R.T. NAHAS COMPANY *Since 1947*
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93 DEC 14 PM 3:41

20630 PATIO DRIVE
CASTRO VALLEY, CALIFORNIA 94546
TELEPHONE (510) 538-9600
FAX (510) 881-7618

December 13, 1993

Mr. Scott Seery
Alameda County Health Care Services
80 Swan Way
Oakland, CA 94621

Dear Scott:

Enclosed is the Perc Release Assessment done by BSK, the conclusions of which you and I and BSK presupposed. There is perc directly behind the Sorani building but there is none by our gas station building. The gasoline contaminant by that building is what we ran into when we were looking for a clean monitoring well some years ago.

With this information in hand, at least we can eliminate the gas station as the generator.

Sincerely,

Randall E. Nahas

REN/hrs

Enclosure

BSK & ASSOCIATES

GEOTECHNICAL CONSULTANTS, INC.

JOB NO. P93306.3

PERCHLOROETHENE RELEASE ASSESSMENT
UNOCAL 76 SERVICE STATION
20405 REDWOOD ROAD
CASTRO VALLEY, CALIFORNIA

Dec. 9, 1993

BSK & Associates

BSK & Associates
1181 Quarry Lane
Building 300
Pleasanton, CA 94566
(510) 462-4000
(510) 462-6283 FAX

December 9, 1993

BSK Job No. P93306.3

R.T. Nahas Company/Eden Managements
20630 Patio Drive
Castro Valley, CA 94546

Attention: Mr. Randy Nahas

Subject: Perchloroethene Release Assessment
Unocal 76 Service Station
20405 Redwood Road
Castro Valley, California

Gentlemen:

As requested and authorized, BSK & Associates has performed the installation and sampling of two shallow temporary groundwater sample-points, in the area of Frank Tien's Unocal 76 Service Station, 20405 Redwood Road, Castro Valley, California (Site). The sample-points were installed to assess the potential impact to the Site of known Perchloroethene in groundwater discovered on an adjoining property south of the Site. The Site location is indicated on Figure 1, Vicinity Map.

BACKGROUND

BSK & Associates has performed Underground Storage Tank (UST) monitoring, and motor fuel release to groundwater investigation at Frank Tien's Unocal since December 1989. Work performed in April 1991 (BSK Report P90165) and May 1992 (BSK Report P92057) suggested the extension of groundwater contamination off-site to the south, beneath an adjoining building, and toward a grocery store parking lot (Figure 2, Site Plan). Recent groundwater testing indicates that the southernmost monitoring well (MW-7), located south of the motor-fuel plume, intercepts a plume of Perchloroethene (PCE). A potential source for the PCE is a dry cleaner located in the building between the grocery parking lot and the Service Station.

PURPOSE AND SCOPE

Two shallow groundwater sample-points were utilized at the Site. One sample-point was installed near the southern boundary of the Site (adjacent to a Dry Cleaner); one sample-point was installed just south of the Service Station building, down-gradient from the service station garage. The sample-point locations are shown on Figure 2, Site Plan. The sample-points were utilized for the assessment of impact to the Site from PCE in groundwater discovered on a nearby property to the south, and assessment of possible solvent release from the service station garage.

Installation, sampling, analysis and reporting of the proposed groundwater sample-points consisted of the following specific activities:

1. **Drilling** two 8-inch diameter borings to a point above the water table, and driving a three-foot stainless-steel Sample-point approximately two feet into the water bearing horizon,

2. **Soil sampling** at pertinent horizons and the capillary fringe for contaminants of interest,

3. **Water sampling** from within the flooded Sample-point for contaminants of interest,

4. **Backfill** of the borings with neat cement.

5. **Chemical analyses** of soil and water samples, and;

6. Preparation of this **Report** summarizing the soil and water sampling activities and observations.

FIELD ACTIVITIES AND METHODOLOGY

Field work was performed November 18, 1993. Drilling was accomplished using a truck-mounted Mobile B-53 auger rig, turning 8-inch outside diameter, hollow stem auger. The borings for the Sample-points were extended to just above the first encountered groundwater. Logging of boring samples and cuttings, and direction of site activities was performed by a California Registered Geologist. Classification of subsurface materials was performed in accordance with the U.S.C.S. soil classification system (see the Unified Soil Classification Chart, Figure 3).

The Sample-point consists of a 3-foot length of 2-inch I.D. stainless-steel wire wrap screen with a driving point. The screen was affixed to the end of 2-inch steel conductor pipe, and lowered through the hollow-stem auger to the boring bottom. The screen was then hydraulically pushed into the water-bearing horizon ahead of the auger bit.

Sampling

Soil sampling for chemical analysis was performed using a 2-inch I.D. modified California split-spoon sampler, containing three 2- x 6-inch stainless steel sample liners. The sampler holding the liners was driven by slide hammer ahead of the auger into undisturbed soil at the intended sampling horizon, and then withdrawn. The soil-filled liners were removed, and the chosen sample(s) sealed with Teflon® sheeting and a pressure-fitted plastic cap, labeled, and refrigerated by dry-ice for delivery to our State-certified analytical laboratory for analysis. Soil samples were obtained within the capillary fringe, and as determined by subsurface conditions.

Water samples were obtained by lowering a new polyethelene disposable bailer through the conductor pipe into the stainless steel Sample-point screen. Samples were obtained from the well-point and placed in an appropriate container, with preservative as necessay, in the order of decreasing constituent volatility. The samples were then labeled, sealed and refrigerated with ice for delivery to our laboratory for testing.

Waste Handling

Soil and water waste generated by drilling, cleaning and sampling activities was stored in boring/Sample-point specific, DOT-approved 17E/H 55 gallon drums. Each drum was labeled with the date of waste accumulation, waste type (soil or water), source and source address. The drums were stored on-site.

Decontamination

Drilling and sampling equipment were thoroughly cleaned by high-pressure and -temperature wash prior to site entry, exit, and between boring and sample locations in order to reduce the chance of cross-contamination between samples and sites.

SUBSURFACE CONDITIONS

Sediments

As explored in the two soil borings, SP-1 and SP-2, surface and subsurface comprised the following conditions. At location SP-1 (see Site Plan, Figure 2), the surface was paved in approximately 1.5 inches of asphaltic concrete, underlain by 6 to 8 inches of orange baserock. The pavement section was underlain by approximately three feet of dark gray clayey-silt fill, followed to a depth of approximately 19 feet by mottled olive-gray and yellow-brown clayey silt, grading brown with depth; this unit was generally stiff and damp, grading to hard with depth, and containing few minor pore spaces. Light greenish-gray sandy clay was encountered from 19 to 22.5 feet in depth. The sandy clay was damp to moist, stiff, coarsened with depth, and contained wet horizontal fractures.

Location SP-2 contained a similar pavement section as location SP-1. Underlying units appeared to contain more clay than at SP-1, to a depth of approximately 13 feet. Orange clayey silt was encountered from 13 to 18 feet, and was moist in fractures. From 18 feet to the final depth explored of 27.5 feet, the soil comprised a light brown silt and clay mixture. The soil was damp, stiff to hard and contained a trace of fine pore spaces.

The described sediments are in general conformance with those encountered by BSK in numerous previous borings throughout the Site. Detailed descriptions of the materials encountered during this investigation are presented in the Boring Logs, Figures 4 and 5.

Groundwater

Water-bearing horizons encountered in the two borings were not directly observed, and were encountered at greater depths than expected. Previous borings in the area encountered water at depths of approximately 13.5 to 15 feet in the vicinity of both locations (BSK Report P90165). The previous borings were thought to have encountered a perched water zone above the regional water table of approximately 20 to 24 feet in depth, encountered elsewhere in the Site vicinity. The previous borings were drilled in the Spring of 1991, likely encountering water associated with winter precipitation.

Groundwater conditions in the Site area, as determined from previous BSK explorations and the current groundwater monitoring program, comprise flow across the Site to the south at a gradient of 0.4 to 2.0 percent.

CHEMICAL TESTING

Selected soil and water samples obtained for chemical analyses were tested for Gasoline-type Motor-fuel, based on known motor fuel release to the Site subsurface, and volatile Chlorinated Solvent, based on the known presence of these compounds in the subsurface of the adjoining property to the south. Analyses for Motor-fuel and Volatile Halocarbons utilized EPA Methods 8015/8020 and 601/8010, respectively. The chemical results are summarized in the following tables.

TABLE 1A - SOIL RESULTS

BENZENE, TOLUENE, ETHYLBENZENE, XYLENES and TOTAL PETROLEUM HYDROCARBONS as GASOLINE
Results in Parts Per Million-ppm (mg/kg)

	CONSTITUENTS				
Sample Location	Benzene	Toluene	Ethylbenzene	Xylenes	TPHg
SP-1 at 16'	0.18	ND	0.075	0.055	ND
SP-2 at 14'	0.14	0.52	0.19	1.0	9

ND - None Detected

TABLE 1B - SOIL RESULTS

VOLATILE HALOCARBONS
Results in Parts Per Million-ppm (mg/kg)

	CONSTITUENTS
Sample Location	Volatile Organics
SP-1 at 16'	ND
SP-2 at 14'	ND

ND - None Detected

TABLE 2A - WATER RESULTS

BENZENE, TOLUENE, ETHYLBENZENE, XYLENES and TOTAL PETROLEUM HYDROCARBONS as GASOLINE
Results in Parts Per Billion-ppb (µg/l)

	CONSTITUENTS				
Sample Location (Action Level)	**Benzene $(1)_1$**	**Toluene $(100)_2$**	**Ethylbenzene $(680)_1$**	**Xylenes $(1750)_1$**	**TPHg $(100)_3$**
SP-1	3900	13000	2800	15000	49000
SP-2	54	240	87	390	1400

ND - None Detected
1 - California Department Of Health Services Drinking Water Standard, Revised 10/23/91
2 - California DOHS Action Level, 7/1/92
3 - Informal regulatory "flag" level.

TABLE 2B - WATER RESULTS

VOLATILE HALOCARBONS
Results in Parts Per Billion-ppb (µg/l)

	CONSTITUENTS
Sample Location (Action Level)	**Volatile Organics (Determined by Compound)$_1$**
SP-1	1,2-Dichloroethane - 12(0.5) cis-1,2-Dichloroethene - 28(6) trans-1,2-Dichloroethene - 15(10) Tetrachloroethene - 22(5) Trichloroethene - 20(5)
SP-2	ND

ND - None Detected
1 - California Department of Health Services Drinking Water Standards, Revised 10/23/91.

BSK & Associates

CONCLUSIONS

Contamination of Site soil and water by Gasoline motor fuel was detected at both boring/Sampling-point locations at the Site. **The greater motor fuel contamination was encountered in the location of SP-1, near the south Site boundary.** Contamination concentrations in soil and water were significant with respect to allowable concentrations in the subsurface at this time. BTEX concentrations in groundwater generally exceeded Maximum Contaminant Levels (MCLs) at both test locations. The Benzene concentration detected in SP-1 qualify for designation as hazardous waste.

Contamination of Site groundwater by Chlorinated Solvents was detected at location SP-1, and not location SP-2. As indicated in Table 2B, Water Results, Volatile Halocarbons, the concentrations of all detected compounds exceeded State Maximum Contaminant Level drinking water standards.

Based on the location of the encountered contaminants, the location of Site and adjoining businesses and probable contaminant sources, the subsurface conditions and geohydrology of the Site area, and the results of previous related studies performed by BSK & Associates, it is our opinion at this time that the Unocal 76 Service Station located at 20405 Redwood Road is not a probable source for chlorinated solvents detected in groundwater within the Site near its south boundary (adjacent to a Dry Cleaner), or in groundwater south of the Site, as detected at groundwater monitoring well, MW-7.

Subsurface conditions encountered in the field at the two boring locations indicated concentration of contaminants in soil at depths of 11 to 13 feet at SP-1, and 13 to 16 feet at SP-2. These horizons correspond with the depth of previously encountered perched groundwater near the two boring locations, indicating concentration of the contaminants by groundwater processes. The fact that groundwater was not encountered in the perched zone may indicate that the perched water zone is able to drain sufficiently to remove free water from the two boring locations by late summer. This information is important with respect to Site remediation.

* * * * *

REPORT DISTRIBUTION

Copies of this report should be submitted to the Alameda County Department of Environmental Health for their review. We are providing you with extra copies for this purpose. We understand that copies of the report may be forwarded by ACEH to the Regional Water Quality Control Board in Oakland for their review.

Alameda County Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Attention: Scott Seery

LIMITATIONS

The findings and conclusions presented in this report are based on field review and observations, and from the limited testing program described in this report. This report has been prepared in accordance with generally accepted methodologies and standards of practice in the area. No other warranties, expressed or implied, are made as to the findings, conclusions and recommendations included in the report.

The findings of this report are valid as of the present. The passage of time, natural processes or human intervention on the property or adjacent property can cause changed conditions which can invalidate the findings and conclusions presented in this report.

* * * * *

BSK is pleased to continue to be of service to you during this project. If you have questions concerning the contents of the report, please do not hesitate to contact us.

Respectfully submitted,
BSK & Associates

Alex Y. Eskandari, P.E.
Project Manager
C.E. No. 038101, R.E.A. No. 01528

Tim W. Berger, C.E.G. No. 1828
Project Geologist

AYE/TWB:ndp
(reports\eav\P93306.NHS)

Distribution:
R.T. Nahas Co. (1 original and 3 copies)

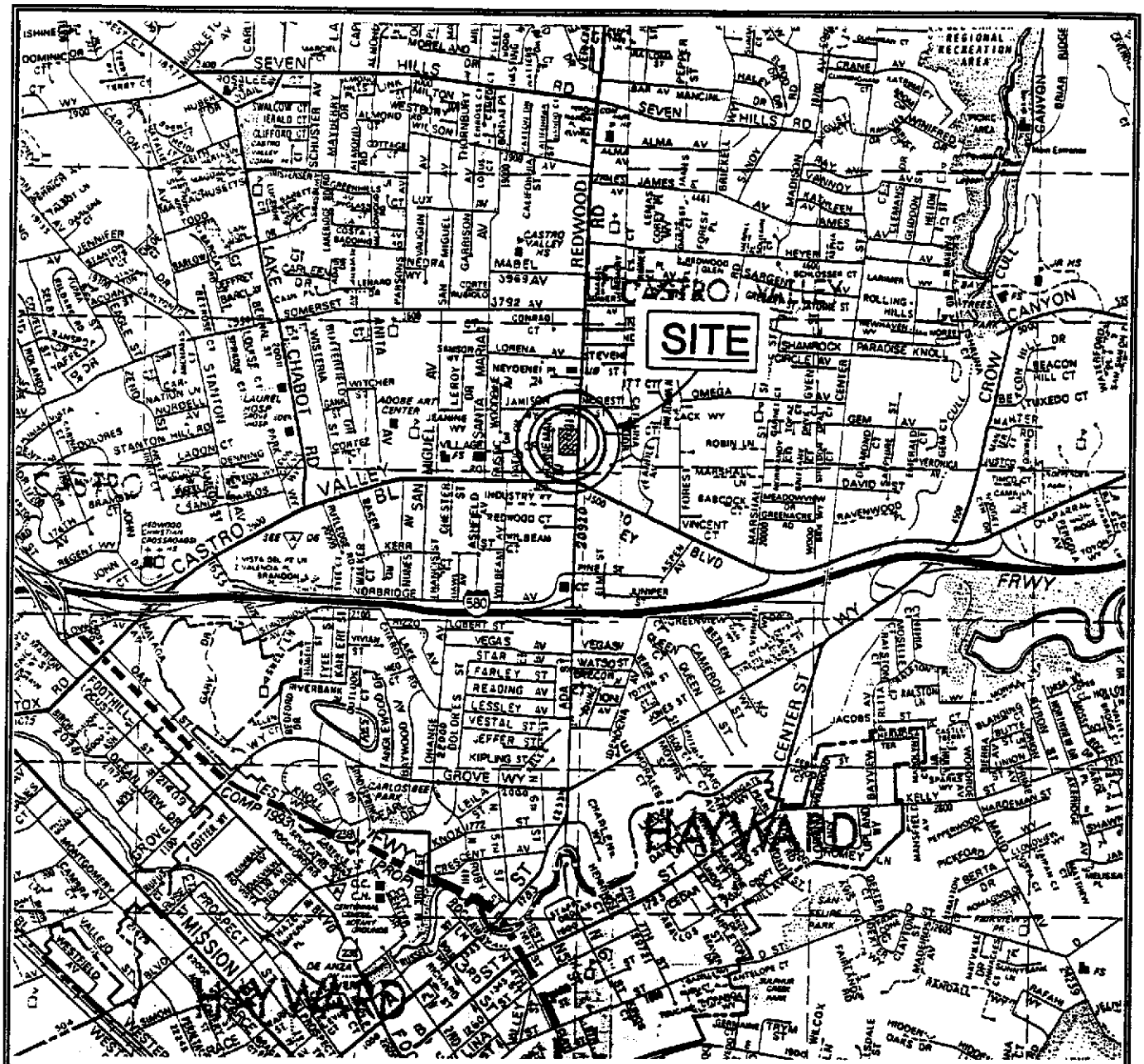
BSK & Associates

The following are attached and complete this report:

FIGURE	1	Vicinity Map
FIGURE	2	Site Plan
FIGURE	3	Unified Soil Classification Chart
FIGURES	4 & 5	Boring Logs

APPENDIX "A"

FIGURES	A-1	
through	A-8	Laboratory Chemical Test Data Sheets
FIGURE	A-9	Project Chain-of-Custody Document



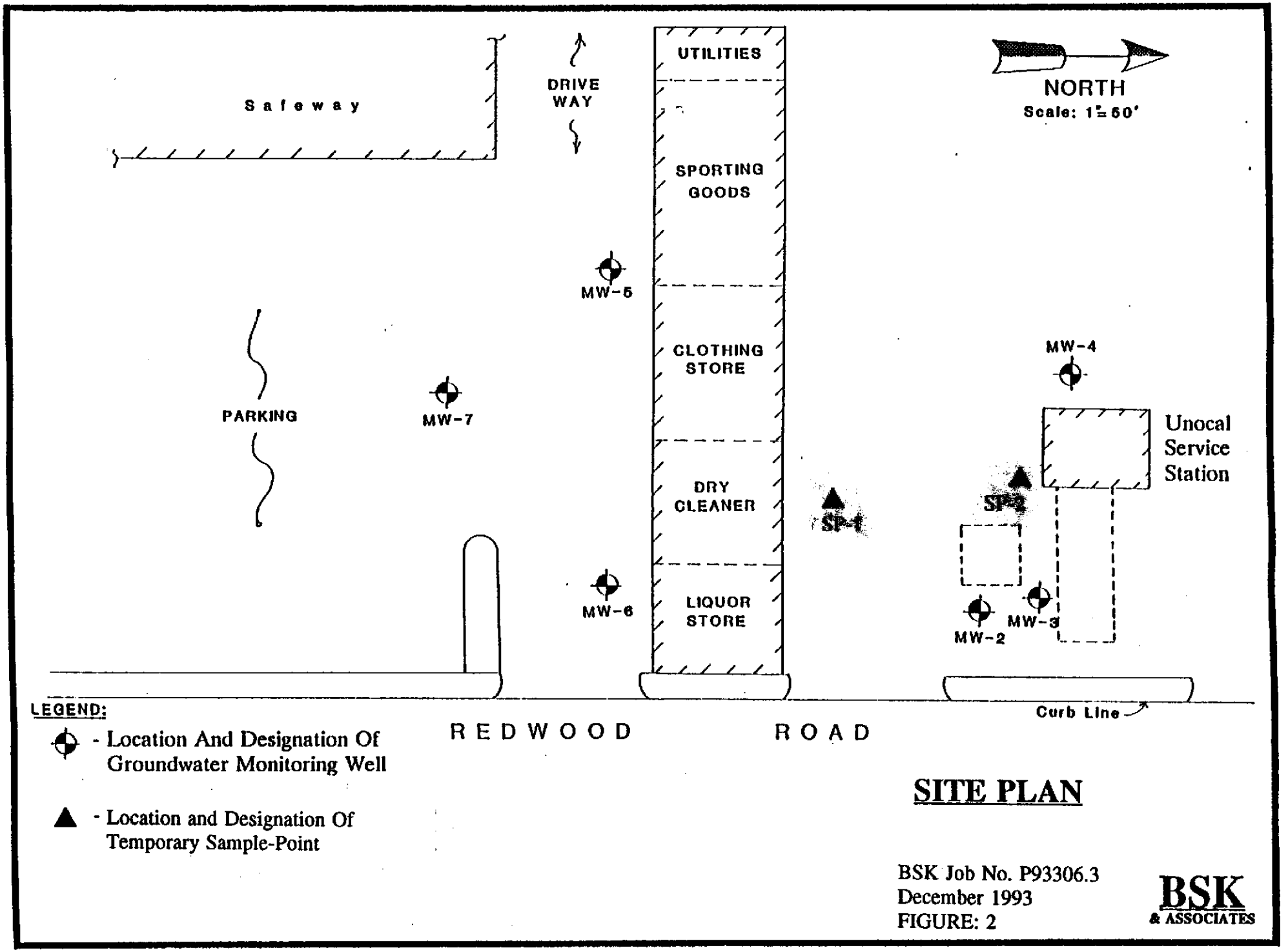
Source: Thomas Guide, 1992, Alameda and Contra Costa Counties

PERCHLOROETHENE RELEASE ASSESSMENT
UNOCAL 76 SERVICE STATION
20405 REDWOOD ROAD
CASTRO VALLEY, CALIFORNIA

VICINITY MAP

BSK Job No. P93306.3
December 1993
FIGURE: 1

BSK
& ASSOCIATES



SITE PLAN

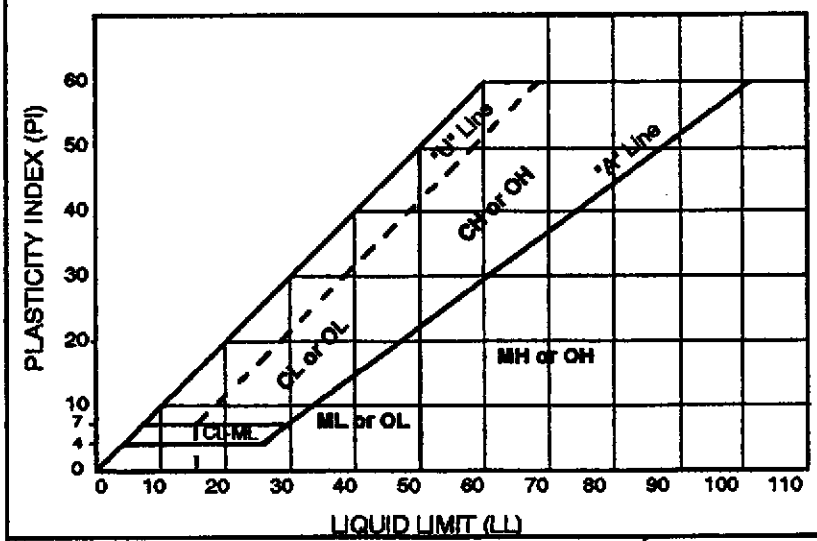
BSK Job No. P93306.3
December 1993
FIGURE: 2

BSK & ASSOCIATES

UNIFIED SOIL CLASSIFICATION CHART

SYMBOL	LETTER	DESCRIPTION	MAJOR DIVISIONS			
	GW	WELL-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	CLEAN GRAVELS (LITTLE OR NO FINES)	GRAVELS: MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO.4 SIEVE SIZE	FOR VISUAL CLASSIFICATION, THE 1/4" SIZE MAY BE USED AS EQUIVALENT TO THE NO.4 SIEVE SIZE	COARSE-GRAINED SOILS: MORE THAN HALF OF MATERIAL IS LARGER THAN NO.200 SIEVE SIZE
	GP	POORLY-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES				
	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)			
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES				
	SW	WELL-GRADED SAND OR GRAVELLY SANDS, LITTLE OR NO FINES	CLEAN SANDS (LITTLE OR NO FINES)	SANDS: MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO.4 SIEVE SIZE		
	SP	POORLY-GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES				
	SM	SILTY SANDS, SAND-SILT MIXTURES	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)			
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES				
	ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	SILTS & CLAYS LIQUID LIMIT LESS THAN 50			FINE-GRAINED SOILS: MORE THAN HALF OF MATERIAL IS SMALLER THAN NO.200 SIEVE SIZE; THE NO.200 U.S. STANDARD SIEVE IS ABOUT THE SMALLEST PARTICLE VISIBLE TO THE NAKED EYE
	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS				
	OL	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY				
	MH	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY	SILTS & CLAYS LIQUID LIMIT GREATER THAN 50			
	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS				
	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS				
	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	HIGHLY ORGANIC SOILS			

SOIL PLASTICITY CHART



TYPES OF SAMPLERS

SPT–Standard Penetration 1.4" ID Split Spoon Sampler
CS–2" ID Split Spoon Sampler
MC–2.4" ID California Sampler
SH–3.0" ID Thin-Wall (Shelby Tube)
CC–2.7" ID Double Tube Continuous Coring Sampler

NOTES

ND Denotes concentration below the test detection limits
– Denotes not analysed
PID-Photoionization Detector Reading in ppm

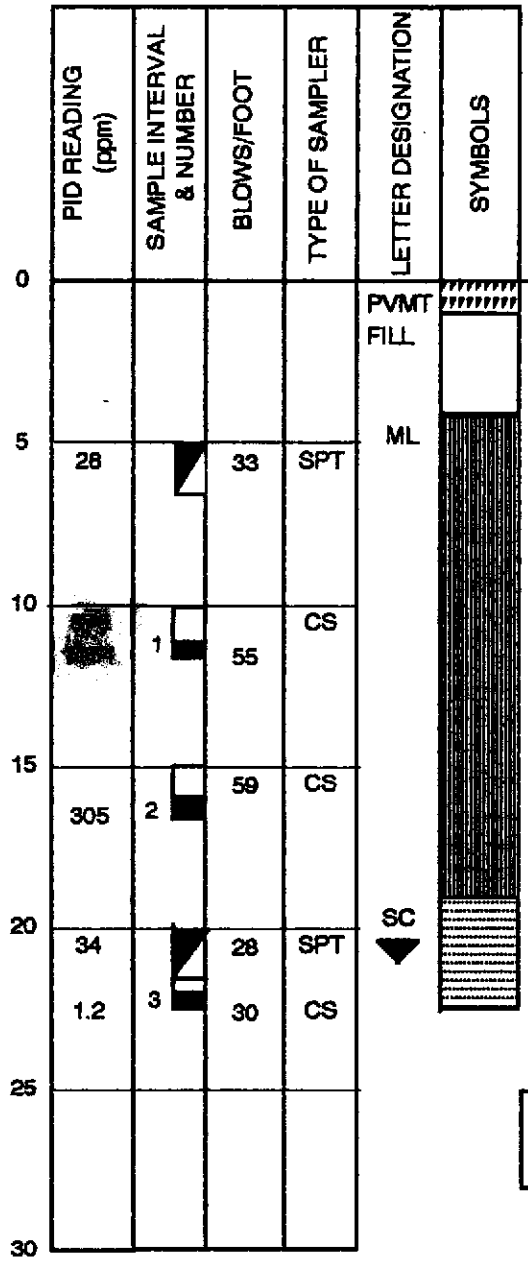
Perchloroethene
Release Assessment
Unocal 76 Service Station

Job No. P93306.3
December 1993
FIGURE: 3

BSK & ASSOCIATES

BORING LOG SP-1

DATE: 11/18/93
LOGGED BY: T. Berger
WATER LEVEL: 21.5' (First Encountered)
ELEVATION: Approximately 180' MSL
EQUIPMENT: Mobile Drill B-53, 8" Hollow Stem Auger



DESCRIPTION

Asphalt Concrete over 8"-9" Aggregate Baserock

CLAYEY SILT: Dark gray, moist, damp, with sand
Grades black, damp to moist, no sand, medium stiff

CLAYEY SILT: Mottled olive-gray and yellow-brown, damp, stiff, few fine pores(unoriented), trace coarse sand, trace MnO specks

Grades grayer, some vertical pores, with gray boundaries, stiff to very stiff **Sweet Odor**

Grades brown, damp, very stiff to hard, trace sand, fractures, few MnO mottles **Sweet Odor**

SANDY CLAY:Light greenish-gray, damp to moist, fine sand, medium stiff to stiff, thin water seam at 20' in clayey silty sand

Sand grades coarser (fine to medium), wet horizontal fractures **Gasoline odor in addition to sweet odor**

A 3-foot stainless-steel well screen was pushed from 22.5' to 24.75'. Water was sampled from within the flooded well screen.

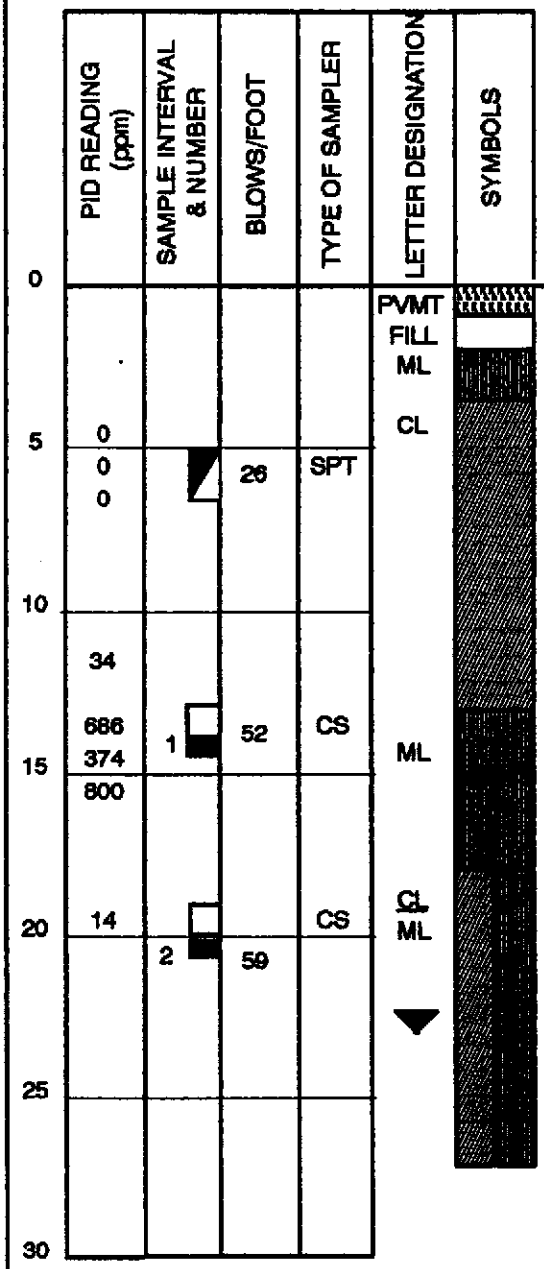
▽ - Denotes stabilized water table
▼ - Denotes water table as encounterd during drilling

NOTES:
1. Boring completed at a depth of 22.5 feet on 11/18/93.
2. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140-pound hammer falling 30 inches after sampler has been seated 6 inches.
3. Boring log indicates the interpreted subsurface conditions only at the location and time the boring was drilled.
4. For an explanation of terms used, see the Unified Soil Classification Chart, Figure 3.

Perchloroethene Release Assessment Unocal Service Station	BSK Job No. P93306.3 December 1993 FIGURE: 4	BSK & ASSOCIATES

BORING LOG SP-2

DATE: 11/18/93
LOGGED BY: T. Berger
WATER LEVEL: 23' (First Encountered)
ELEVATION: Approximately 180' MSL
EQUIPMENT: Mobile Drill B-53, 8" Hollow Stem Auger



DESCRIPTION

1.5" Asphalt Concrete over 6"-8" Aggregate Baserock, underlain by dark gray silty clay-gravel fill

CLAYEY SILT: Dark gray, moist, damp, soft to medium stiff

SILTY CLAY: Dark gray-green, damp, medium stiff to stiff

Grades to mottled gray and olive, stiff, moist, trace fine rootlets, trace fine to coarse sand, no pores

Grades grayer, some vertical pores, with gray boundaries, stiff to very stiff **Sweet Odor**

Gradee orange-brown, damp to moist, **Sweet Odor**

CLAYEY SILT: Orange, damp, stiff (brittle), some fine pores, trace coarse sand, moist in fractures

SILTY CLAY/CLAYEY SILT: Light brown, damp, very stiff to hard, no to trace fine pores, trace <1mm MnO mottles and sand.

A 3-foot stainless-steel screen was pushed from27.25' to 29.8'. Water was sampled from within the flooded well screen.

▽ - Denotes stabilized water table
▼ - Denotes water table encounterd during drilling

NOTES:

1. Boring completed at a depth of 27.25 feet on 11/18/93.
2. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140-pound hammer falling 30 inches after sampler has been seated 6 inches.
3. Boring log indicates the interpreted subsurface conditions only at the location and time the boring was drilled.
4. For an explanation of the terms used, see the Unified Soil Classification Chart, Figure 3.

PERCHLOROETHENE RELEASE ASSESSMENT UNOCAL 76 SERVICE STATION	BSK Job No. P93306.3 December 1993 FIGURE: 5	BSK & ASSOCIATES

APPENDIX A

CHEMICAL TEST DATA SHEETS

AND

PROJECT-CHAIN-OF-CUSTODY RECORD

BSK & Associates

FIGURE: A-1

ANALYTICAL BSK LABORATORIES
Environmental Services

1414 Stanislaus Street
Fresno, California 93706
Telephone (209) 497-2889
FAX (209) 485-6935
1-800-877-8310

BSK-Pleasanton
Nahas

Date Sampled : 11/18/93
Time Sampled : 0940
Date Received : 11/19/93
Date of Analysis : 11/22/93
Report Issue Date: 11/29/93

Case Number : Ch933156
Lab ID Number : 3156-1
Project Number : P93306.3
Sample Description: SP-1,2, 16'

Sample Type : SOLID

Analyses for BTEX by EPA Method 8020 and TPH (G) by EPA Method 8015

Results Reported in Milligrams per Kilogram (mg/kg)

Compound	Results	DLR
Benzene	0.18	0.005
Toluene	ND	0.005
Ethylbenzene	0.075	0.005
Total Xylene Isomers	0.055	0.005
Total Petroleum Hydrocarbons (G)	ND	1.

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences may result in higher detection limits.
ND: None Detected

Sd for CP
Cynthia Pigman, QA/QC Supervisor

Jeffrey Creager, Organics Manager

FIGURE: A-2

ANALYTICAL BSK LABORATORIES
Environmental Services

1414 Stanislaus Street
Fresno, California 93706
Telephone (209) 497-2889
FAX (209) 485-6935
1-800-877-8310

BSK-Pleasanton
Nahas

Date Sampled : 11/18/93
Time Sampled : 0940
Date Received : 11/19/93
Date of Analysis : 11/24/93
Report Issue Date: 11/29/93

Case Number : Ch933155
Lab ID Number : 3155-1
Project Number : P93306.3
Sample Description: SP-1,2, 16'

Sample Type: SOLID

Analyses for Volatile Halocarbons by EPA Method 8010

Results Reported in Milligrams per Kilogram (mg/kg)

Compound	Results	DLR	Compound	Results	DLR
Bromodichloromethane	ND	0.01	1,2-Dichloroethane	ND	0.01
Bromoform	ND	0.01	1,1-Dichloroethene	ND	0.01
Bromomethane	ND	0.02	cis-1,2-Dichloroethene.....	ND	0.01
Carbon tetrachloride	ND	0.01	trans-1,2-Dichloroethene ..	ND	0.01
Chlorobenzene	ND	0.01	1,2-Dichloropropane	ND	0.01
Chloroethane	ND	0.01	cis-1,3-Dichloropropene ...	ND	0.01
Chloroform	ND	0.01	trans-1,3-Dichloropropene .	ND	0.01
Chloromethane	ND	0.01	Methylene chloride	ND	2.0
Dibromochloromethane	ND	0.01	1,1,2,2-tetrachloroethane .	ND	0.01
1,2-Dichlorobenzene	ND	0.01	Tetrachloroethene	ND	0.01
1,3-Dichlorobenzene	ND	0.01	1,1,1-Trichloroethane	ND	0.01
1,4-Dichlorobenzene	ND	0.01	1,1,2-Trichloroethane	ND	0.01
Dichlorodifluoromethane	ND	0.04	Trichloroethene	ND	0.01
1,1-Dichloroethane	ND	0.01	Trichlorofluoromethane	ND	0.01
			Vinyl chloride	ND	0.02

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

ND: None Detected

--: Not Analyzed

Cynthia Pigman, QA/QC Supervisor

Jeffrey Creager, Organics Manager

FIGURE: A-3

ANALYTICAL BSK LABORATORIES
Environmental Services

1414 Stanislaus Street
Fresno, California 93706
Telephone (209) 497-2889
FAX (209) 485-6935
1-800-877-8310

BSK-Pleasanton
Nahas

Date Sampled : 11/18/93
Time Sampled : 1115
Date Received : 11/19/93
Date of Analysis : 11/24/93
Report Issue Date: 11/29/93

Case Number : Ch933156
Lab ID Number : 3156-2
Project Number : P93306.3
Sample Description: SP-1,W1 and W2

Sample Type : LIQUID

Analyses for BTEX by EPA Method 8020 and TPH(G) by EPA Method 8015 Prepared by Method 5030

Results Reported in Micrograms per Liter (ug/L)

Compound	Results	DLR
Benzene	3900	0.3
Toluene	13000	0.3
Ethylbenzene	2800	0.3
Total Xylene Isomers	15000	0.3
Total Petroleum Hydrocarbons (G)	49000	50

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences may result in higher detection limits.
ND: None Detected

Sd for Cp
Cynthia Pigman, QA/QC Supervisor

Jeffrey Creager, Organics Manager

R91 1009 BTPL.t

FIGURE: A-4

ANALYTICAL BSK LABORATORIES
Environmental Services

1414 Stanislaus Street
Fresno, California 93706
Telephone (209) 497-2889
FAX (209) 485-6935
1-800-877-8310

BSK-Pleasanton
Nahas

Date Sampled : 11/18/93
Time Sampled : 1115
Date Received : 11/19/93
Date of Analysis : 11/24/93
Report Issue Date: 11/29/93

Case Number : Ch933155
Lab ID Number : 3155-2
Project Number : P93306.3
Sample Description: SP-1, W1 and W2

Sample Type: LIQUID

Analyses for Volatile Halocarbons by EPA Method 8010
Prepared by EPA Method 5030

Results Reported in Micrograms per Liter (µg/L)

Compounds	Results	DLR	Compound	Results	DLR
Bromodichloromethane	ND	0.5	1,2-Dichloroethane	[illegible]	0.5
Bromoform	ND	0.5	1,1-Dichloroethene	ND	0.5
Bromomethane	ND	1.0	cis-1,2-Dichloroethene....	[illegible]	0.5
Carbon tetrachloride	ND	0.5	trans-1,2-Dichloroethene...	[illegible]	0.5
Chlorobenzene	ND	0.5	1,2-Dichloropropane	ND	0.5
Chloroethane	ND	0.5	cis-1,3-Dichloropropene ...	ND	0.5
Chloroform	ND	0.5	trans-1,3-Dichloropropene..	ND	0.5
Chloromethane	ND	0.5	Methylene chloride	ND	2.0
Dibromochloromethane	ND	0.5	1,1,2,2-tetrachloroethane..	ND	0.5
1,2-Dichlorobenzene	ND	0.5	Tetrachloroethene	[illegible]	0.5
1,3-Dichlorobenzene	ND	0.5	1,1,1-Trichloroethane	ND	0.5
1,4-Dichlorobenzene	ND	0.5	1,1,2-Trichloroethane	ND	0.5
Dichlorodifluoromethane ...	ND	2.0	Trichloroethene	[illegible]	0.5
1,1-Dichloroethane	ND	0.5	Trichlorofluoromethane	ND	0.5
			Vinyl chloride	ND	1.0

Sample DLR = DLR x DLR Multiplier,

DLR Multiplier = 10

DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences may result in higher detection limits.

ND: None Detected

--: Not Analyzed

Cynthia Pigman, QA/QC Supervisor

Jeffrey Creager, Organics Manager

FIGURE: A-5

ANALYTICAL BSK LABORATORIES
Environmental Services

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Fresno, California 93706
Telephone (209) 497-2889
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BSK-Pleasanton
Nahas

Date Sampled : 11/18/93
Time Sampled : 1242
Date Received : 11/19/93
Date of Analysis : 11/24/93
Report Issue Date: 11/29/93

Case Number : Ch933156
Lab ID Number : 3156-3
Project Number : P93306.3
Sample Description: SP-2,S1, 14'

Sample Type : SOLID

Analyses for BTEX by EPA Method 8020 and TPH (G) by EPA Method 8015

Results Reported in Milligrams per Kilogram (mg/kg)

Compound	Results	DLR
Benzene	0.14	0.005
Toluene	0.52	0.005
Ethylbenzene	0.19	0.005
Total Xylene Isomers	1.0	0.005
Total Petroleum Hydrocarbons (G)	9	1.

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences may result in higher detection limits.
ND: None Detected

Sd for Cp
Cynthia Pigman, QA/QC Supervisor

Jeffrey Creager, Organics Manager

30106 BTPS.t

FIGURE: A-6

ANALYTICAL BSK LABORATORIES
Environmental Services

1414 Stanislaus Street
Fresno, California 93706
Telephone (209) 497-2889
FAX (209) 485-6935
1-800-877-8310

BSK-Pleasanton
Nahas

Date Sampled : 11/18/93
Time Sampled : 1242
Date Received : 11/19/93
Date of Analysis : 11/24/93
Report Issue Date: 11/29/93

Case Number : Ch933155
Lab ID Number : 3155-3
Project Number : P93306.3
Sample Description: SP-2 S1, 14'

Sample Type: SOLID

Analyses for Volatile Halocarbons by EPA Method 8010

Results Reported in Milligrams per Kilogram (mg/kg)

Compound	Results	DLR	Compound	Results	DLR
Bromodichloromethane	ND	0.01	1,2-Dichloroethane	ND	0.01
Bromoform	ND	0.01	1,1-Dichloroethene	ND	0.01
Bromomethane	ND	0.02	cis-1,2-Dichloroethene.....	ND	0.01
Carbon tetrachloride	ND	0.01	trans-1,2-Dichloroethene ..	ND	0.01
Chlorobenzene	ND	0.01	1,2-Dichloropropane	ND	0.01
Chloroethane	ND	0.01	cis-1,3-Dichloropropene ...	ND	0.01
Chloroform	ND	0.01	trans-1,3-Dichloropropene .	ND	0.01
Chloromethane	ND	0.01	Methylene chloride	ND	2.0
Dibromochloromethane	ND	0.01	1,1,2,2-tetrachloroethane .	ND	0.01
1,2-Dichlorobenzene	ND	0.01	Tetrachloroethene	ND	0.01
1,3-Dichlorobenzene	ND	0.01	1,1,1-Trichloroethane	ND	0.01
1,4-Dichlorobenzene	ND	0.01	1,1,2-Trichloroethane	ND	0.01
Dichlorodifluoromethane	ND	0.04	Trichloroethene	ND	0.01
1,1-Dichloroethane	ND	0.01	Trichlorofluoromethane	ND	0.01
			Vinyl chloride	ND	0.02

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

ND: None Detected

--: Not Analyzed

Cynthia Pigman, QA/QC Supervisor

Jeffrey Creager, Organics Manager

FIGURE: A-7

ANALYTICAL BSK LABORATORIES
Environmental Services

1414 Stanislaus Street
Fresno, California 93706
Telephone (209) 497-2889
FAX (209) 485-6935
1-800-877-8310

BSK-Pleasanton
Nahas

Date Sampled : 11/18/93
Time Sampled : 1458
Date Received : 11/19/93
Date of Analysis : 11/23/93
Report Issue Date: 11/29/93

Case Number : Ch933156
Lab ID Number : 3156-4
Project Number : P93306.3
Sample Description: SP-2,W1 and W2

Sample Type : LIQUID

Analyses for BTEX by EPA Method 8020 and TPH(G) by EPA Method 8015 Prepared by Method 5030

Results Reported in Micrograms per Liter (ug/L)

Compound	Results	DLR
Benzene	54	0.3
Toluene	240	0.3
Ethylbenzene	87	0.3
Total Xylene Isomers	390	0.3
Total Petroleum Hydrocarbons (G)	1400	50

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences may result in higher detection limits.
ND: None Detected

Sd for Cp
Cynthia Pigman, QA/QC Supervisor

Jeffrey Creager, Organics Manager

1 1009 BTPL.t

FIGURE: A-8

ANALYTICAL BSK LABORATORIES
Environmental Services

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Telephone (209) 497-2889
FAX (209) 485-6935
1-800-877-8310

BSK-Pleasanton
Nahas

Date Sampled : 11/18/93
Time Sampled : 1458
Date Received : 11/19/93
Date of Analysis : 11/24/93
Report Issue Date: 11/29/93

Case Number : Ch933155
Lab ID Number : 3155-4
Project Number : P93306.3
Sample Description: SP-2, W1 and W2

Sample Type: LIQUID

Analyses for Volatile Halocarbons by EPA Method 8010
Prepared by EPA Method 5030

Results Reported in Micrograms per Liter (µg/L)

Compounds	Results	DLR	Compound	Results	DLR
Bromodichloromethane	ND	0.5	1,2-Dichloroethane	ND	0.5
Bromoform	ND	0.5	1,1-Dichloroethene	ND	0.5
Bromomethane	ND	1.0	cis-1,2-Dichloroethene.....	ND	0.5
Carbon tetrachloride	ND	0.5	trans-1,2-Dichloroethene...	ND	0.5
Chlorobenzene	ND	0.5	1,2-Dichloropropane	ND	0.5
Chloroethane	ND	0.5	cis-1,3-Dichloropropene ...	ND	0.5
Chloroform	ND	0.5	trans-1,3-Dichloropropene..	ND	0.5
Chloromethane	ND	0.5	Methylene chloride	ND	2.0
Dibromochloromethane	ND	0.5	1,1,2,2-tetrachloroethane..	ND	0.5
1,2-Dichlorobenzene	ND	0.5	Tetrachloroethene	ND	0.5
1,3-Dichlorobenzene	ND	0.5	1,1,1-Trichloroethane	ND	0.5
1,4-Dichlorobenzene	ND	0.5	1,1,2-Trichloroethane	ND	0.5
Dichlorodifluoromethane ...	ND	2.0	Trichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5	Trichlorofluoromethane	ND	0.5
			Vinyl chloride	ND	1.0

Sample DLR = DLR x DLR Multiplier,
DLR Multiplier = 10

DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences may result in higher detection limits.

ND: None Detected

--: Not Analyzed

Cynthia Pigman, QA/QC Supervisor

Jeffrey Creager, Organics Manager

ANALYTICAL
BSK
LABORATORIES
Environmental Services

1414 Stanislaus Street
Fresno, CA 93706
(209) 485-8310
(800) 877-8310
(209) 485-6935 FAX

Analyses Request / Chain of Custody

BSK Log Number: 3155

Analytical Due Date: 12-3-93

Shaded areas for LAB use only

Requested Analyses ~~H-27-93~~

Client Name: Nahas	Report Attention: Tim Berge	Phone #: 510 462 4008
Address: ~~10405~~ R 1181 Quarry Ln. Bldg. 300	Project, Quote or PO #: 93306.3	FAX #: 510 462 6283
City, State, Zip: Pleasanton, CA 94566	Copy to: Tim Berge	System #:

LAB use only Sample #	Type	# Cont.	Date Sampled	Time Sampled	Sampled by: Tim Berge — Sample Description/Location	Comment or Station Code	THg + BTEX	EPA 601/8010
-1	S	1	11/18/93	09:40	SP-1, 2, 16'		X	X
-2	L	4		11:15	SP-1, W1 and W2	Refer to Remit 3155	X	X
-3	S	1		12:42	SP-2, S1, 14'		X	X
-4	L	4		14:58	SP-2, W1 and W2		X	X

Matrix Type: L - Liquid S - Solid G - Gas
Type of Hazards Associated with Samples:

Additional Services:
Rush Priority: [ ] - 2 Day [ ] - 5 Day
[ ] - Formal Chain of Custody [ ] - QC Data package

Additional Services Authorized by: _____ (Signature)

Payment Received with Delivery
Date: _____ Amount: $ _____
Check # _____ Initials _____
Reciept # _____

	Signature	Print Name	Company	Date	Time
Requested / Relinquished by:	Tim Berge	Tim Berge	BSK-P	11/13/93	1700
Received / Relinquished by:					
Received / Relinquished by:					
Received / Relinquished by:					
Received for Laboratory by:	Cecil Harris	C. Harris	BSK Lab	11-19-93	1418

FIGURE: A-9