HCl	2-40mL				X									
MW-7	-4	"		"	HNO_3	2-Poly							X						
Dup	-5	"		"	HCl	2-40mL				X									
Dup	-5	"		"	HNO_3	2-Poly							X						
Trip Blank	-6	"		"	HCl	2-40mL				X									

Relinquished by	Company	Date	Time	Received by	Company
Juan Garcia	BEII	2/15/02	15:07	[illegible]	STS
Relinquished by	Company	Date	Time	Received by	Company

Container types: M=Metal Tube, A=Air Bag, P=Plastic bottle, G=Glass bottle, V=VOA vial

Southland Tech. Services, Inc.
7801 Telegraph Road, Suite L & K
Montebello, CA 90640
Tel: (323) 888-0728
Fax: (323) 888-1509

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.
Distribution: WHITE with report, PINK to courier.