R.T. NAHAS COMPANY *Since 1947*
REAL ESTATE DEVELOPERS AND INVESTORS

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

March 23, 2000

Mr. Scott Seery
Hazardous Materials Specialist
Alameda County Health Care Services
1131 Harbor Bay Pkwy., Room 250
Oakland, CA 94502-6577

Dear Scott:

Enclosed is the March 2000 Semi-Annual Groundwater Monitoring Report. I am at a loss for how to explain the increased levels of detect in Monitoring Well 101. Perhaps it is a result of ground disturbance when we removed the tank.

Let me know how we should proceed.

Sincerely,

Randall E. Nahas

Enclosure
REN/tar

Semi-Annual
Groundwater Monitoring Report
March 2000
Former Unocal 76 Service Station
20405 and 20629 Redwood Road
Castro Valley, California

BSK & ASSOCIATES
Geotechnical Consultants, Inc.

BSK JOB NO. P92057.3
March 22, 2000

BSK

BSK
1181 Quarry Lane, Building 300
Pleasanton, CA 94566
(925) 462-4000 • FAX (925) 462-6283

March 22, 2000

BSK JOB NO. P92057.3

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

Attention: Mr. Randy T. Nahas

Subject: Semi-Annual
Groundwater Monitoring Report
Former Unocal 76 Service Station
20405 and 20629 Redwood Road
Castro Valley, California

Gentlemen:

As requested and authorized, we have performed groundwater monitoring well sampling at the above-referenced facility. This report presents the groundwater data obtained during this sampling event, conclusions based on this event's data, and recommendations for further action. The site location is shown on Figure 1, Vicinity Map. The well locations are shown on Figure 2, Site Plan.

GROUNDWATER MONITORING ACTIVITIES - MARCH 2000

General

Semi-annual monitoring of groundwater Monitoring Wells MW-2, MW-3, MW-5, MW-6, MW-7 and MW-101(Figure 2, Site Plan) was performed on March 1, 2000. The groundwater monitoring well MW-4 was abandoned during recent remediation activities at the Site. The semi-annual sampling schedule was requested by Mr. Scott Seery, case officer for the ACDEH, in a letter, dated November 2, 1999, from Mr. Seery to R.T. Nahas. Field procedures and observations are provided in the following text and Tables.

Field Work

Wells MW-2 through MW-6 and MW-101 were purged by an electric submersible pump. The well MW-7 was purged using a bailer. Three to four well casing volumes were removed from each well. Purge effluent was field monitored for pH, temperature and conductivity during purging to assess the influx of fresh formation water into the well. Purged water was transferred to 55-gallon DOT-approved steel drums for holding. Each drum was labeled according to its contents, content source, and date of accumulation.

Prior to purging, the depth to water in each well was measured using a Solinst electric sounder, marked in twentieths of a foot. The water depth was then interpolated to the 0.01 foot increment from the tape. Each well was subsequently examined for floating and sinking immiscible product

layers and sheen, using a clear bailer having dual check valves for point-source sampling. The piezometric contour and elevation, and well water elevations, are presented in Figure 3, Groundwater Elevation Contour Map.

Upon purge completion, each well was again measured to confirm a minimum of 80% well recovery prior to sampling. Water sampling was then performed with a Teflon® point-source bailer. Sampling for contaminants was performed in the order of decreasing contaminant volatility. Each water sample was decanted into the appropriate container with preservative (as necessary), sealed, labeled and refrigerated for delivery to our State-certified laboratory.

A Well Field Log was prepared for each well sampled, recording the water depth, well volume, pH, water temperature, conductivity and other data. The Well Field Logs are presented as Figures 4.1 through 4.6.

Site Hydrology

Groundwater measurements were made of the six wells on March 1, 2000, in order to assess the flow direction and gradient. On that date, groundwater flow was generally to the south, with a gradient of 0.076 ft/ft, similar to previous groundwater monitoring events.

Chemical Analyses

Water samples obtained from each of the wells were analyzed for constituents related to gasoline, Total Petroleum Hydrocarbons as Gasoline (TPHg), Benzene, Toluene, Ethylbenzene and Xylene (BTEX) and Methyl-t-Butyl Ether (MTBE).

The contaminants tested for are those specified by ACDEH, in a letter, dated, November 2, 1999. Current and former analysis results are presented for comparison in Table 1. The Chemical Test Data Sheets are presented in Appendix A, Figures A-1 through A-6. The Project Chain-of-Custody record is presented in Figures A-7.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Trace contaminant concentrations associated with gasoline (BTEX compounds) are generally at similar concentrations as the previous results from the April 1997 sampling event in Wells MW-2 and MW-3. Total Petroleum Hydrocarbons as Gasoline, BTEX and MTBE were not detected in Well MW-5. The Total Petroleum Hydrocarbons as Gasoline detected in well MW-7 probably represents Perchloroethane as was demonstrated in past sampling events.

MTBE was detected in Wells MW-2, MW-3, MW-6 and MW-101. The MTBE detected in well MW-101 was confirmed using EPA Method 8260 as requested by ACDEH.

Recommendations

The six groundwater monitoring wells located at the Site should be sampled on a semi-annual basis as requested by ACDEH (letter dated November 2, 1999). The next semi-annual sampling event is scheduled for September 2000.

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 ACDEH to the Regional Water Quality Control Board in Oakland for their review.

Alameda County Department of Environmental Health
1181 Harbor Bay Parkway
Alameda, CA 94502

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

Martin B. Cline, C.E.G.
Project Geologist
C.E.G. No. 2084

AYE/MC:mc
(G:\DOCUMENT\ENV\Projects\NAHAS\P92057_march2000.wpd)

Distribution:
R.T. Nahas Co. (4 copies)

The following are attached and complete this report:

TABLE	1	Summary of Groundwater Analysis
FIGURE	1	Vicinity Map
FIGURE	2	Site Plan
FIGURE	3	Groundwater Elevation Contour Map
FIGURES	4.1-4.6	Well Field Logs
FIGURE	5	BTEX Concentrations in Groundwater - MW-2
FIGURE	6	BTEX Concentrations in Groundwater - MW-3

APPENDIX A

Laboratory Chemical Test Data Sheets
Chain-of-Custody Record

TABLE 1, SUMMARY OF GROUNDWATER ANALYSIS, Results in ug/L

Sample Date	Well Number	Benzene	Toluene	Ethyl-Benzene	Xylenes	Methyl-t-Butyl Ether	TPH Gasoline	TPH Diesel	Total Oil & Grease	EPA 601
March 2000	MW-2	14	0.92	16	24	1400	560	--	--	--
	MW-3	0.61	ND	ND	ND	240	96	--	--	--
	MW-5	ND	ND	ND	ND	ND	ND	--	--	--
	MW-6	ND	0.49	ND	ND	260	78	--	--	--
	MW-7	890	ND	ND	ND	ND	ND	--	--	--
	MW-101	2500[1]	490	4300	10000	2400[2]/1400[3]	40000	--	--	--
September 1995	MW-101	170	94	150	710	--	9400			
November 1997	MW-2	6.8	0.64	4.7	8.2	1200	360	--	--	--
	MW-3	1.7	1.4	2.3	8.3	65	62	--	--	--
	MW-4	ND	ND	ND	ND	ND	ND	ND	--	--
	MW-5	ND	ND	ND	ND	ND	ND	ND	--	--
	MW-6	ND	ND	ND	ND	9	ND	ND	--	--
	MW-7	--	--	--	--	--	--	--	--	--
April 1997	MW-2	23	1.6	21	31.4	1800	470	--	--	--
	MW-3	7.3	ND	3.3	5.4	230	120	--	--	--
	MW-4	ND	ND	ND	ND	ND	ND	ND	--	--
	MW-5	ND	ND	ND	ND	ND	ND	--	--	--
	MW-6	ND	ND	ND	ND	ND	ND	--	--	--
	MW-7	--	--	--	--	--	--	--	--	--
October 1996	MW-2	9.4	0.5	7.2	9.4	1400	180	--	--	--
	MW-3	3.8	1.5	2.1	6.8	55	79	--	--	--
	MW-4	ND	ND	ND	ND	ND	ND	ND	--	--
	MW-5	ND	ND	ND	ND	ND	ND	--	--	--
	MW-6	ND	ND	ND	ND	17	ND	--	--	--
	MW-7	--	--	--	--	--	--	--	--	--
April 1996	MW-2	41	2.8	27	50	--	690	--	--	--
	MW-3	8.4	1.6	4.7	14	--	170	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	--	--
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	2.9	2.9	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	--	--	--	--
October 1995	MW-2	7.4	ND	5.1	5.5	--	450	--	--	--
	MW-3	9	3.9	8.5	34	--	340	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	--	--
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	--	--	--	--
April 1995	MW-2	72	2.8	47	22	--	480	--	--	--
	MW-3	26	0.6	40	19	--	450	--	--	--

TABLE 1, SUMMARY OF GROUNDWATER ANALYSIS, Results in ug/L

Sample Date	Well Number	Benzene	Toluene	Ethyl-Benzene	Xylenes	Methyl-t-Butyl Ether	TPH Gasoline	TPH Diesel	Total Oil & Grease	EPA 601
April	MW-4	ND	ND	ND	ND	--	ND	ND	ND	--
1995	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	--	--	--	--
January	MW-2	48	2.8	15	27	--	440	--	--	--
1995	MW-3	26	0.6	14	45	--	250	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	2000	--
October	MW-2	2.8	ND	2.9	1.8	--	97	--	--	--
1994	MW-3	0.9	ND	ND	ND	--	ND	--	--	--
	MW-4	ND	36	ND	1.3	--	70	ND	ND	--
	MW-5	ND	71	0.4	1.7	--	87	--	--	--
	MW-6	0.4	140	0.5	2.3	--	160	--	--	--
July	MW-2	14	0.7	5.8	12	--	180	--	--	--
1994	MW-3	7.2	0.4	1.6	4.6	--	52	--	--	--
	MW-4	ND	0.6	ND	ND	--	ND	86	ND	--
April	MW-2	23	1.1	8.2	17	--	270	--	--	--
1994	MW-3	17	1	4.9	24	--	62	--	--	--
	MW-4	ND	ND	ND	0.4	--	ND	ND	ND	--
	MW-5	ND	0.4	ND	1	--	ND	--	--	--
	MW-6	ND	0.3	ND	0.4	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	360 (1)		--	--
January	MW-2	13	3.4	4.9	9.2	--	130	--	--	--
1994	MW-3	5.5	2.1	2.6	14	--	69	--	--	--
	MW-7	ND	ND	ND	ND	--	330 (1)		--	--
October	MW-2	4	ND	2.3	3.1	--	98	--	--	--
1993	MW-3	5	ND	0.6	1.2	--	ND	--	--	--
	MW-4	0.4	ND	ND	0.4	--	ND	ND	ND	Tetrachloroethene 0.7
						--				Trichloroethene 0.9
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	0.7	--	360 (1)		--	--
July	MW-2	17	1.1	6	12	--	220	--	--	--
1993	MW-3	24	11	14	82	--	330	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	1000	--
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	680 (1)		--	--
March	MW-2	110	32	67	28	--	720	--	--	1,2-Dichloroethane 0.6
1993	MW-3	32	0.9	64	13	--	330	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	ND	ND

TABLE 1, SUMMARY OF GROUNDWATER ANALYSIS, Results in ug/L

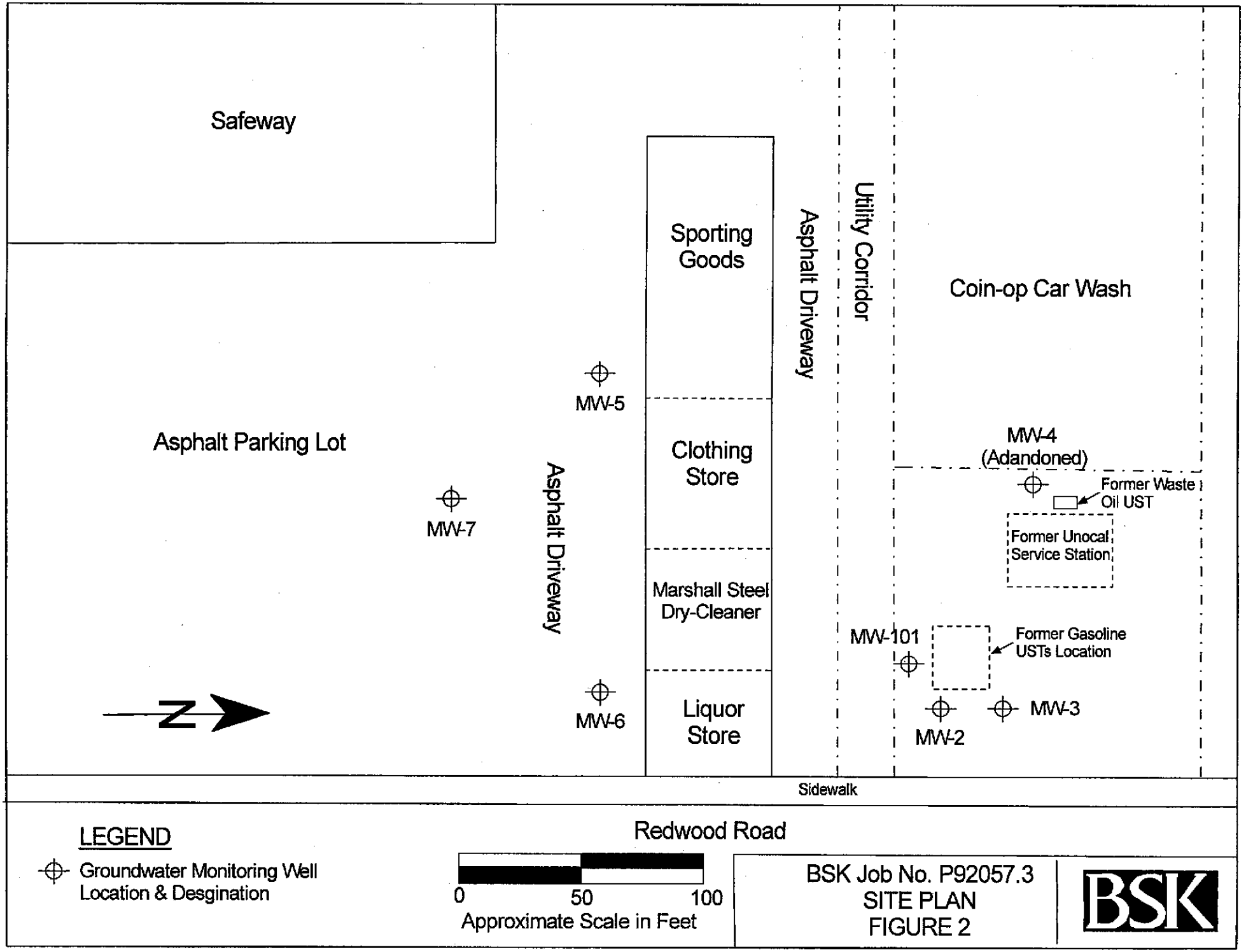
Sample Date	Well Number	Benzene	Toluene	Ethyl-Benzene	Xylenes	Methyl-t-Butyl Ether	TPH Gasoline	TPH Diesel	Total Oil & Grease	EPA 601
March 1993	MW-5	ND	ND	ND	ND	--	ND	--	--	Tetrachloroethane 0.8
	MW-6	ND	ND	ND	ND	--	ND	--	--	Tetrachloroethane 3.5
	MW-7	ND	ND	ND	ND	--	830 (1)	--	--	Tetrachloroethene 3,700
						--				Trichloroethene 210
January 1993	MW-2	11	5.1	1.4	6.3	--	170	--	--	--
	MW-3	1.2	1	0.6	4.1	--	ND	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	ND	--
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	1900 (1)		--	--
November 1992	MW-7	--	--	--	--	--	2700 (1)	ND	--	Chlorobenzene 2.0
										Chloroform 2.0
										cis-1,2-Dichloroethene 180
										trans-1,2-Dichloroethene 1.5
										Tetrachloroethene 14,000
										Trichloroethene 660
October 1992	MW-2	2.3	ND	2.3	3	--	ND	--	--	--
	MW-3	2.1	ND	ND	0.3	--	ND	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	120	ND	--
	MW-5	ND	0.4	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	3900 (1)		--	--
July 1992	MW-2	10	ND	0.6	2.3	--	84	--	--	--
	MW-3	1.3	0.4	ND	1.3	--	ND	--	--	--
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	830 (1)		--	--
April 1992	MW-2	70	0.3	15	7	--	300	--	--	--
	MW-3	1	0.4	ND	0.9	--	ND	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	ND	--
April 1992	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	0.3	ND	ND	--	ND	--	--	--
	MW-7	0.4	0.3	0.3	0.9	--	1300 (1)		--	--
January 1992	MW-2	480	870	160	860	--	5200	--	--	--
	MW-3	4	10	2	8	--	60	--	--	--
October 1991	MW-2	2.9	ND	2.5	6	--	170	--	--	--
	MW-3	ND	ND	ND	ND	--	ND	ND	ND	--
	MW-4	ND	ND	ND	ND	--	ND	ND	ND	--
July 1991	MW-2	14	1	17	8	--	220	--	--	--
	MW-3	14	14	33	8	--	220	--	--	--

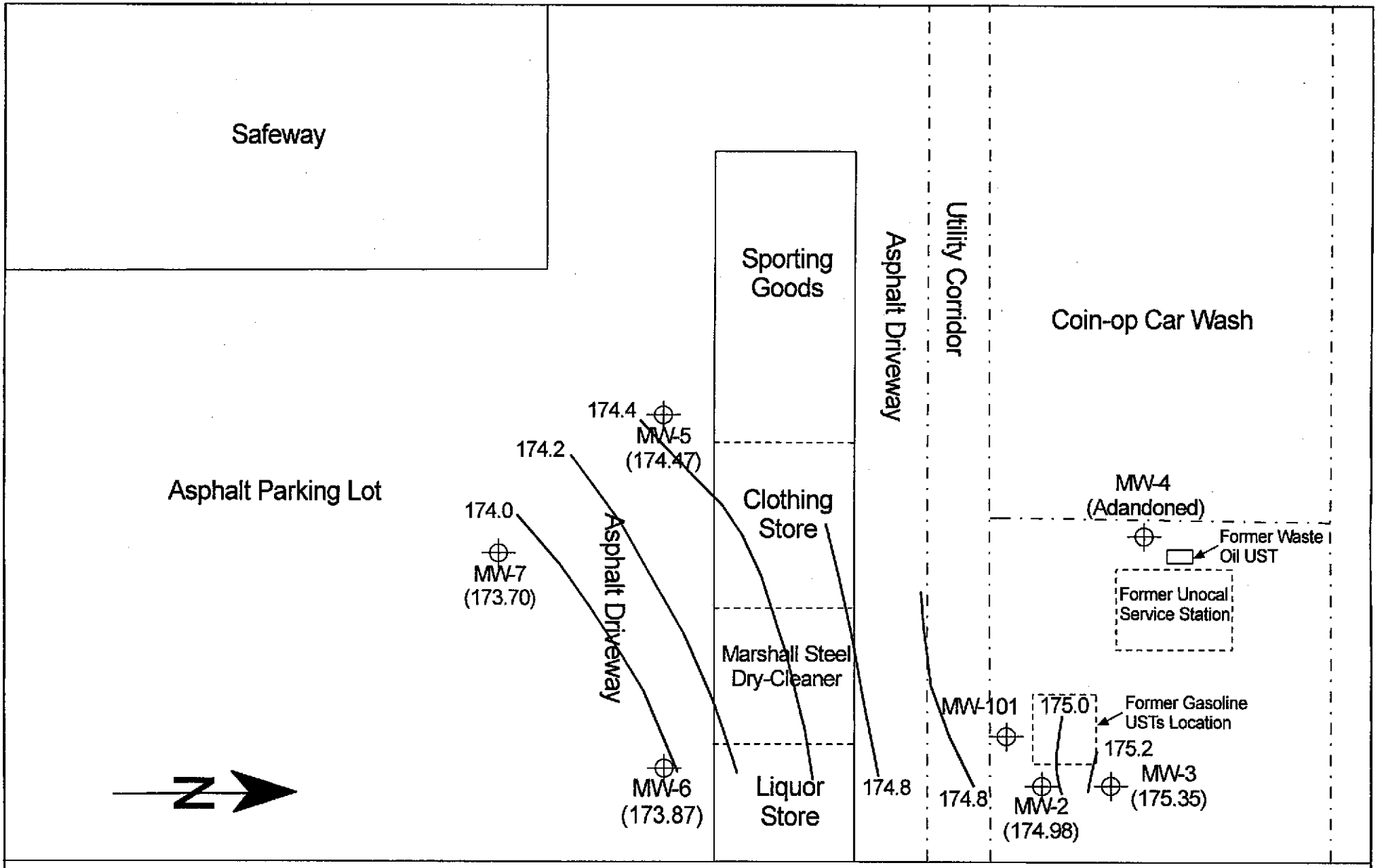
TABLE 1, SUMMARY OF GROUNDWATER ANALYSIS, Results in ug/L

Sample Date	Well Number	Benzene	Toluene	Ethyl-Benzene	Xylenes	Methyl-t-Butyl Ether	TPH Gasoline	TPH Diesel	Total Oil & Grease	EPA 601
April 1991	MW-2	640	520	170	790	--	4800	--	--	--
	MW-3	450	270	150	760	--	3600	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	ND	--
January 1991	MW-2	50	33	22	110	--	430	--	--	--
	MW-3	29	3.3	9.7	34	--	110	--	--	--
August 1990	MW-2	21	3.9	7.2	28	--	180	--	--	--
	MW-3	55	3.8	20	59	--	290	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	ND	--
Maximum Contaminant Level (MCL)		1	150	700	1750	NA	NA	NA	NA	Chlorobenzene - NA Chloroform - NA cis-1,2-Dichloroethene 6.0 trans-1,2-Dichloroethene 10.0 1,2-Dichloroethane 0.5 Tetrachloroethene 5.0 Trichloroethene 5.0

ND = None Detected
-- = Not Analyzed
NA = Not Available
1 = TPHg values have demonstrated to represent Perchloroethane presence
2 = MTBE by EPA 8015/8020
3 = MTBE by EPA 8260
MCLs from California Code of Regulations Title 22, Article 5.5

Semi-Annual Groundwater Monitoring Report Former Unocal 76 Service Station 20405 and 20629 Redwood Road Castro Valley, California	VICINITY MAP FIGURE: 1 BSK Job No. P92057.3	BSK


Safeway
Sporting Goods
Clothing Store
Marshall Steel Dry-Cleaner
Liquor Store
Asphalt Driveway
Utility Corridor
Asphalt Driveway
Coin-op Car Wash
Asphalt Parking Lot
MW-5
MW-7
MW-6
MW-4 (Adandoned)
Former Waste Oil UST
Former Unocal Service Station
MW-101
Former Gasoline USTs Location
MW-3
MW-2
N
Sidewalk
Redwood Road
LEGEND
Groundwater Monitoring Well Location & Desgination
0
50
100
Approximate Scale in Feet
BSK Job No. P92057.3
SITE PLAN
FIGURE 2
BSK


Safeway
Sporting Goods
Asphalt Driveway
Utility Corridor
Coin-op Car Wash
174.4
MW-5
(174.47)
174.2
Asphalt Parking Lot
Clothing Store
MW-4
(Adandoned)
Former Waste Oil UST
174.0
MW-7
(173.70)
Asphalt Driveway
Former Unocal Service Station
Marshall Steel Dry-Cleaner
MW-101
175.0
Former Gasoline USTs Location
175.2
MW-3
(175.35)
MW-6
(173.87)
Liquor Store
174.8
174.8
MW-2
(174.98)
N
Sidewalk
Redwood Road
LEGEND
Groundwater Monitoring Well Location & Desgination (Groundwater Elevation)
Groundwater Elevation Contour in feet MSL
0
50
100
Approximate Scale in Feet
BSK Job No. P92057.3
GROUNDWATER ELEVATION CONTOUR MAP
FIGURE 3
BSK

BSK Job No. P92057.3
Date: March 2000
Figure No. 4.1

WELL FIELD LOG

Well Observation: x **Date:** 3/1/00
Sample Collection: x **Date:** 3/1/00

Project Name: Groundwater Monitoring
Location: Nahas/Former Union 76
Personnel: MBC
Weather: Clear, Mild

WELL INFORMATION:

Well Number	MW-2	Date Purged	3/1/00
Depth to Water - feet(TOC)	8.49	Purge Method	Submersible Pump
Well Depth (feet)	28.85		
Water Volume (gallons)	3.5	Purge Begin	11:50
Reference Elevation - feet(TOC)	+183.47	Purge End	11:57
Groundwater Elevation (feet)	174.98	Purge Rate	2.0 gpm
Measurement Technique	Solinst Electric Well Sounder		

IMMISCIBLE LAYERS:

Top: None Observed, Slight Odor
Bottom: None Observed, Slight Odor
Detection Method: Visual
Collection Method: Clear Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

TIME	VOLUME REMOVED (gallons)	ELECTRICAL CONDUCTIVITY (Micromhos)	pH	TEMP. (F)	COLOR/COMMENTS
11:52	3.5	764	7.30	72.7	Odor
11:54	7.0	770	6.76	70.6	
11:55	10.5	756	6.70	69.0	
11:57	14.0	754	6.69	68.3	

SAMPLE COLLECTION DATA

Sampling Equipment: Teflon Bailer

TIME	ANALYSIS	AMOUNT/CONTAINER USED	SAMPLE INTERVAL
12:00	BTEX/MTBE & TPHg	2-40ml glass VOC with HCl	9'

Field Notes:

BSK Job No. P92057.3
Date: March 2000
Figure No. 4.2

WELL FIELD LOG

Well Observation: x **Date:** 3/1/00
Sample Collection: x **Date:** 3/1/00

Project Name: Groundwater Monitoring
Location: Nahas/Union 76
Personnel: MBC
Weather: Clear, Mild

WELL INFORMATION:

Well Number	MW-3	Date Purged	3/1/00
Depth to Water - feet(TOC)	8.68	Purge Method	Submersible Pump
Well Depth (feet)	28.85		
Water Volume (gallons)	3.4	Purge Begin	11:14
Reference Elevation - feet(TOC)	+184.03	Purge End	11:22
Groundwater Elevation (feet)	175.35	Purge Rate	1.8 gpm
Measurement Technique	Solinst Electric Well Sounder		

IMMISCIBLE LAYERS:

Top: none observed, no odor
Bottom: none observed, no odor
Detection Method: Visual
Collection Method: Clear Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

TIME	VOLUME REMOVED (gallons)	ELECTRICAL CONDUCTIVITY (Micromhos)	pH	TEMP. (F)	COLOR/COMMENTS
11:16	3.5	728	7.44	68.7	
11:18	7.0	748	6.80	68.8	Slight odor
11:21	10.5	771	6.77	68.7	
11:22	14.0	785	6.76	68.2	

SAMPLE COLLECTION DATA

Sampling Equipment: Teflon Bailer

TIME	ANALYSIS	AMOUNT/CONTAINER USED	SAMPLE INTERVAL
11:30	BTEX/MTBE & TPHg	2-40ml glass VOC with HCl	9'

Field Notes:

BSK Job No. P92057.3
Date: March 2000
Figure No. 4.3

WELL FIELD LOG

Well Observation: x **Date:** 3/1/00
Sample Collection: x **Date:** 3/1/00

Project Name: Groundwater Monitoring
Location: Nahas/Union 76
Personnel: MBC
Weather: Clear, Mild

WELL INFORMATION:

Well Number	MW-101	Date Purged	3/1/00
Depth to Water - feet(TOC)	9.75	Purge Method	Submersible Pump
Well Depth (feet)	30		
Water Volume (gallons)	13.6	Purge Begin	14:27
Reference Elevation - feet(TOC)	--	Purge End	14:59
Groundwater Elevation (feet)	--	Purge Rate	1.8 gpm
Measurement Technique	Solinst Electric Well Sounder		

IMMISCIBLE LAYERS:

Top: None observed, moderate odor
Bottom: None observed, moderate odor
Detection Method: Visual
Collection Method: Clear Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

TIME	VOLUME REMOVED (gallons)	ELECTRICAL CONDUCTIVITY (Micromhos)	pH	TEMP. (F)	COLOR/COMMENTS
14:33	14	639	7.60	70.3	Water is gray
14:42	28	573	7.04	67.9	" "
14:50	42	598	7.05	68.5	Water is light gray
14:59	56	632	7.10	67.0	" "

SAMPLE COLLECTION DATA

Sampling Equipment: Teflon Bailer

TIME	ANALYSIS	AMOUNT/CONTAINER USED	SAMPLE INTERVAL
15:15	BTEX?MTBE & TPHg	2-40ml glass VOC with HCl	11'

Field Notes:

BSK Job No. P92057.3
Date: March 2000
Figure No. 4.4

WELL FIELD LOG

Well Observation: **Date:**
Sample Collection: **Date:**

Project Name: Groundwater Monitoring
Location: Nahas/Union 76
Personnel:
Weather:

WELL INFORMATION:

Well Number	MW-5	Date Purged	3/1/00
Depth to Water - feet(TOC)	9.45	Purge Method	Submersible Pump
Well Depth (feet)	34.5		
Water Volume (gallons)	4.3	Purge Begin	13:48
Reference Elevation - feet(TOC)	+183.92	Purge End	13:56
Groundwater Elevation (feet)	174.47	Purge Rate	2.3 gpm
Measurement Technique	Solinst Electric Well Sounder		

IMMISCIBLE LAYERS:

Top: None observed, No odor
Bottom: None observed, No odor
Detection Method: Visual
Collection Method: Clear Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

TIME	VOLUME REMOVED (gallons)	ELECTRICAL CONDUCTIVITY (Micrombos)	pH	TEMP. (°F)	COLOR/COMMENTS
13:51	4.5	780	7.63	68.6	
13:53	9.0	733	7.01	69.2	
13:55	13.5	712	6.77	69.5	
13:56	18.0	711	6.74	69.8	

SAMPLE COLLECTION DATA

Sampling Equipment: Teflon Bailer

TIME	ANALYSIS	AMOUNT/CONTAINER USED	SAMPLE INTERVAL
14:00	BTEX/MTBE & TPHg	2-40ml glass VOC with HCl	10'

Field Notes:

BSK Job No. P92057.3
Date: March 2000
Figure No. 4.5

WELL FIELD LOG

Well Observation: x **Date:** 3/1/00
Sample Collection: x **Date:** 3/1/00

Project Name: Groundwater Monitoring
Location: Nahas/Union 76
Personnel: MBC
Weather: Clear, Mild

WELL INFORMATION:

Well Number	MW-6	Date Purged	3/1/00
Depth to Water - feet(TOC)	9.73	Purge Method	Submersible Pump
Well Depth (feet)	26.78		
Water Volume (gallons)	2.9	Purge Begin	9:17
Reference Elevation - feet(TOC)	+183.60	Purge End	9:24
Groundwater Elevation (feet)	183.60	Purge Rate	1.7
Measurement Technique	Solinst Electric Well Sounder		

IMMISCIBLE LAYERS:

Top: None observe, no odor
Bottom: None observe, no odor
Detection Method: Visual
Collection Method: Clear Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

TIME	VOLUME REMOVED (gallons)	ELECTRICAL CONDUCTIVITY (Micromhos)	pH	TEMP. (F)	COLOR/COMMENTS
9:19	3.0	1122	6.42	63.9	
9:21	6.0	857	6.62	66.2	
9:22	9.0	851	6.65	67.1	
9:24	12.0	853	6.70	67.1	

SAMPLE COLLECTION DATA

Sampling Equipment: Teflon Bailer

TIME	ANALYSIS	AMOUNT/CONTAINER USED	SAMPLE INTERVAL
9:30	BTEX/MTBE & TPHg	2-40ml glass VOC with HCl	10'

Field Notes:

BSK Job No. P92057.3
Date: March 2000
Figure No. 4.6

WELL FIELD LOG

Well Observation: x **Date:** 3/1/00
Sample Collection: x **Date:** 3/1/00

Project Name: Groundwater Monitoring
Location: Nahas/Union 76
Personnel: MBC
Weather: Clear, Mild

WELL INFORMATION:

Well Number	MW-7	Date Purged	3/1/00
Depth to Water - feet(TOC)	8.72	Purge Method	Bailer
Well Depth (feet)	28.0		
Water Volume (gallons)	3.2	Purge Begin	10:15
Reference Elevation - feet(TOC)	+182.42	Purge End	10:40
Groundwater Elevation (feet)	173.7	Purge Rate	0.5 gpm
Measurement Technique	Solinst Electric Well Sounder		

IMMISCIBLE LAYERS:

Top: None observed, no odor
Bottom: None observed, no odor
Detection Method:
Collection Method:

WELL DEVELOPMENT/PURGE DATA:

TIME	VOLUME REMOVED (gallons)	ELECTRICAL CONDUCTIVITY (Ec/Range)	pH	TEMP. (°F)	COLOR/COMMENTS
10:20	3.0	1029	7.40	71.2	
10:28	6.0	1008	6.80	68.4	
10:38	9.0	1015	6.78	68.1	
10:40	12.0	1019	6.82	68.0	

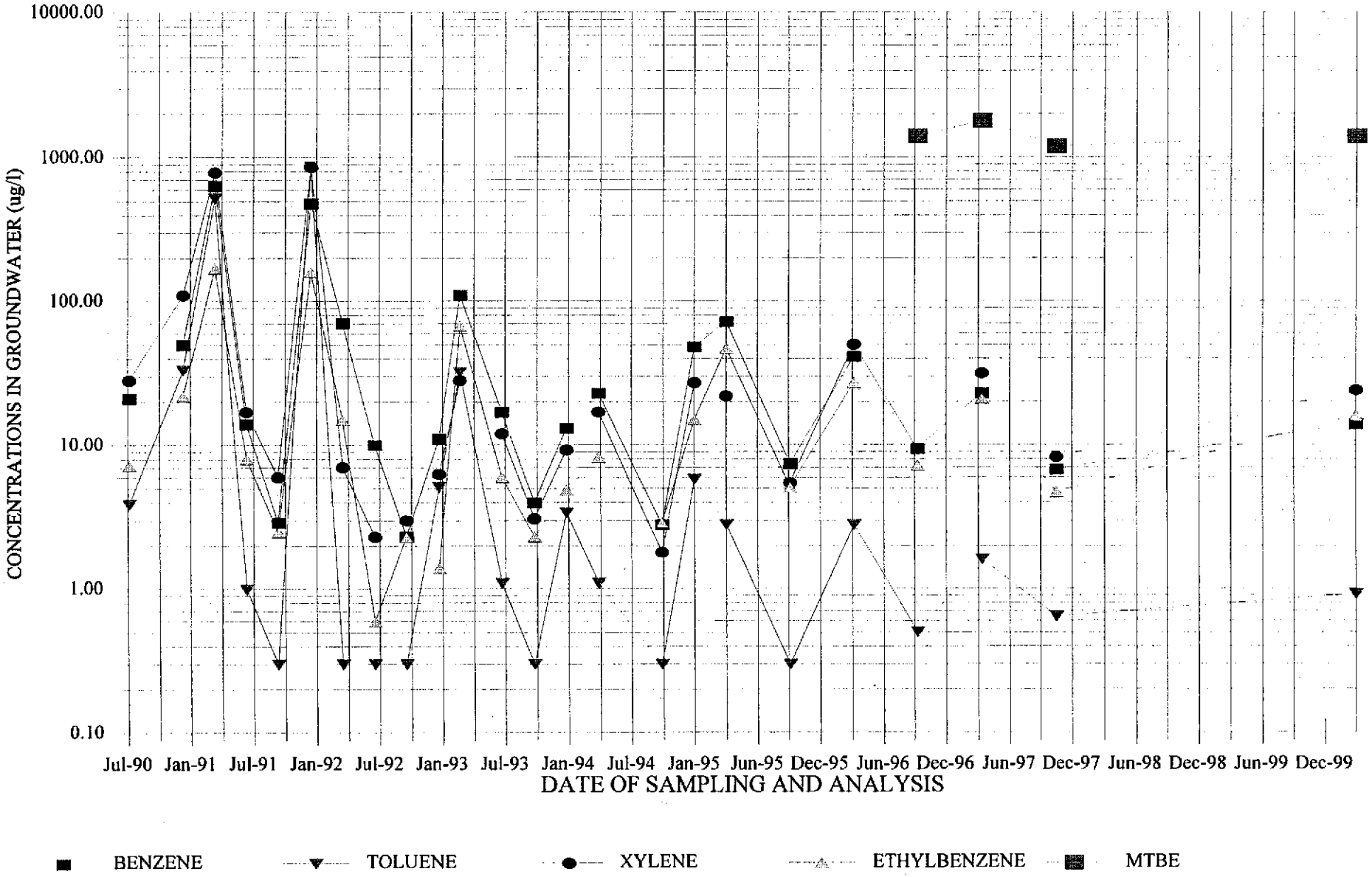
SAMPLE COLLECTION DATA

Sampling Equipment: Teflon Bailer

TIME	ANALYSIS	AMOUNT/CONTAINER USED	SAMPLE INTERVAL
10:45	BTEX/MTBE & TPHg	2-40ml glass VOC with HCl	9'

Field Notes

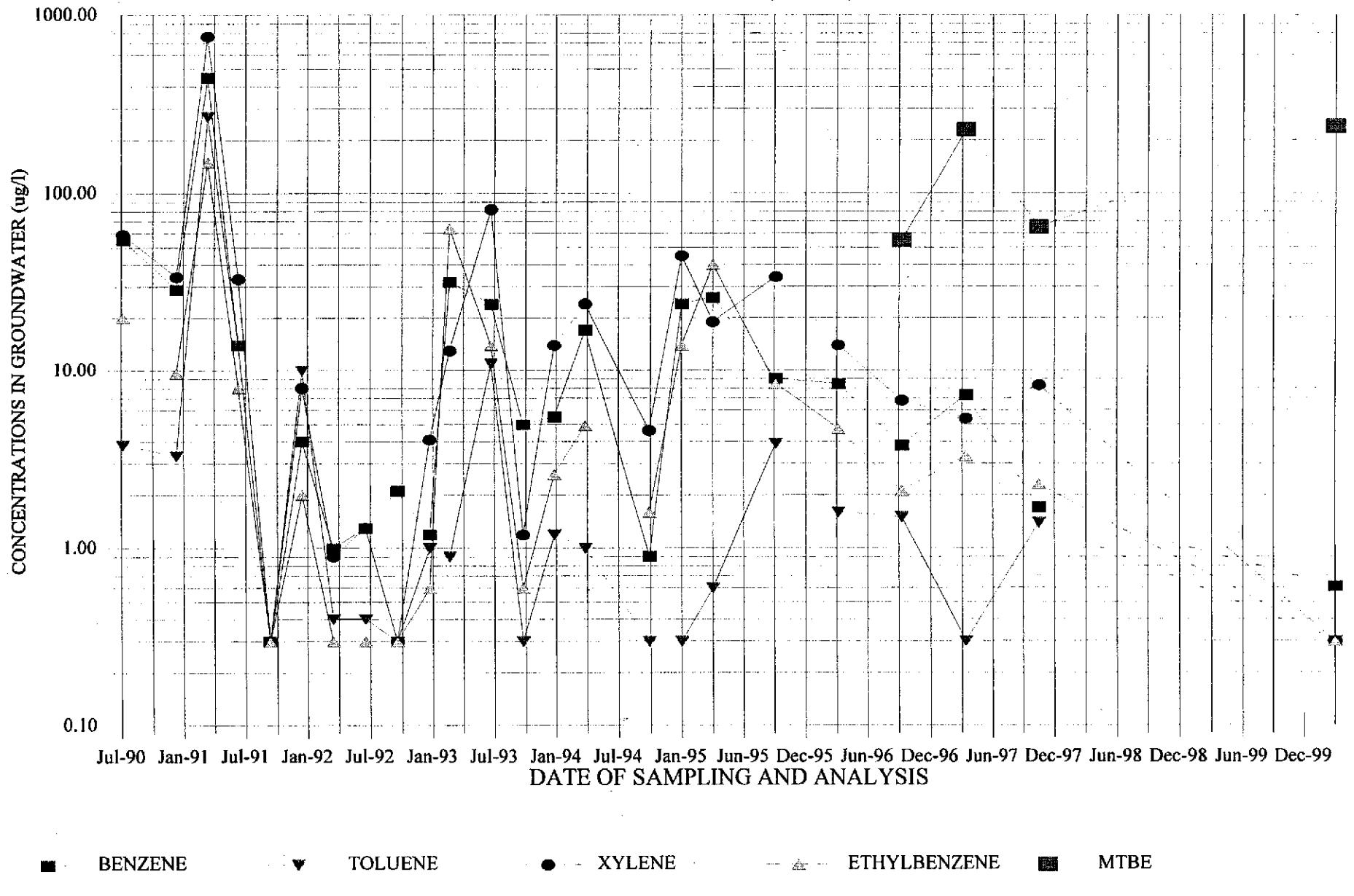
BTEX/MTBE CONCENTRATIONS IN GROUNDWATER(MW-2)



BSK Job No. P92057.3
MARCH 2000
FIGURE 5

BSK

BTEX/MTBE CONCENTRATIONS IN GROUNDWATER(MW-3)



BSK Job No. P92057.3
MARCH 2000
FIGURE 6

BSK

APPENDIX A

CHEMICAL TEST DATA SHEETS

AND

PROJECT-CHAIN-OF-CUSTODY RECORD

BSK ANALYTICAL LABORATORIES

RECEIVED MAR 1 8 2000

Cover Letter

03/15/2000

Marty Cline
BSK & Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

BSK Submission Number: 2000030072

Dear Marty Cline:

BSK Analytical Laboratories adheres to a quality assurance plan that has been approved by the State of California Department of Health Services. Our Environmental Laboratory Accreditation Program (ELAP) certification number is 1180.

BSK Analytical Laboratories has prepared this certificate of analysis in response to your request for analytical services. All information was taken from your Chain of Custody or related correspondence. BSK completed all sample handling and analytical procedures within the Laboratory's standard acceptability criteria with any exceptions noted below.

If additional clarification of any information is required, please contact our Client Services Department at (800)877-8310 or (559)497-2888.

Sincerely,

BSK Analytical Laboratories

Authorizing Signature(s)

Juliane Adams
Organic Laboratory Supervisor

Ko Yang
Inorganic Laboratory Supervisor

Cynthia Pigman
QA/QC Supervisor

BSK ANALYTICAL LABORATORIES

Marty Cline
BSK & Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

Certificate of Analysis

Report Issue Date: 03/15/2000

BSK Submission #: 2000030072

BSK Sample ID #: 27724

Project ID: P920573 Project Desc: Nahas
Submission Comments:
Sample Type: Liquid
Sample Description: MW-2
Sample Comment

Date Sampled: 03/01/2000
Time Sampled: 1200
Date Received: 03/02/2000

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
TPH as Gasoline	EPA 8015(M)	**560**	µg/L	50	1	50	03/06/2000	03/06/2000
Methyl-t-Butyl Ether	EPA 8015/8020	**1400**	µg/L	5	40	200	03/07/2000	03/07/2000
Benzene	EPA 8020	**14**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000
Ethylbenzene	EPA 8020	**16**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000
Toluene	EPA 8020	**0.92**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000
Total Xylenes	EPA 8020	**24**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting
: PQL x Dilution
ND: none detected at DLR

H: analyzed outside of hold time
P: preliminary result
S: suspect result

BSK ANALYTICAL LABORATORIES

Marty Cline
BSK & Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

Certificate of Analysis

Report Issue Date: 03/15/2000

BSK Submission #: 2000030072

BSK Sample ID #: 27723

Project ID: P920573 Project Desc: Nahas
Submission Comments:
Sample Type: Liquid
Sample Description: MW-3
Sample Comment

Date Sampled: 03/01/2000
Time Sampled: 1130
Date Received: 03/02/2000

Organics

Analyte	Method	Result	Units	POL	Dilution	DLR	Prep Date	Analysis Date
TPH as Gasoline	EPA 8015(M)	**96**	µg/L	50	1	50	03/06/2000	03/06/2000
Methyl-t-Butyl Ether	EPA 8015/8020	**240**	µg/L	5	20	100	03/07/2000	03/07/2000
Benzene	EPA 8020	**0.61**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000
Ethylbenzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000
Toluene	EPA 8020	**ND**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000
Total Xylenes	EPA 8020	**ND**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000

LUFT Comments

TPH as Gasoline	Individual peaks inconsistent with fuel fingerprint
TPH as Gasoline	Higher boiling point hydrocarbons decreased relative to standard

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

POL: practical quantitation limit
DLR: detection limit for reporting
: POL x Dilution
ND: none detected at DLR

H: analyzed outside of hold time
P: preliminary result
S: suspect result

BSK ANALYTICAL LABORATORIES

Marty Cline
BSK & Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

Certificate of Analysis

Report Issue Date: 03/15/2000

BSK Submission #: 2000030072

BSK Sample ID #: 27726

Project ID: P920573 Project Desc: Nahas
Submission Comments:
Sample Type: Liquid
Sample Description: MW-101
Sample Comment

Date Sampled: 03/01/2000
Time Sampled: 1515
Date Received: 03/02/2000

Organics

Analyte	Method	Result	Units	POL	Dilution	DLR	Prep Date	Analysis Date
TPH as Gasoline	EPA 8015(M)	**40000**	µg/L	50	40	2000	03/07/2000	03/07/2000
Methyl-t-Butyl Ether	EPA 8015/8020	**2400**	µg/L	5	40	200	03/07/2000	03/07/2000
Benzene	EPA 8020	**2500**	µg/L	0.3	400	120	03/08/2000	03/08/2000
Ethylbenzene	EPA 8020	**4300**	µg/L	0.3	400	120	03/08/2000	03/08/2000
Toluene	EPA 8020	**490**	µg/L	0.3	40	12	03/07/2000	03/07/2000
Total Xylenes	EPA 8020	**10000**	µg/L	0.3	400	120	03/08/2000	03/08/2000
Methyl-t-Butyl Ether	EPA 8260	**1400**	µg/L	5	50	250	03/09/2000	03/10/2000

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

POL: practical quantitation limit
DLR: detection limit for reporting
: POL x Dilution
ND: none detected at DLR

H: analyzed outside of hold time
P: preliminary result
S: suspect result

BSK ANALYTICAL LABORATORIES

Marty Cline
BSK & Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

Certificate of Analysis

Report Issue Date: 03/15/2000

BSK Submission #: 2000030072

BSK Sample ID #: 27725

Project ID: P920573 Project Desc: Nahas
Submission Comments:
Sample Type: Liquid
Sample Description: MW-5
Sample Comment

Date Sampled: 03/01/2000
Time Sampled: 1400
Date Received: 03/02/2000

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
TPH as Gasoline	EPA 8015(M)	**ND**	µg/L	50	1	50	03/06/2000	03/07/2000
Methyl-t-Butyl Ether	EPA 8015/8020	**ND**	µg/L	5	1	5	03/06/2000	03/07/2000
Benzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	03/06/2000	03/07/2000
Ethylbenzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	03/06/2000	03/07/2000
Toluene	EPA 8020	**ND**	µg/L	0.3	1	0.3	03/06/2000	03/07/2000
Total Xylenes	EPA 8020	**ND**	µg/L	0.3	1	0.3	03/06/2000	03/07/2000

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

POL: practical quantitation limit
DLR: detection limit for reporting
: POL x Dilution
ND: none detected at DLR

H: analyzed outside of hold time
P: preliminary result
S: suspect result

BSK ANALYTICAL LABORATORIES

Marty Cline
BSK & Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

Certificate of Analysis

Report Issue Date: 03/15/2000

BSK Submission #: 2000030072

BSK Sample ID #: 27721

Project ID: P920573 Project Desc: Nahas
Submission Comments:
Sample Type: Liquid
Sample Description: MW-6
Sample Comment

Date Sampled: 03/01/2000
Time Sampled: 0930
Date Received: 03/02/2000

Organics

Analyte	Method	Result	Units	POL	Dilution	DLR	Prep Date	Analysis Date
TPH as Gasoline	EPA 8015(M)	**78**	µg/L	50	1	50	03/06/2000	03/06/2000
Methyl-t-Butyl Ether	EPA 8015/8020	**260**	µg/L	5	20	100	03/07/2000	03/07/2000
Benzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000
Ethylbenzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000
Toluene	EPA 8020	**0.49**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000
Total Xylenes	EPA 8020	**ND**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000

LUFT Comments

TPH as Gasoline	Individual peaks inconsistent with fuel fingerprint

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

POL: practical quantitation limit
DLR: detection limit for reporting
: POL x Dilution
ND: none detected at DLR

H: analyzed outside of hold time
P: preliminary result
S: suspect result

BSK ANALYTICAL LABORATORIES

Marty Cline
BSK & Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

Certificate of Analysis

Report Issue Date: 03/15/2000

BSK Submission #: 2000030072

BSK Sample ID #: 27722

Project ID: P920573 Project Desc: Nahas
Submission Comments:
Sample Type: Liquid
Sample Description: MW-7
Sample Comment

Date Sampled: 03/01/2000
Time Sampled: 1045
Date Received: 03/02/2000

Organics

Analyte	Method	Result	Units	POL	Dilution	DLR	Prep Date	Analysis Date
TPH as Gasoline	EPA 8015(M)	**890**	µg/L	50	1	50	03/07/2000	03/07/2000
Methyl-t-Butyl Ether	EPA 8015/8020	**ND**	µg/L	5	1	5	03/06/2000	03/06/2000
Benzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	03/06/2000	03/06/2000
Ethylbenzene	EPA 8020	**ND**	µg/L	0.3	40	12	03/07/2000	03/07/2000
Toluene	EPA 8020	**ND**	µg/L	0.3	40	12	03/07/2000	03/07/2000
Total Xylenes	EPA 8020	**ND**	µg/L	0.3	40	12	03/07/2000	03/07/2000

LUFT Comments

TPH as Gasoline	Individual peaks inconsistent with fuel fingerprint

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

POL: practical quantitation limit
DLR: detection limit for reporting
: POL x Dilution
ND: none detected at DLR

H: analyzed outside of hold time
P: preliminary result
S: suspect result

ANALYTICAL
BSK
LABORATORIES

Environmental Services

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

Ana 2000030072 03/02/2000 BSK Log Number:

BSK_P TAT: Standard

Pre-Login ID#: 32008

Analytical Due Date:

Requested Analyses

Client Name	Report Attention:	Phone #
Nahas	Martin Cline	
Address	Project, Quote or PO #	FAX #
c/o BSK-P	P92057.3	
City, State, Zip	Copy to:	System #

LAB use only Sample #	Type	# Cont.	Date Sampled	Time Sampled	Sampled by: M. Cline / Sample Description/Location	Comment or Station Code	TPH-G, BTEX	MTBE*	*Confirm Highest	MTBE confirmation	with 8260 MTBE						
1	L	2	3/1/00	9:30	MW-6	27721	X	X									
2				10:45	MW-7	27722	X	X									
3				11:30	MW-3	27723	X	X									
4				12:00	MW-2	27724	X	X									
5				14:00	MW-5	27725	X	X									
6	L	2	↓	15:15	MW-101	27726	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: Martin Cline	Martin Cline	BSK-P	3/1/00	16:45
Received / Relinquished by:				
Received / Relinquished by:				
Received / Relinquished by:				
Received for Laboratory by: Tom Yang	Tom Yang	BSK	3/2/00	10:10 AM