USA GASOLINE CORPORATION
30101 Agoura Court, Ste. 200, Agoura Hills, CA 91301-4311
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March 28, 1996

Mr. Barney Chen
Alameda County Health Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

4490

RE: USA Gasoline Station #57
10700 MacArthur Blvd.
Oakland, California

Dear Mr. Chen,

Please find enclosed, a copy of the Supplementary Site Assessment Report for the above referenced site. Alton GeoScience prepared this report for USA Gasoline Corporation. Please review this report and send us your comments. We appreciate your cooperation.

If you have any questions please call me at (818) 865-9200 Ext 214.

Thank you.

Sincerely,

Srikanth

Srikanth Dasappa
Environmental Engineer

2nd RP:
Jay Phares Corp
Drake Builders
10700 MacArthur Blvd, #200
Oak 94605-5260

SUPPLEMENTARY SITE ASSESSMENT REPORT
February 26, 1996

FORMER USA GASOLINE STATION #57
10700 MacArthur Boulevard
Oakland, California 94605

Alton Project No. 41-0034

Prepared For:

USA GASOLINE CORPORATION
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Prepared By:

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ALTON GEOSCIENCE
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Livermore , California 94550

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1.0 INTRODUCTION

This report presents the findings of a supplementary site assessment investigation conducted at Former USA Gasoline Station #57, located at 10700 MacArthur Boulevard in Oakland, California (Figure 1). This work was performed in accordance with the Alameda County Health Care Services Agency (ACHCSA), Department of Environmental Health requirements, and the Alton Geoscience site assessment workplan dated July 27, 1995.

The site assessment activities were performed to:

- Further characterize the lateral and vertical extent of hydrocarbons in soil at the site; and
- Further characterize the lateral extent of dissolved-phase hydrocarbons at the site.

2.0 SITE DESCRIPTION

Present Site Use: The site is currently a shopping center parking lot (Figure 2).

Past Site Use: The site was formerly a retail fuel station dispensing gasoline and diesel fuel from four underground storage tanks (USTs) located in the southern portion of the site (Figure 2). On July 19, 1994, four USTs (three 12,000-gallon tanks containing gasoline, and one 8,000-gallon tank containing diesel fuel) were excavated and removed from the site.

Future Site Use: There are plans to redevelop the shopping center which occupies the site and surrounding property.

Adjacent Property: The site is located in the southeast corner of the Foothill Square Shopping Center, which is bounded on the north by 106th Avenue, on the east by Foothill Boulevard, on the south by 108th Avenue, and on the west by MacArthur Boulevard. The property immediately surrounding the site is an asphalt parking area. Residences are located south of the site, across 108th Avenue. Highway 580, a multi-lane freeway, is located east of the site, across Foothill Boulevard.

Geography: The site is located in Oakland, California, at an elevation of approximately 80 feet above mean sea level (National Geodetic Vertical Datum [NGVD]-1929). The site is near the eastern edge of the East Bay Plain; the

Berkeley Hills rise abruptly east of the site. The topography in the site vicinity slopes to the southwest.

Regional Geology: The site is located in the East Bay Plain, in the eastern part of the San Francisco Bay area. Much of the East Bay Plain is underlain by the Temescal formation and the Alameda formation, which are of Pleistocene age (DWR, 1975). The Temescal formation consists of interfingering layers of clayey gravel, sandy silty clay, and various clay-silt-sand mixtures. The formation varies in thickness to a maximum of approximately 60 feet. Underlying the Temescal formation is the Alameda formation, which consists of unconsolidated continental and marine gravels, sands, silts, and clays, with some shells and organic material in places. The Alameda formation has a maximum known thickness of 1,050 feet (Radbruch, 1957).

Regional Hydrogeology: The site is located in the East Bay Plain Ground Water Area, a subarea of the Santa Clara Valley Basin. Groundwater occurs in unconsolidated Quaternary alluvium, including the Alameda formation (DWR, 1975).

Ground Water Quality and Usage: Most water used in the area is imported from other areas of the state by the East Bay Municipal Utilities District. Scattered wells supply individual dwellings, and a few commercial and industrial developments (DWR, 1975). No known domestic water wells are within 250 feet of the site.

3.0 BACKGROUND SITE CONDITIONS

Site conditions prior to this investigation include the following:

- Three onsite groundwater monitoring wells (S-1, S-2, and MW-3) were present at the site.
- The static water levels measured in the monitoring wells on July 24, 1995 were approximately 13 feet below grade (fbg), however, groundwater is believed to exist under confined or semi-confined conditions below a depth of approximately 20 fbg (Alton Geoscience, 1995).

- Dissolved-phase hydrocarbons were detected in groundwater samples collected from Monitoring Wells S-1, S-2, and MW-3 (maximum concentration of 24,000 parts per billion [ppb] total petroleum hydrocarbons as gasoline [TPH-G] in S-2 on March 3, 1995).

- Three gasoline USTs and one diesel UST were removed from the site in 1994. Soil samples collected from the former UST tank cavity during over-excavation activities indicated the presence of hydrocarbon-impacted soil at approximately 12 and 13 fbg in the vicinity of the former tanks (maximum concentrations of 2,400 parts per million [ppm] TPH-G and 330 ppm TPH-D).

4.0 FIELD ACTIVITIES

4.1 SOIL SAMPLING AND MONITORING WELL INSTALLATION

On November 20 and 21, 1995, Alton Geoscience conducted supplementary site assessment activities at Former USA Gasoline Station #57. The investigation included the drilling and installation of five groundwater monitoring wells (MW-4 through MW-8) to depths of 35 and 40 fbg. Refer to Figure 2 for the monitoring well locations.

Ten-inch diameter borings were advanced using hollow-stem auger drilling methods. Soil samples were collected at depth intervals of 5 feet or less using a California-modified split spoon sampler. Four-inch diameter monitoring wells were installed in each boring with their casing tops extending 2 to 3 feet above the ground surface. Lockable well monuments were installed over the exposed casing tops to protect the wells from damage and vandalism. Refer to Appendix A for details regarding general field procedures, boring logs, and groundwater monitoring well construction details. See Figures 3 and 4 for geologic cross sections showing soil types and inferred stratigraphy beneath the site.

Select soil samples collected during drilling were submitted to a state-certified laboratory and were analyzed for TPH-G using EPA Method 8015 modified for gasoline, TPH-D using EPA Method 8015 modified for diesel, and toluene, ethylbenzene, and total xylenes (BTEX) using EPA Method 8020. The results of the laboratory analysis for soil samples are listed in Table 1, and are shown on Figure 5. Refer to Appendix B for copies of the Official Laboratory Reports, Quality Assurance/Quality Control (QA/QC) Reports, and Chain of Custody Records.

4.2 WELL ELEVATION SURVEY

On November 22, 1995, the groundwater monitoring wells were surveyed to the nearest 0.01 foot vertically and 0.1 foot horizontally relative to a City of Oakland benchmark by Ron Archer, Civil Engineer Inc. Refer to Appendix C for the certified survey data.

4.3 FLUID LEVEL MONITORING AND GROUNDWATER SAMPLING

On November 22, 1995, fluid level measurements and groundwater samples collected from eight monitoring wells as per standard regulatory protocol. Refer to Appendix A for a description of the general field procedures used at the site. The groundwater samples were submitted to a state-certified laboratory for analysis for TPH-G, TPH-D, BTEX and methyl-tertiary-butyl-ether (MTBE). Results of the laboratory analysis for water samples are listed in Table 2 and shown in Figure 6.

On December 6, 1995 and January 4, 1996, fluid levels were again measured in the eight monitoring wells. Groundwater elevation contour maps based on the fluid level measurements are shown in Figures 7 and 8.

4.4 SOIL AND WATER DISPOSAL

Approximately 6 cubic yards of soil cuttings were generated during drilling activities. The soil was stockpiled on and covered with plastic sheeting pending disposal at a certified waste disposal facility. Approximately 100 gallons of rinsate water and groundwater generated during well development and groundwater sampling activities were stored onsite in 55-gallon, DOT-approved drums pending transport and disposal at a certified waste disposal facility.

5.0 FINDINGS

The results of this investigation are summarized as follows:

- The soil beneath the site was found to generally consist of silty, clayey sand, interbedded with silts and clayey gravels, and lying on a sloping bedrock surface (Figures 3 and 4). Clayey gravels were encountered from approximately 17 fbg to 40 fbg in MW-4, 23 fbg to 30 fbg in and MW-5, 13 fbg to 35 fbg in MW-6, 23 fbg to 28 fbg in MW-7, but were not encountered in MW-8. Bedrock, consisting of fractured and friable sandstone, interbedded with weathered, relatively unconsolidated clays and silts, was encountered at

approximately 8 fbg in MW-8, 32.5 fbg in MW-7, and 35 fbg in MW-6, but was not encountered in MW-4 or MW-5.

- No TPH-G or BTEX concentrations were detected in any soil sample except the sample collected from 20 fbg in MW-7 (MW-7[20']), which contained 25 ppm TPH-G and low BTEX concentrations. Minor TPH-D concentrations were detected in all analyzed soil samples (maximum TPH-D concentration of 8.7 ppm in MW-7[20']).

- The depth at which groundwater was first encountered during drilling varied between wells. It was encountered at 15 fbg in MW-4 and MW-6, 25 fbg in MW-5, and 20 fbg in MW-7. Groundwater was not observed during the drilling of MW-8 to 35 fbg.

- Average depth to static groundwater at the site one day after drilling activities were completed (November 22, 1995) was 21 fbg. Subsequent monitoring events on December 6, 1995 and January 4, 1996 found groundwater to be at approximately 18 fbg and 19 fbg, respectively. Collectively, the groundwater elevations measured in the monitoring wells indicate that a piezometric low occurs between S-1, S-2 and MW-7 (Figures 7 and 8).

- No dissolved-phase TPH-G, benzene or ethylbenzene concentrations were detected in any of the perimeter monitoring wells (MW-4, MW-5, MW-6 and MW-8) or in MW-7, and only minor concentrations of toluene and xylenes were detected. Dissolved-phase TPH-G and BTEX concentrations were detected in Monitoring Wells S-1 and MW-3 (maximum TPH-G and benzene concentrations of 14,000 ppb and 5,700 ppb, respectfully in MW-3), and a "trace" (sheen) of free product was observed on a groundwater sample collected from S-2. MTBE concentrations ranged from 0.73 ppb to 820 ppb in the analyzed samples.

- Dissolved-phase TPH-D concentrations were detected in all groundwater sample collected at the site (maximum concentration of 6,100 ppb in S-1). All perimeter wells and MW-7 contained less than 400 ppb TPH-D.

6.0 CONCLUSIONS

Based on the results of this and previous investigations, Alton Geoscience concludes:

- The remaining soil hydrocarbons have been adequately characterized vertically and laterally with the installation of offsite Monitoring Wells MW-4 through MW-8.

- The source at this site has been adequately removed during remedial excavation activities.

- The lateral extent of the dissolved-phase hydrocarbons is adequately characterized with the installation of the new wells. The bulk of the dissolved-phase hydrocarbons (TPH-G, BTEX, MTBE and TPH-D) are found in close proximity to the former USTs.

- The dissolved-phase hydrocarbons detected beneath the site appear to be locally contained by natural degradation processes or by limited groundwater flow, or by both.

7.0 RECOMMENDATIONS

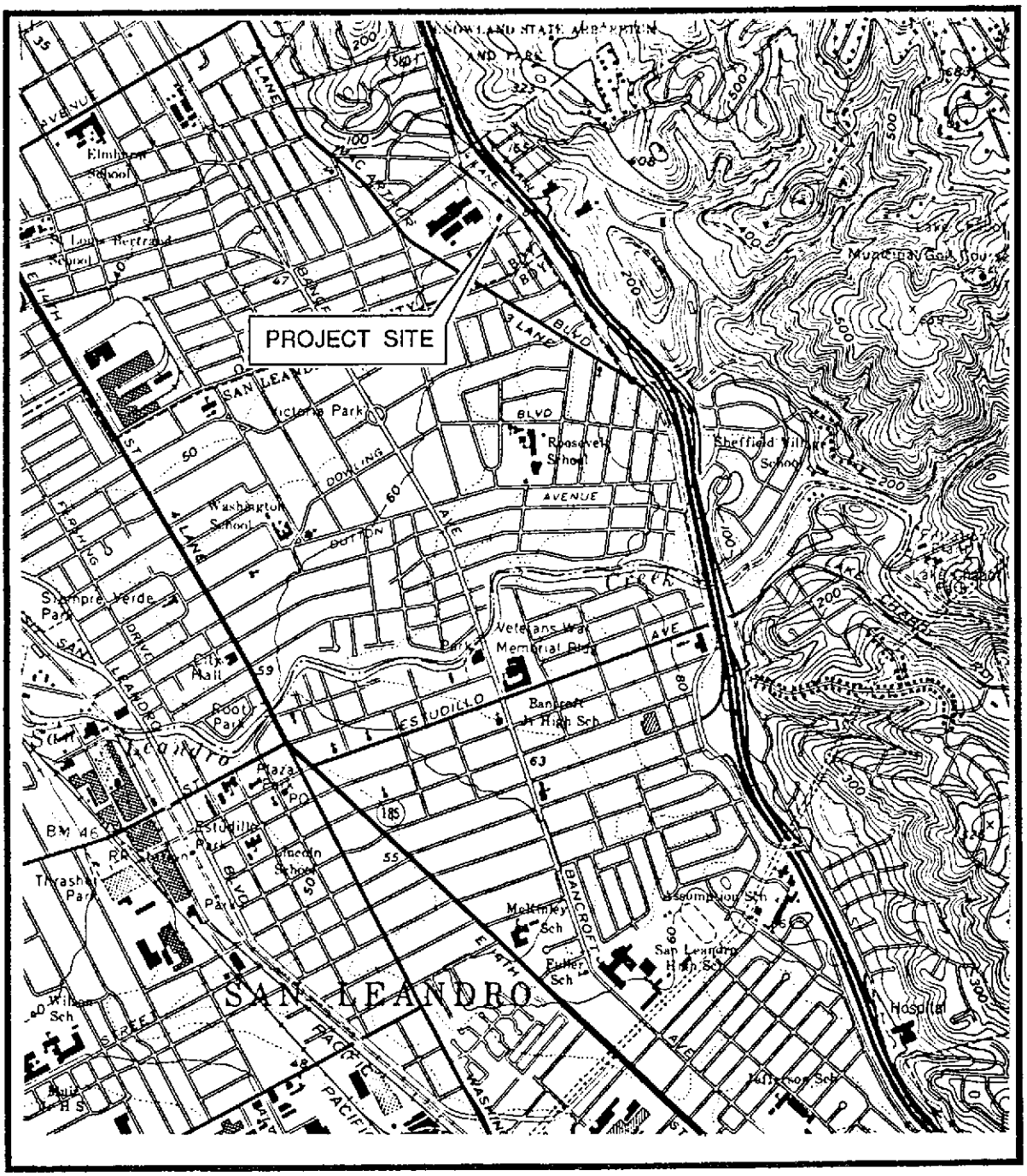
- Based on the results of this investigation, Alton Geoscience recommends continuing fluid-level monitoring and groundwater sampling on a quarterly schedule in all monitoring wells at the site.

8.0 REFERENCES

Alton Geoscience, April 24, 1995. Supplementary Site Assessment Report, Former USA Gasoline Station #57.

California Department of Water Resources (DWR), October 1975, Sea-Water Intrusion in California; Inventory of Coastal Ground Water Basins, Bulletin No. 63-5.

Radbruch, Dorothy H., 1957, Areal and Engineering Geology of the Oakland West Quadrangle, California, United States Geologic Survey Miscellaneous Geologic Investigations Map I-239.



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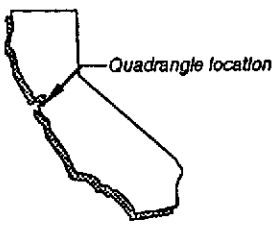


Source: U.S.G.S. Map
San Leandro Quadrangle
California
7.5 Minute Series

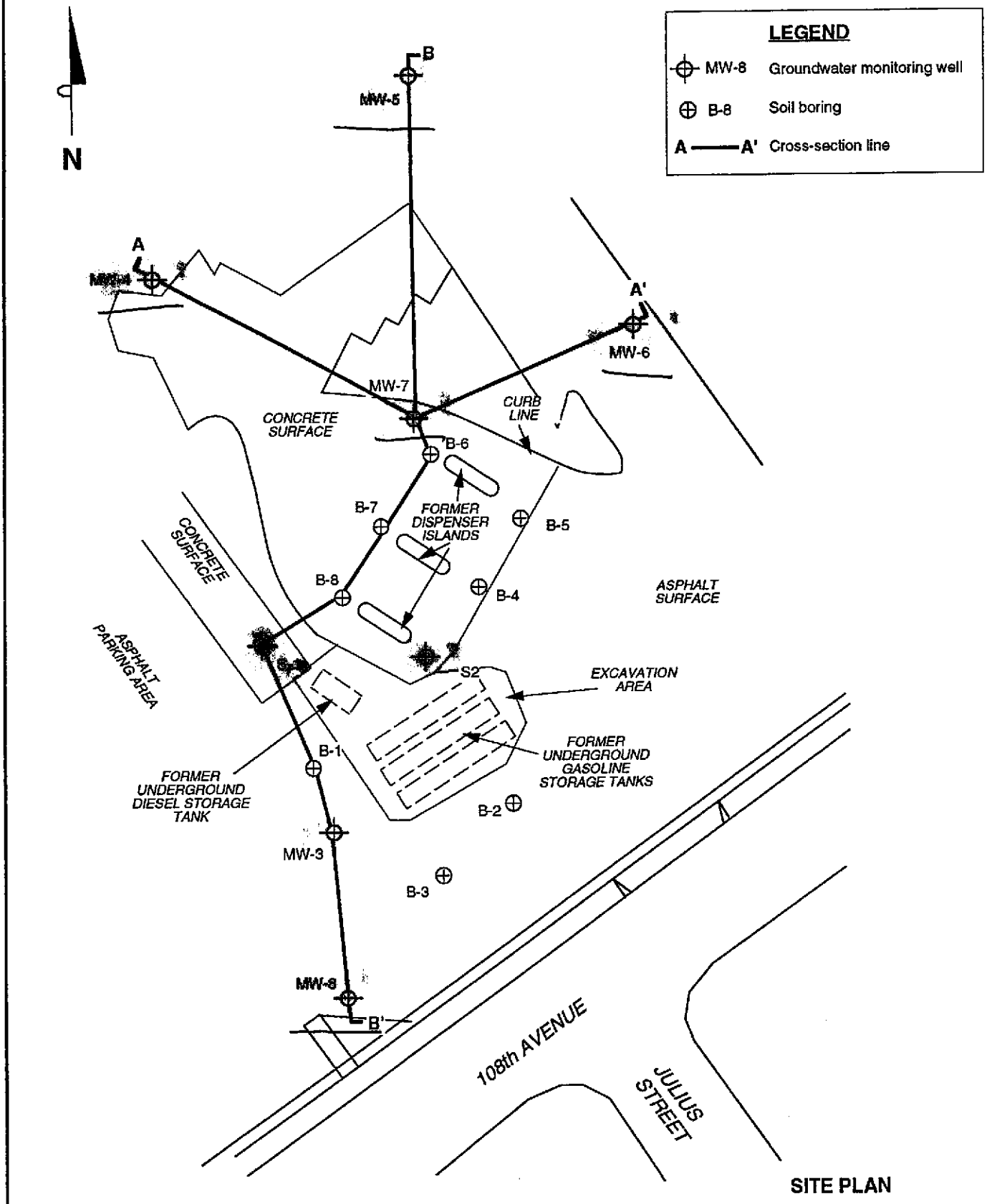
VICINITY MAP

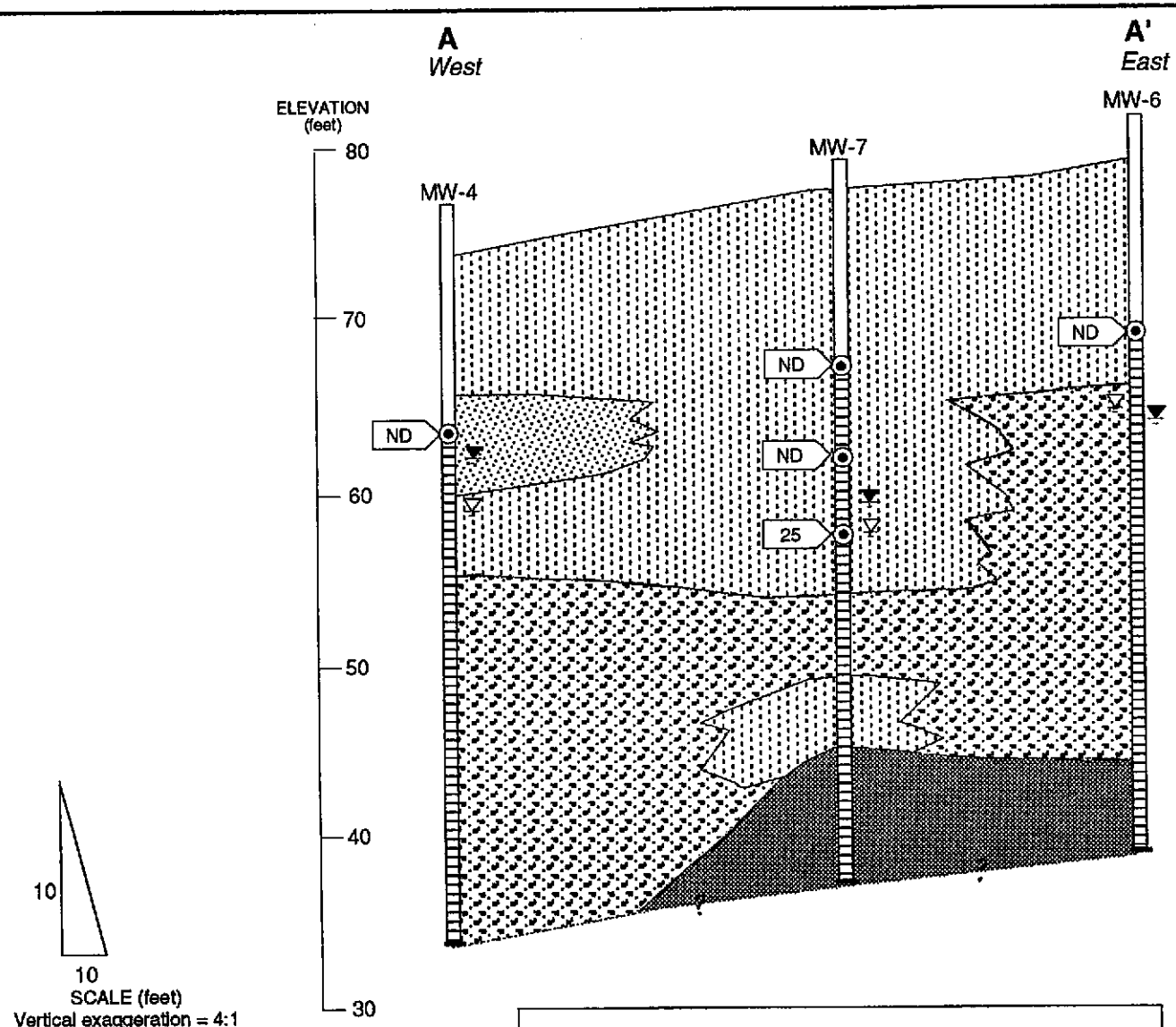
USA Gasoline Station #57
10700 MacArthur Boulevard
Oakland, California

ALTON GEOSCIENCE
Livermore, California

Project No. 41-0034

FIGURE 1


LEGEND
MW-8 Groundwater monitoring well
B-8 Soil boring
A —— A' Cross-section line
N
B
MW-5
A
MW-4
A'
MW-6
MW-7
CONCRETE SURFACE
CURB LINE
B-6
B-7
FORMER DISPENSER ISLANDS
B-5
CONCRETE SURFACE
B-8
B-4
ASPHALT SURFACE
ASPHALT PARKING AREA
S2
EXCAVATION AREA
B-1
FORMER UNDERGROUND GASOLINE STORAGE TANKS
FORMER UNDERGROUND DIESEL STORAGE TANK
B-2
MW-3
B-3
MW-8
B'
108th AVENUE
JULIUS STREET
SITE PLAN
SCALE (feet)
0 20 40
USA Gas # 57
10700 MacArthur Boulevard
Oakland, California
FIGURE 2
ALTON GEOSCIENCE
Livermore, California
Source: Ron Archer, Civil Engineer, Inc.
41-0034/Site 12/95 12/15/95



LEGEND

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

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

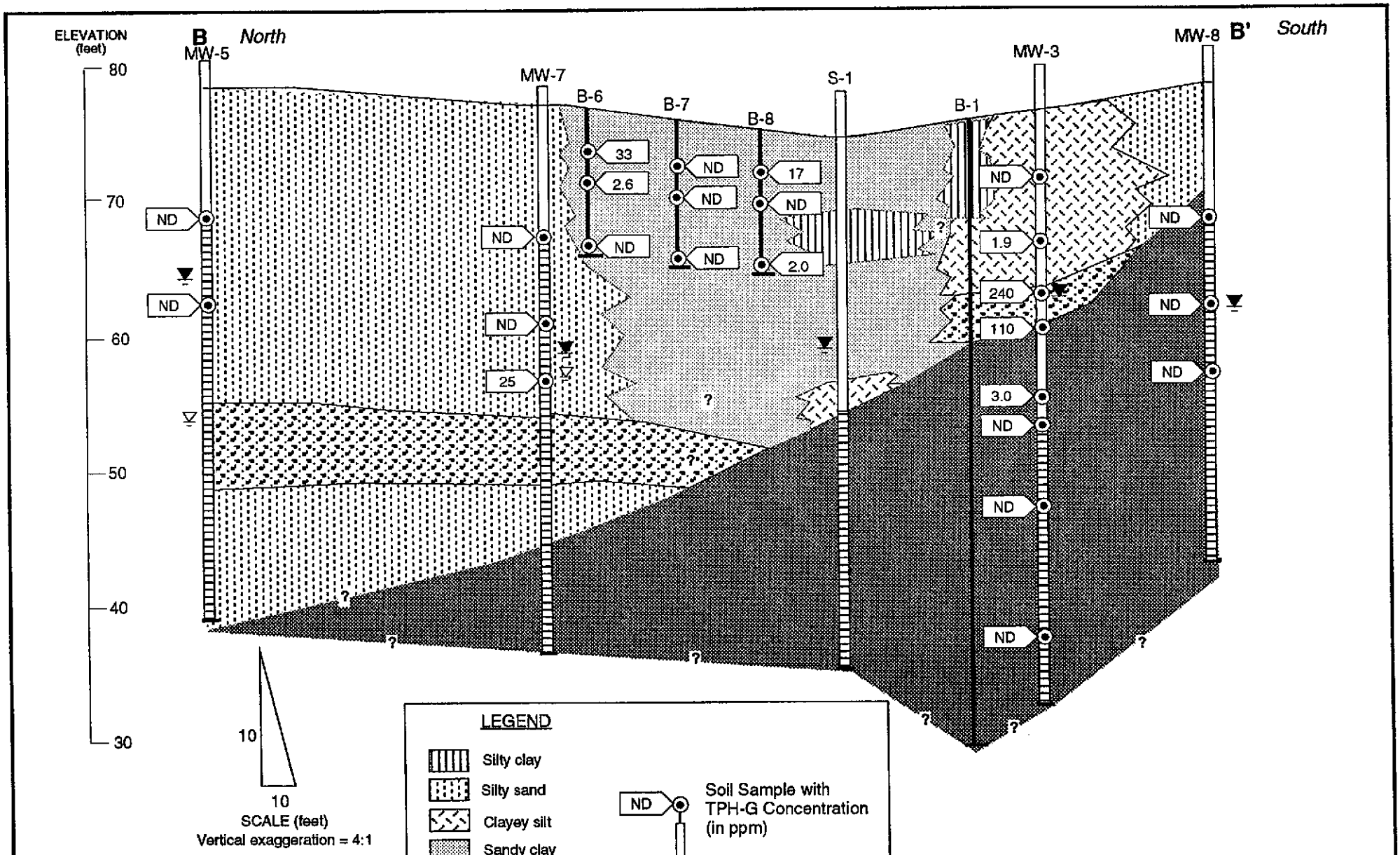
ALTON GEOSCIENCE
Livermore, California

CROSS-SECTION A-A'

Former USA Gas #57
10700 MacArthur Boulevard
Oakland, California

FIGURE 3

41-0034/2X-section A-A' 01/12/96



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

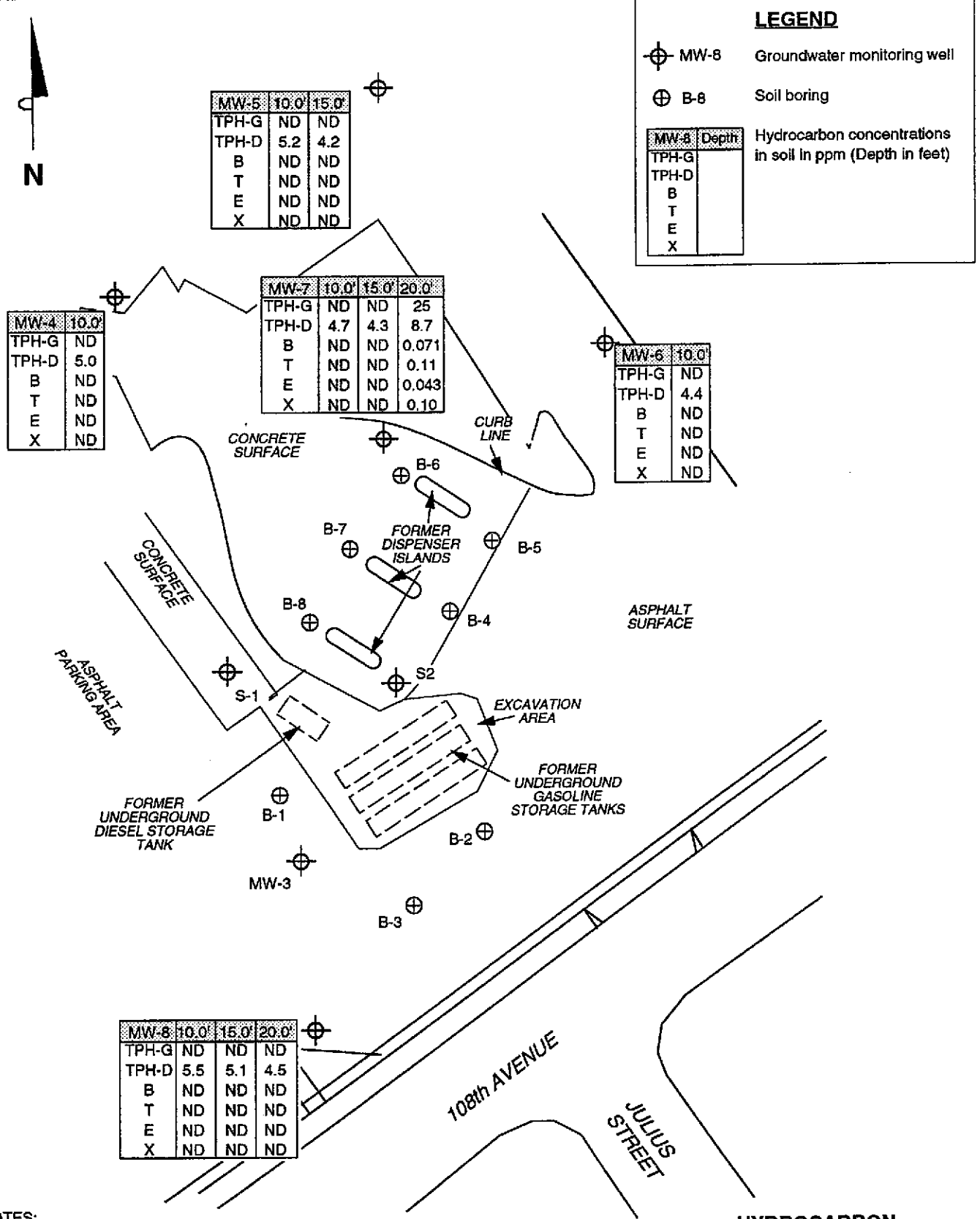
ALTON GEOSCIENCE
Livermore, California

CROSS-SECTION B-B'

Former USA Gas #57
10700 MacArthur Boulevard
Oakland, California

FIGURE 4

41-0034/2X-section B-B' 01/16/96



NOTES:
Results are based on soil samples collected November 20 and 21, 1995. TPH-G = total petroleum hydrocarbons as gasoline; TPH-D = total petroleum hydrocarbons as diesel; B = benzene; T = toluene; E = ethylbenzene; X = total xylenes; ppm = parts per million.

SCALE (feet)
0 20 40

HYDROCARBON CONCENTRATIONS IN SOIL
November 20 and 21, 1995

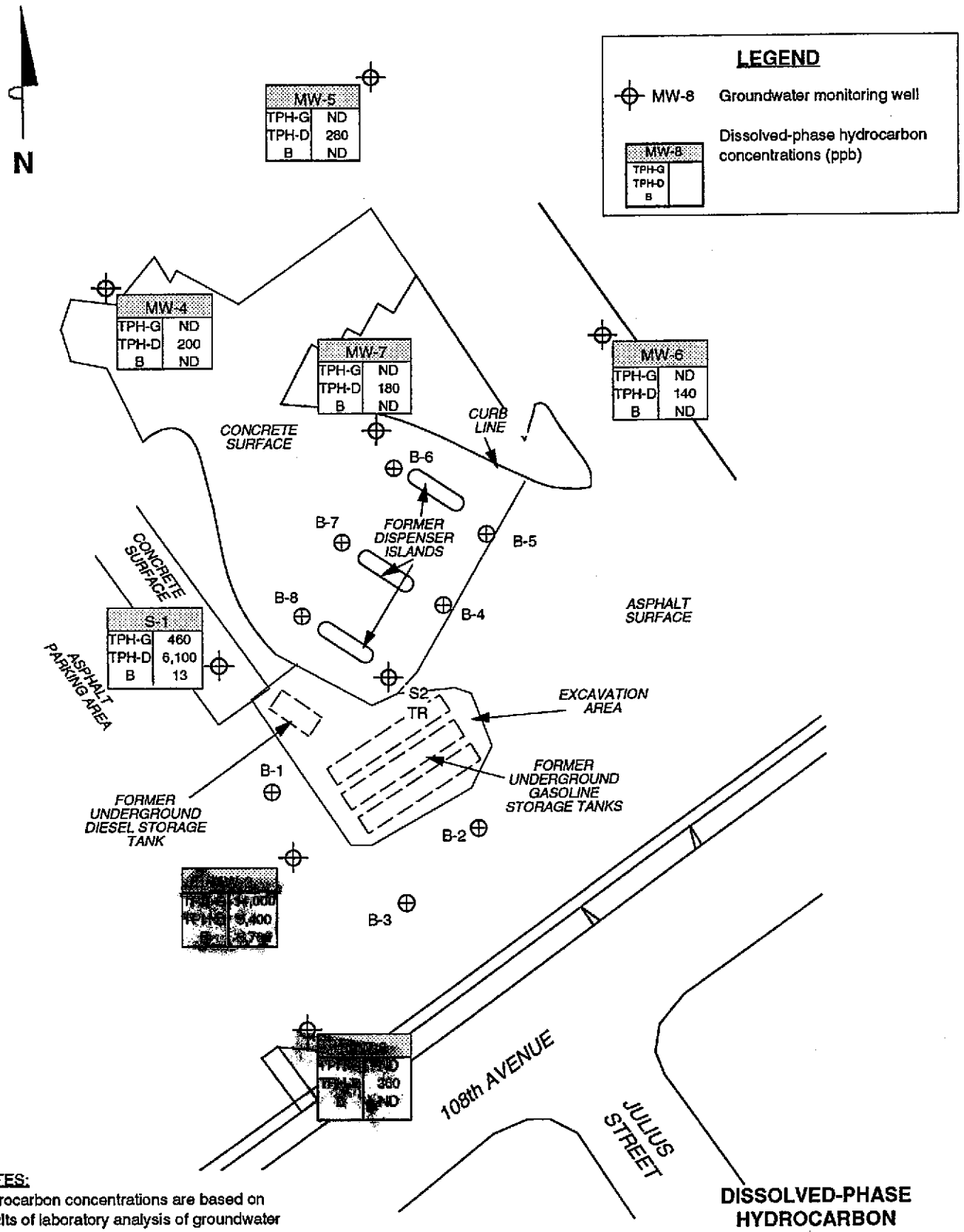
USA Gas # 57
10700 MacArthur Boulevard
Oakland, California

ALTON GEOSCIENCE
Livermore, California

Source: Ron Archer, Civil Engineer, Inc.

FIGURE 5

41-0034/Site 12/95 12/15/95



NOTES:
Hydrocarbon concentrations are based on results of laboratory analysis of groundwater samples collected November 22, 1995.
ND = not detected at or above method detection limit. TPH-G = total petroleum hydrocarbons as gasoline; TPH-D = total petroleum hydrocarbons as diesel; B = benzene; ppb = parts per billion; TR = trace of free product observed on sample.

SCALE (feet)
0 20 40

DISSOLVED-PHASE HYDROCARBON CONCENTRATIONS
November 22, 1995

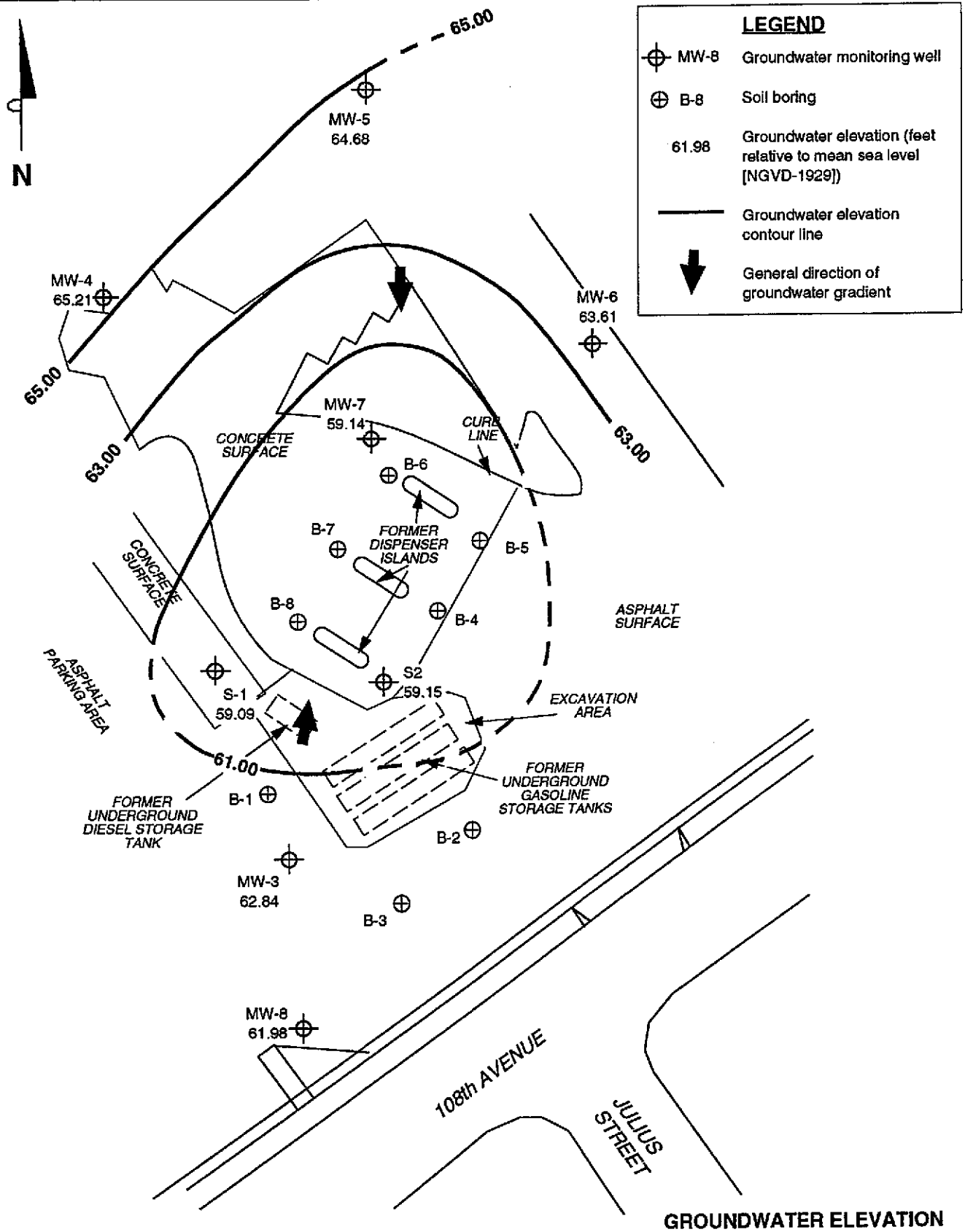
USA Gas # 57
10700 MacArthur Boulevard
Oakland, California

ALTON GEOSCIENCE
Livermore, California

Source: Ron Archer, Civil Engineer, Inc.

FIGURE 6

41-0034/Site 12/95 12/15/95



NOTES:
Contour lines are interpretive based on fluid level measurements collected December 6, 1995.
Contour interval = 2.0 feet.

SCALE (feet)
0 20 40

GROUNDWATER ELEVATION CONTOUR MAP
December 6, 1995

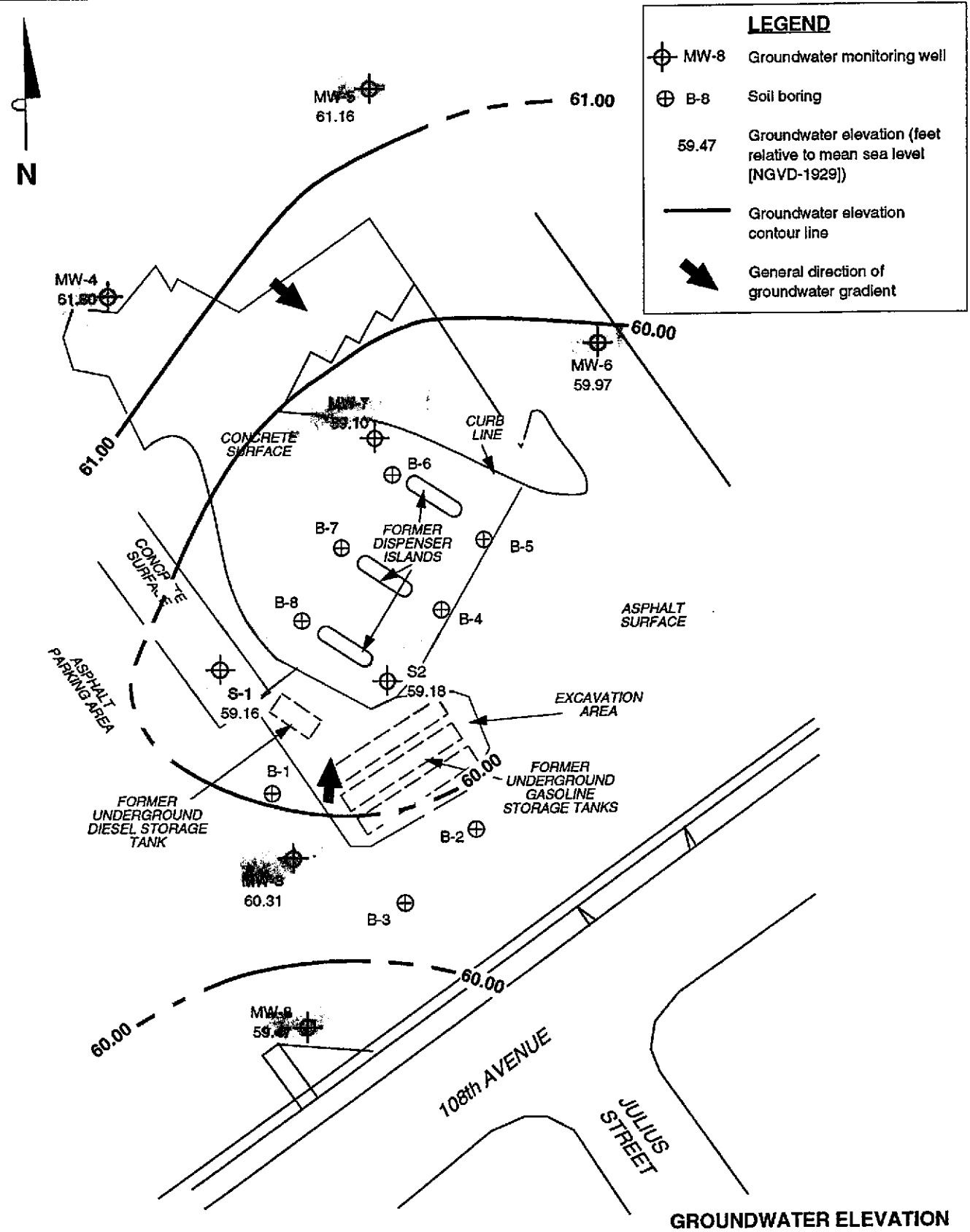
USA Gas # 57
10700 MacArthur Boulevard
Oakland, California

ALTON GEOSCIENCE
Livermore, California

Source: Ron Archer, Civil Engineer, Inc.

FIGURE 7

41-0034/Site 12/95 12/15/95



GROUNDWATER ELEVATION CONTOUR MAP
January 4, 1996

USA Gas # 57
10700 MacArthur Boulevard
Oakland, California

NOTES:
Contour lines are interpretive based on fluid level measurements collected January 4, 1996.
Contour interval = 1.0 foot.

SCALE (feet)
0 20 40

ALTON GEOSCIENCE
Livermore, California

Source: Ron Archer, Civil Engineer, Inc.

FIGURE 8

41-0034/Site 12/95 12/15/95

Table 1

Summary of Soil Sample Analysis

Former USA Gas #57

Sample ID	Date	Depth (feet)	TPH-G (ppm)	TPH-D (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)
B-1	2/28/95	5.5	ND	—	ND	ND	ND	ND
		9.5	44	—	0.12	ND	0.14	0.40
		13.0	540	55	2.6	10	7.5	48
		20.0	ND	—	0.012	0.016	ND	0.029
		25.0	3.9	—	0.048	0.14	0.062	0.37
		31.0	ND	—	ND	0.011	0.0057	0.045
		35.0	ND	—	0.014	0.018	0.012	0.079
		40.5	ND	ND	ND	ND	ND	ND
B-2	3/1/95	5.0	ND	—	ND	ND	ND	ND
		10.5	ND	—	ND	ND	ND	ND
		16.0	16	—	0.057	0.028	0.029	1.2
		21.0	110	—	0.96	0.41	0.33	1.5
		26.0	240	22	0.76	1.4	0.85	1.9
B-3	3/1/95	11.0	ND	—	ND	ND	ND	ND
		15.5	10	—	0.044	0.11	0.079	0.63
		20.5	15	1.3	0.041	0.37	0.15	1.1
B-4	3/2/95	3.0	ND	—	ND	ND	ND	ND
		6.0	ND	—	ND	ND	ND	ND
		12.0	ND	ND	ND	ND	ND	ND
B-5	3/2/95	5.5	ND	—	ND	ND	ND	ND
		12.0	ND	ND	ND	ND	ND	ND

Table 1

Summary of Soil Sample Analysis

Former USA Gas #57

Sample ID	Date	Depth (feet)	TPH-G (ppm)	TPH-D (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)
B-6	3/2/95	4.0	33	5.3	0.093	0.065	0.33	2.0
		5.5	2.6	—	0.062	ND	0.030	0.047
		12.0	ND	—	ND	ND	ND	0.022
B-7	3/2/95	3.5	ND	ND	ND	ND	ND	ND
		5.0	ND	—	ND	ND	ND	ND
		12.0	ND	—	ND	ND	ND	ND
B-8	3/2/95	3.0	17	—	0.012	0.021	0.12	0.16
		5.5	ND	ND	0.019	ND	0.050	ND
		12.0	2.0	—	0.042	ND	ND	0.016
MW-3	2/28/95	5.5	ND	—	ND	ND	ND	ND
		11.5	1.9	—	0.026	0.011	0.0061	0.019
		13.5	240	12	0.41	0.64	2.0	5.4
		15.5	110	—	0.37	3.8	1.5	10
		21.5	3.0	—	0.26	0.24	0.059	0.50
		24.5	ND	—	0.030	0.0069	0.0056	0.016
		29.5	ND	—	ND	0.0054	ND	0.0092
		39.5	ND	—	ND	ND	ND	ND
MW-4	11/21/95	10.0	ND	5.0	ND	ND	ND	ND
MW-5	11/21/95	10.0	ND	5.2	ND	ND	ND	ND
		15.0	ND	4.2	ND	ND	ND	ND
MW-6	11/21/95	10.0	ND	4.4	ND	ND	ND	ND

Table 1

Summary of Soil Sample Analysis

Former USA Gas #57

Sample ID	Date	Depth (feet)	TPH-G (ppm)	TPH-D (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)
MW-7	11/21/95	10.0	ND	4.7	ND	ND	ND	ND
		15.0	ND	4.3	ND	ND	ND	ND
		20.0	25	8.7	0.071	0.11	0.043	0.10
MW-8	11/21/95	10.0	ND	5.5	ND	ND	ND	ND
		15.0	ND	5.1	ND	ND	ND	ND
		20.0	ND	4.5	ND	ND	ND	ND

NOTES:

ppm=	parts per million
TPH-G =	total petroleum hydrocarbons as gasoline
TPH-D =	total petroleum hydrocarbons as diesel
ND =	not detected at or above method detection limit
— =	not measured/not analyzed

Table 2

Summary of Groundwater Monitoring and Analysis

Former USA Gas #57

Well ID	Date	Top of Casing Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	TPH-G (ppb)	TPH-D (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)
S-1	3/3/95	74.74	13.10	61.64	0.00	910	5,900	260	7.6	16	14	—
	7/24/95		12.35	62.39	0.00	—	—	—	—	—	—	—
	11/22/95	78.68	19.30	59.38	0.00	460	6,100	13	0.69	0.99	1.1	460
	12/6/95		19.59	59.09	0.00	—	—	—	—	—	—	—
	1/4/96		19.52	59.16	0.00	—	—	—	—	—	—	—
S-2	3/3/95	76.86	15.39	61.47	0.00	24,000	6,000	1,900	440	600	2,500	—
	7/24/95		14.47	62.39	0.00	—	—	—	—	—	—	—
	11/22/95	80.93	21.52	59.41	Trace	—	—	—	—	—	—	—
	12/6/95		21.78	59.15	0.00	—	—	—	—	—	—	—
	1/4/96		21.75	59.18	0.00	—	—	—	—	—	—	—
MW-3	3/3/95	76.30	13.99	62.31	0.00	2,500	1,600	540	92	36	200	—
	7/24/95		13.33	62.97	0.00	—	—	—	—	—	—	—
	11/22/95	80.32	20.94	59.38	0.00	14,000	5,400	5,700	230	430	650	820
	12/6/95		17.48	62.84	0.00	—	—	—	—	—	—	—
	1/4/96		20.01	60.31	0.00	—	—	—	—	—	—	—
MW-4	11/22/95	76.42	14.99	61.43	0.00	ND	200	ND	1.5	ND	1.7	6.4
	12/6/95		11.21	65.21	0.00	—	—	—	—	—	—	—
	1/4/96		14.62	61.80	0.00	—	—	—	—	—	—	—
MW-5	11/22/95	80.52	19.56	60.96	0.00	ND	280	ND	1.8	ND	3.0	2.2
	12/6/95		15.84	64.68	0.00	—	—	—	—	—	—	—
	1/4/96		19.36	61.16	0.00	—	—	—	—	—	—	—

Table 2

Summary of Groundwater Monitoring and Analysis

Former USA Gas #57

Well ID	Date	Top of Casing Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	TPH-G (ppb)	TPH-D (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MTBE (ppb)
MW-6	11/22/95	81.64	21.73	59.91	0.00	ND	140	ND	1.2	ND	1.5	5.3
	12/6/95		18.03	63.61	0.00	—	—	—	—	—	—	—
	1/4/96		21.67	59.97	0.00	—	—	—	—	—	—	—
MW-7	11/22/95	78.86	19.38	59.48	0.00	ND	180	ND	0.57	ND	0.62	0.73
	12/6/95		19.72	59.14	0.00	—	—	—	—	—	—	—
	1/4/96		19.76	59.10	0.00	—	—	—	—	—	—	—
MW-8	11/22/95	79.55	33.33	46.22	0.00	ND	360	ND	1.3	ND	2.1	2.1
	12/6/95		17.57	61.98	0.00	—	—	—	—	—	—	—
	1/4/96		20.08	59.47	0.00	—	—	—	—	—	—	—

NOTES:
ppb = parts per billion
TPH-G = total petroleum hydrocarbons as gasoline
TPH-D = total petroleum hydrocarbons as diesel
— = not measured/not analyzed
MTBE = methyl-tert butyl ether
ND = not detected at or above method detection limit

APPENDIX A

GENERAL FIELD PROCEDURES, BORING LOGS, AND WELL CONSTRUCTION DETAILS

GENERAL FIELD PROCEDURES

A description of the general field procedures used during site investigation and monitoring activities is presented below. For an overview of protocol, refer to the appropriate section(s).

DRILLING AND SOIL SAMPLING

Soil borings are drilled using continuous-flight, hollow-stem augers. Borings that are not completed as monitoring wells are grouted to within 5 feet of the ground surface with a cement/bentonite slurry. The remaining 5 feet is filled with concrete.

Soil samples are obtained for soil description, field hydrocarbon vapor screening, and possible laboratory analysis. Soil samples are retrieved from the borings by one of two methods: 1) continuously, using a 5-foot-long, continuous-core barrel sampler advanced into the soil with the lead auger; sample tubes are driven into the core with a mallet, or 2) at 2.5- or 5-foot intervals, using a standard split-spoon sampler lined with four 1.5-inch-diameter stainless steel or brass sample inserts. The split-spoon sampler is driven approximately 18 inches beyond the lead auger with a 140-pound hammer dropped from a height of 30 inches.

For hand auger borings and hand-held, power-driven auger borings, soil samples are retrieved using a hand-driven slide hammer lined with a 1.5-inch-diameter stainless steel sample tube.

During drilling activities, soil adjacent to the laboratory sample is screened for combustible vapors using a combustible gas indicator (CGI) or equivalent field instrument. For each hydrocarbon vapor screening event, a 6-inch-long by 2.5-inch-diameter sample insert is filled approximately 1/3 full with the soil sample, capped at both ends, and shaken. The probe is then inserted through a small opening in the cap, and a reading is taken after approximately 15 seconds and recorded on the boring log. The remaining soil recovered is removed from the sample insert or sampler, and described in accordance with the Unified Soil Classification System. For each sampling interval, field estimates of soil type, density/consistency, moisture, color, and grading are recorded on the boring logs.

SOIL SAMPLE HANDLING

Soil sample handling follows the same basic protocol for both drilling and excavation activities. Upon retrieval, soil samples are immediately removed from the sampler, sealed with Teflon sheeting and polyurethane caps, and wrapped with tape. Each sample is labeled with the project number, boring/well number, sample depth, geologist's initials, and date of collection. After the samples have been labeled and documented in the chain of custody record, they are placed in a cooler with ice at approximately 4 degrees Celsius (°C) prior to and during transport to a state-certified laboratory for analysis. Samples not selected for immediate analysis may be transported in a cooler with ice and archived in a frostless refrigerator at approximately 4°C for possible future testing.

MONITORING WELL INSTALLATION

Monitoring wells are constructed of 4-inch-diameter, flush-threaded Schedule 40 PVC blank and screened (0.020-inch slot size) casing. Where possible, the screened interval will extend at least 10 feet above, and 10 to 20 feet below, the top of the groundwater table. The annular space surrounding the screened casing is backfilled with Sri Supreme # 8 sand (filter pack) to approximately 2 feet above the top of the screened section.

Recovery wells are constructed of 6-inch diameter flush-threaded Schedule 40 PVC blank and screened (0.030-inch slot size) casing. Where possible, the screened interval will extend at least 10 feet above, and 10 to 20 feet below, the top of the groundwater table. The annular space surrounding the screened casing is backfilled with medium aquarium sand (filter pack) to approximately 2 feet above the top of the screened section.

Vapor Extraction wells are constructed of 4-inch diameter flush-threaded Schedule 40 PVC blank and screened (0.030-inch slot size) casing. The annular space surrounding the screened casing is backfilled with medium aquarium sand (filter pack) to approximately 1 feet above the top of the screened section.

During monitoring and recovery well construction, the filter pack is completed by surging with a rig-mounted surge block. A 2 to 3 foot thick bentonite annular seal is placed above the filter pack. The remaining annular space is grouted with Portland cement and/or bentonite grout to the surface. Utility access boxes are installed slightly above grade. Locking, watertight caps are installed to prevent unauthorized access to the well, and limit infiltration of surface fluids.

FLUID LEVEL MONITORING

Fluid levels are monitored in the wells using an electronic interface probe with conductance sensors. The presence of liquid-phase hydrocarbons is verified using a hydrocarbon-reactive paste. The depth to liquid-phase hydrocarbons and water is measured relative to the well box top or top of casing. Well box or casing elevations are surveyed to within 0.02 foot relative to a county or city bench mark.

GROUNDWATER PURGING AND SAMPLING

Groundwater monitoring wells are purged and sampled in accordance with standard regulatory protocol. Typically, monitoring wells that contain no liquid-phase hydrocarbons are purged of groundwater prior to sampling so that fluids sampled are representative of fluids within the formation. Temperature, pH, and specific conductance are typically measured after each well casing volume has been removed. Purging is considered complete when these parameters vary less than 10% from the previous readings, or when four casing volumes of fluid have been removed. Samples are collected without further purging if the well does not recharge within 2 hours to 80% of its volume before purging. The purged water is either pumped directly into a licensed vacuum truck or temporarily stored in labeled drums prior to transport to an appropriate treatment or recycling facility. If an automatic recovery system (ARS) is operating at the site, purged water may be pumped into the ARS for treatment.

Groundwater samples are collected by lowering a 1.5-inch-diameter, bottom-fill, disposable polyethylene bailer just below the static water level in the well. The samples are carefully transferred from the check-valve-equipped bailer to 1-liter and 40-milliliter glass containers. The sample containers are filled to zero headspace and fitted with Teflon-sealed caps. Each sample is labeled with the project number, well number, sample date, and sampler's initials. Samples remain chilled at approximately 4°C prior to analysis by a state-certified laboratory.

CHAIN OF CUSTODY PROTOCOL

Chain of custody protocol is followed for all soil and groundwater samples selected for laboratory analysis. The chain of custody form(s) accompanies the samples from the sampling locality to the laboratory, providing a continuous record of possession prior to analysis.

DECONTAMINATION

Drilling and Soil Sampling

Drilling equipment is decontaminated by steam cleaning before being brought onsite. The augers are also steam cleaned before each new boring is commenced. Prior to use, the sampler and sampling tubes are brush-scrubbed in a Liqui-nox and potable water solution and rinsed twice in clean potable water. Sampling equipment and tubes are also decontaminated before each sample is collected to avoid cross-contamination between borings.

Groundwater Sampling

Purging and sampling equipment that could contact well fluids is either dedicated to a particular well or cleaned prior to each use in a Liqui-nox solution followed by two tap water rinses.

LITHOLOGY
(UNIFIED SOIL CLASSIFICATION SYSTEM)

MAJOR DIVISIONS			TYPICAL NAMES		
COARSE-GRAINED SOILS MORE THAN HALF IS LARGER THAN No. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN No. 4 SIEVE SIZE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
			GP		POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES
		GRAVELS WITH OVER 12% FINES	GM		SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
			GC		CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN No. 4 SIEVE SIZE	CLEAN SANDS WITH LITTLE OR NO FINES	SW		WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SP		POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH OVER 12% FINES	SM		SILTY SANDS, SAND-SILT MIXTURES
			SC		CLAYEY SANDS, SAND-CLAY MIXTURES
FINE-GRAINED SOILS MORE THAN HALF IS SMALLER THAN No. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL		INORGANIC CLAYS OF LOW- TO MEDIUM-PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL		ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH		ORGANIC CLAYS OF MEDIUM- TO HIGH-PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			Pt		PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

SYMBOLS AND NOTES


SAMPLE INTERVAL


SAMPLE SAVED FOR ANALYSIS


SAMPLE NOT RECOVERED


GROUND WATER ENCOUNTERED DURING DRILLING


STABILIZED WATER LEVEL


BENTONITE


CONCRETE or GROUT


No. 3 MONTEREY SAND

ppm = parts per million (mg/kg)
ppb = parts per billion (µg/kg)
ND = not detected at reported detection limits
CGI = combustible gas indicator
OVA = organic vapor analyzer
PID = photoionization detector
LEL = lower explosive limit
TPH = total petroleum hydrocarbons
TRPH = total recoverable petroleum hydrocarbons


ALTON GEOSCIENCE
Pleasanton, California

KEY TO BORING LOG

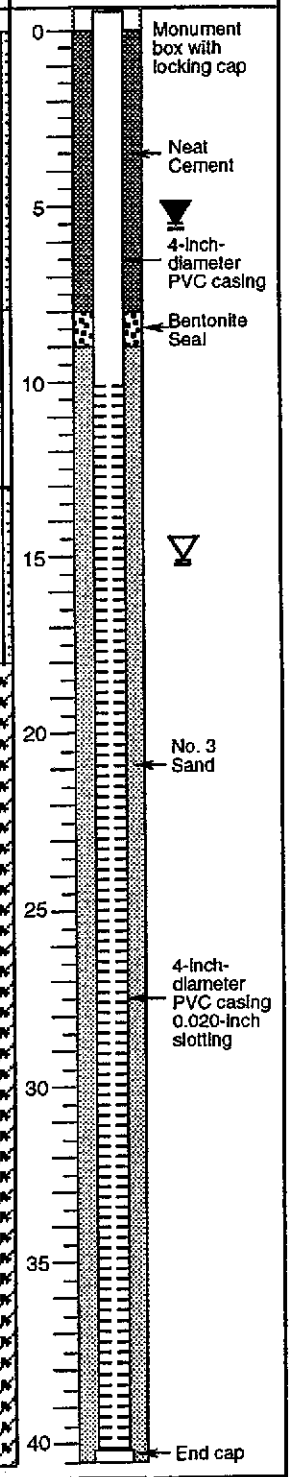
PROJECT NO.: 41-0034	DATE DRILLED: 11/20/95
LOCATION: USA Gas #57	LOGGED BY: A. Le May
10700 MacArthur Boulevard	APPROVED BY: M. Katen, RG
Oakland, California	DRILLING CO.: V & W Drilling

DRILLING METHOD: 10-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 40.5 feet DEPTH TO WATER: 15.0 feet

BLOWS PER 6 INCHES	PID(ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS
				0	Hand-augered to 5 feet.	
9,14,15	—			5	SILTY SAND: dark yellowish brown, medium dense, damp, poorly graded.	SM
8,11,14	0	ND		10	SANDY SILT: dark yellowish brown, stiff, damp, with clay.	ML
18,21,34	5			15	SILTY SAND: dark yellowish brown, medium dense, moist, with clay, contains carbonate pebbles up to 0.13-inch diameter.	SM
18,31,34	0			20	SILTY SAND and GRAVEL Mixture: dark yellowish brown, medium dense, wet,with clay.	GC
14,24,36	0			25	SILTY CLAYEY SAND and GRAVEL Mixture: strong brown, dense, damp, with pebbles to 0.5-inch diameter.	
12,18,23	0			30		
9,22,31	0			35	Medium dense.	
30,50	0			40	Increased silt content.	

LITHOLOGY

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

MW-4
PAGE 1 OF 1

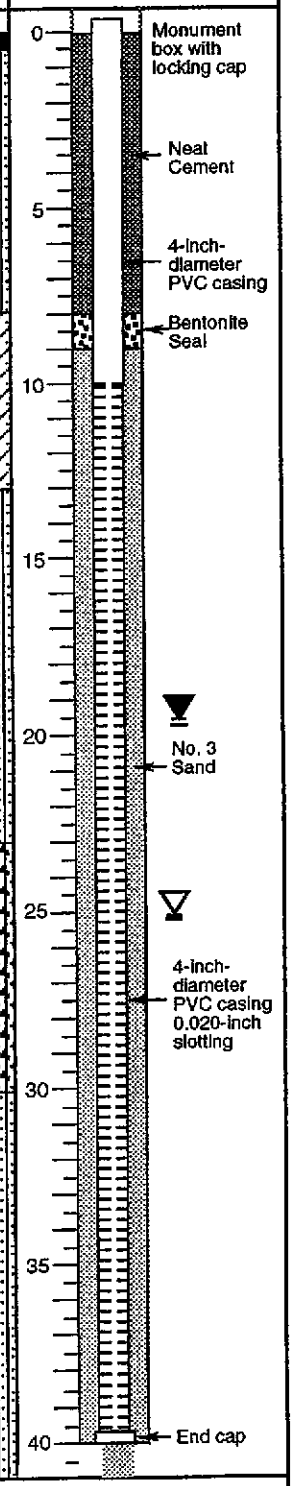
41-0034/MW-4 01/05/96

PROJECT NO.: 41-0034	DATE DRILLED: 11/20/95
LOCATION: USA Gas #57	LOGGED BY: A. Le May
10700 MacArthur Boulevard	APPROVED BY: M. Katen, RG
Oakland, California	DRILLING CO.: V & W Drilling

DRILLING METHOD: 10-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 41.0 feet DEPTH TO WATER: 25.0 feet

BLOWS PER 6 INCHES	PID(ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 5 feet. 4 inches Asphalt.		
7,18,21	0			5	SILTY SAND: yellowish brown, medium dense, damp, fine-grained, poorly graded.	SM	
10,14,19	0	ND		10	CLAYEY SAND: dark yellowish brown, medium dense, damp, poorly graded, with occasional pebbles to 0.5-inch diameter.	SC	
16,23,24	0	ND		15	SILTY SAND: dark yellowish brown, medium dense, damp, with gravel and some clay.	SM	
12,18,24	0			20			
6,9,16	—			25	No recovery, sampler saturated, gravel lense?	GM	
10,15,24	0			30	SILTY CLAYEY SANDY GRAVEL: dark yellowish brown, loose, saturated, poorly graded.		
					SILTY SAND: dark yellowish brown, medium dense, damp, with gravel and some clay.	SM	
5,12,21	0			35	With lenses up to 4 inches of more gravel-rich, saturated.		
10,21,32				40			

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

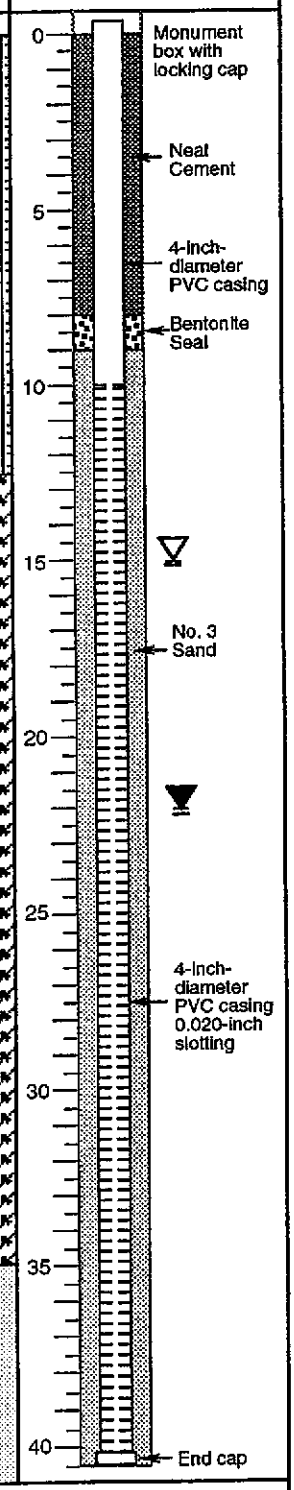
MW-5
PAGE 1 OF 1

PROJECT NO.: 41-0034	DATE DRILLED: 11/20/95
LOCATION: USA Gas #57	LOGGED BY: A. Le May
10700 MacArthur Boulevard	APPROVED BY: M. Katen, RG
Oakland, California	DRILLING CO.: V & W Drilling

DRILLING METHOD: 10-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 40.5 feet DEPTH TO WATER: 15.0 feet

BLOWS PER 6 INCHES	PID(ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 5 feet.		
10,16,21	—			5	SILTY SAND for 2 inches: brown, dry, then SILTY SAND: dark yellowish brown, medium dense, damp with some clay.	SM	
13,25,30	0	ND		10	With gravel.		
9,18,28	0			15	SILTY SAND and GRAVEL Mixture: moist, with clay.		
18,21,24	0			20	Wet.		
9,14,19	0			25	Gravel-rich lenses up to 4-inch thick.	GC	
6,11,16	—			30	Saturated, poor recovery.		
				35	As above for 6 inches, damp.		
12,50 for 4"					SILTY SANDSTONE BEDROCK: dark yellowish brown, dry, fractured and friable.		
12,17,17	0			40	CLAYEY GRAVEL BEDROCK Interbedded: brown, loose, saturated, includes fractured bedrock pebbles.		

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

MW-6
PAGE 1 OF 1

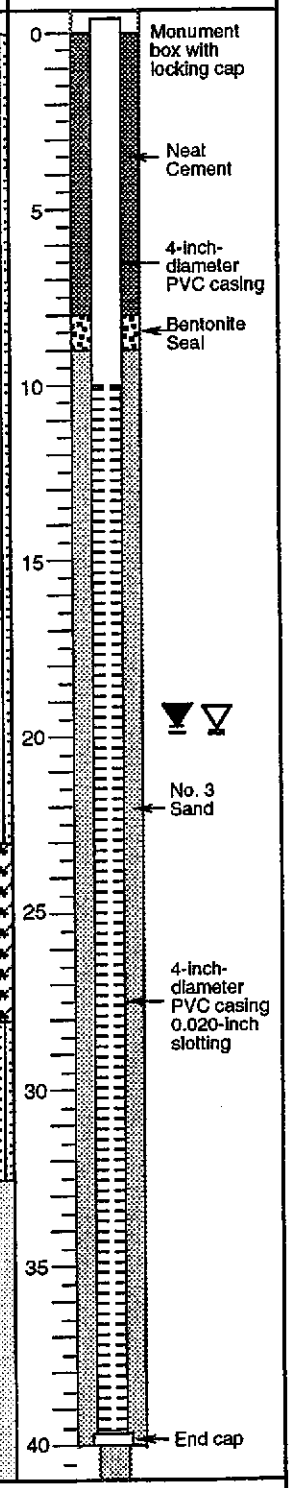
PROJECT NO.: 41-0034	DATE DRILLED: 11/21/95
LOCATION: USA Gas #57	LOGGED BY: A. Le May
10700 MacArthur Boulevard	APPROVED BY: M. Katen, RG
Oakland, California	DRILLING CO.: V & W Drilling

DRILLING METHOD: 10-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 41.0 feet DEPTH TO WATER: 20.0 feet

BLOWS PER 6 INCHES	PID(ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS
				0	Hand-augered to 5 feet.	
6,11,19	0			5	SILTY SAND: dark yellowish brown, medium dense, damp, fine-grained, poorly graded.	
9,15,22	0	ND		10	With clay and carbonate pebbles to 0.5-inch diameter.	SM
8,15,23	0	ND		15		
10,13,20	>2,500	25		20	Slight greenish color.	
14,19,22	>2,500			25	CLAYEY SANDY and GRAVEL Mixture: yellowish brown, medium dense, damp, pebbles to 0.13-inch diameter.	GC
17,31,32	0			30	SILTY SAND: dark yellowish brown, dense, damp, with gravel and clay.	SM
23,50	0			35	SILTY SANDSTONE BEDROCK; light olive brown, very fractured, moist, very friable, with clay.	
13,2232	0			40	With claystone interbeds, saturated.	

LITHOLOGY

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

MW-7
PAGE 1 OF 1

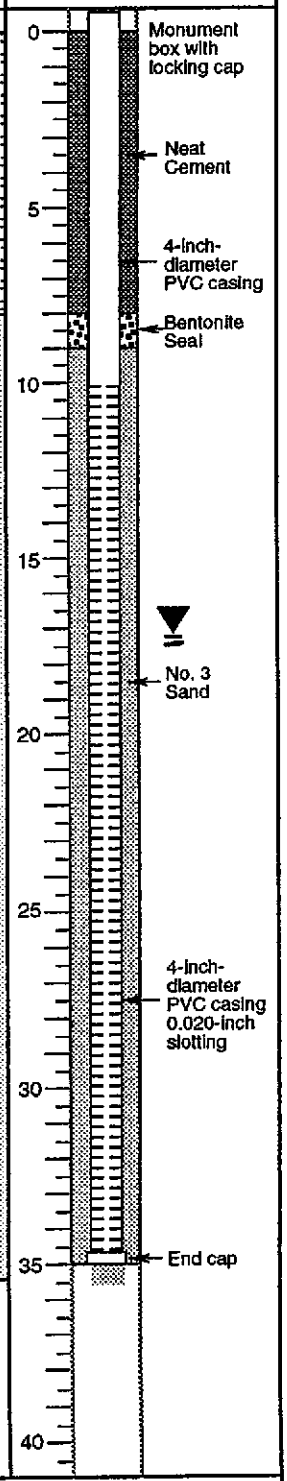
41-0034/MW-7 01/05/96

PROJECT NO.: 41-0034	DATE DRILLED: 11/21/95
LOCATION: USA Gas #57	LOGGED BY: A. Le May
10700 MacArthur Boulevard	APPROVED BY: M. Katen, RG
Oakland, California	DRILLING CO.: V & W Drilling

DRILLING METHOD: 10-inch diameter Hollow-Stem Auger
SAMPLER TYPE: California Modified Split-Spoon
TOTAL DEPTH: 35.5 feet DEPTH TO WATER: N/A

BLOWS PER 6 INCHES	PID(ppm)	TPH-G (ppm)	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hand-augered to 5 feet.		
10,14,24	—			5	SILTY SAND: dark yellowish brown, medium dense, damp, with gravel and clay.	SM	
50 for 3"	0	ND		10	SILTY SANDSTONE BEDROCK: yellowish brown, friable, fractured, dry, very dense		
50 for 5"	—	ND		15			
50 for 5"	—	ND		20			
50 for 6"	—			25			
25,32,50	0			30	As above including 6 inches of strong brown claystone and sand.		
28,50 for 6"	0			35			
				40			

WELL CONSTRUCTION DETAIL



ALTON GEOSCIENCE
Livermore, California

LOG OF EXPLORATORY BORING

MW-8
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41-0034/MW-8 01/05/96

APPENDIX B

OFFICIAL LABORATORY REPORTS, AND CHAIN OF CUSTODY RECORDS

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alton Geoscience	Client Project ID:	USA #57	Sampled: Nov 21, 1995
30-A Lindbergh Ave.	Sample Matrix:	Soil	Relogged: Dec 1, 1995
Livermore, CA 94550	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Dec 8, 1995
Attention: Ailsa LeMay	First Sample #:	512-0201	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 512-0201 MW-4(10')	Sample I.D. 512-0202 MW-5(10')	Sample I.D. 512-0203 MW-5(15')	Sample I.D. 512-0204 MW-6(10')	Sample I.D. 512-0205 MW-7(10')	Sample I.D. 512-0206 MW-7(15')
QC Batch Number:		SP120595 8020EXA	SP120595 8020EXA	SP120595 8020EXA	SP120595 8020EXA	SP120595 8020EXA	SP120595 8020EXA
Purgeable Hydrocarbons	1.0	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromatogram Pattern:		--	--	--	--	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	12/5/95	12/5/95	12/5/95	12/5/95	12/5/95	12/5/95
Instrument Identification:	HP-5	HP-5	HP-5	HP-5	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	91	99	92	89	97	89

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Project Manager

RECEIVED
DEC 14 1995

5120201.ALT <1>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alton Geoscience	Client Project ID:	USA #57	Sampled: Nov 21, 1995
30-A Lindbergh Ave.	Sample Matrix:	Soil	Relogged: Dec 1, 1995
Livermore, CA 94550	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Dec 8, 1995
Attention: Ailsa LeMay	First Sample #:	512-0207	

QC Batch Number: SP120595 8020EXA | SP120595 8020EXA | SP120595 8020EXA | SP120595 8020EXA

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 512-0207 MW-7(20')	Sample I.D. 512-0208 MW-8(10')	Sample I.D. 512-0209 MW-8(15')	Sample I.D. 512-0210 MW-8(20')
Purgeable Hydrocarbons	1.0	25	N.D.	N.D.	N.D.
Benzene	0.0050	0.071	N.D.	N.D.	N.D.
Toluene	0.0050	0.11	N.D.	N.D.	N.D.
Ethyl Benzene	0.0050	0.043	N.D.	N.D.	N.D.
Total Xylenes	0.0050	0.10	N.D.	N.D.	N.D.
Chromatogram Pattern:		Gasoline	--	--	--

Quality Control Data

Report Limit Multiplication Factor:	2.0	1.0	1.0	1.0
Date Analyzed:	12/5/95	12/5/95	12/5/95	12/5/95
Instrument Identification:	HP-5	HP-5	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	79	88	88	90

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Project Manager

5120201.ALT <2>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alton Geoscience	Client Project ID:	USA #57	Sampled: Nov 21, 1995
30-A Lindbergh Ave.	Sample Matrix:	Soil	Relogged: Dec 1, 1995
Livermore, CA 94550	Analysis Method:	EPA 3550/8015 Mod.	Reported: Dec 8, 1995
Attention: Ailsa LeMay	First Sample #:	512-0201	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 512-0201 MW-4(10')	Sample I.D. 512-0202 MW-5(10')	Sample I.D. 512-0203 MW-5(15')	Sample I.D. 512-0204 MW-6(10')	Sample I.D. 512-0205 MW-7(10')	Sample I.D. 512-0206 MW-7(15')
QC Batch Number:		SP120595 8015EXB	SP120595 8015EXB	SP120595 8015EXB	SP120595 8015EXB	SP120595 8015EXB	SP120595 8015EXB
Extractable Hydrocarbons	1.0	5.0	5.2	4.2	4.4	4.7	4.3
Chromatogram Pattern:		Discrete Peaks	Discrete Peaks	Discrete Peaks	Discrete Peaks	Discrete Peaks	Discrete Peaks

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Extracted:	12/5/95	12/5/95	12/5/95	12/5/95	12/5/95	12/5/95
Date Analyzed:	12/6/95	12/6/95	12/6/95	12/6/95	12/6/95	12/6/95
Instrument Identification:	HP-3A	HP-3A	HP-3A	HP-3A	HP-3A	HP-3A

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Project Manager

5120201.ALT <3>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alton Geoscience	Client Project ID:	USA #57	Sampled: Nov 21, 1995
30-A Lindbergh Ave.	Sample Matrix:	Soil	Relogged: Dec 1, 1995
Livermore, CA 94550	Analysis Method:	EPA 3550/8015 Mod.	Reported: Dec 8, 1995
Attention: Ailsa LeMay	First Sample #:	512-0207	

QC Batch Number: SP120595 8015EXB | SP120595 8015EXB | SP120595 8015EXB | SP120595 8015EXB

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 512-0207 MW-7(20')	Sample I.D. 512-0208 MW-8(10')	Sample I.D. 512-0209 MW-8(15')	Sample I.D. 512-0210 MW-8(20')
Extractable Hydrocarbons	1.0	8.7	5.5	5.1	4.5
Chromatogram Pattern:		Unidentified Hydrocarbons <C15	Discrete Peaks	Discrete Peaks	Discrete Peaks

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0
Date Extracted:	12/5/95	12/5/95	12/5/95	12/5/95
Date Analyzed:	12/5/95	12/5/95	12/5/95	12/5/95
Instrument Identification:	HP-3A	HP-3A	HP-3A	HP-3A

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Project Manager

Sequoia Analytical

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Alton Geoscience
30-A Lindbergh Ave.
Livermore, CA 94550
Attention: Ailsa LeMay

Client Project ID: USA #57
Matrix: Solid
QC Sample Group: 5120201-210
Reported: Dec 8, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
QC Batch#:	SP120595	SP120595	SP120595	SP120595	SP120595
Analy. Method:	8020EXA EPA 8020	8020EXA EPA 8020	8020EXA EPA 8020	8020EXA EPA 8020	8015EXB EPA 8015
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 3550
Analyst:	N. Beaman	N. Beaman	N. Beaman	N. Beaman	J. Dinsay
MS/MSD #:	5120201	5120201	5120201	5120201	5120143
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	8.3 mg/kg
Prepared Date:	12/5/95	12/5/95	12/5/95	12/5/95	12/5/95
Analyzed Date:	12/5/95	12/5/95	12/5/95	12/5/95	12/6/95
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	GCHP-3B
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg	10 mg/kg
Result:	0.40	0.39	0.40	1.2	29
MS % Recovery:	100	98	100	102	210
Dup. Result:	0.41	0.40	0.41	1.2	31
MSD % Recov.:	102	100	102	103	230
RPD:	2.5	2.5	2.5	1.6	6.7
RPD Limit:	0-20	0-20	0-20	0-20	0-20

LCS #:	3LCS120595	3LCS120595	3LCS120595	3LCS120595	LCS120595
Prepared Date:	12/5/95	12/5/95	12/5/95	12/5/95	12/5/95
Analyzed Date:	12/5/95	12/5/95	12/5/95	12/5/95	12/6/95
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	GCHP-3B
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	10 mg/kg
LCS Result:	17	18	18	55	12
LCS % Recov.:	87	88	89	91	120

MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140	38-122

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

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☐ 819 West Striker Ave. • Sacramento, CA 95834 • (916) 921-9600 FAX (916) 921-0100
☐ 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600 FAX (510) 686-9689

Company Name: Alton Geoscience	Project Name: USA #57
Address: 30 A Lindbergh Ave.	Billing Address (if different):
City: Livermore State: CA Zip Code: 94550	
Telephone: 510 606 9150 FAX #: 5106069260	P.O. #: 41-0034-02
Report To: Alisa LeMay Sampler: AS	QC Data: ☒ Level A (Standard) ☐ Level B ☐ Level C ☐ Level D

Turnaround Time: ☐ 10 Working Days ☐ 3 Working Days ☐ 2 - 8 Hours ☐ 7 Working Days ☐ 2 Working Days ☐ 5 Working Days ☐ 24 Hours

☐ Drinking Water ☐ Waste Water ☐ Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Comments
1. MW-7(40)	11.21	Soil	1	steel tube		
2. MW-8(5)						
3. MW-8(10)						
4. MW-8(15)						
5. MW-8(20)						
6. MW-8(25)						
7. MW-8(30)						
8. MW-8(35)						
9.						
10.						

Relinquished By: AS	Date: 11-27	Time:	Received By: Ralf Bariella	Date: 11/27/95	Time: 9:35
Relinquished By: Ralf Bariella	Date: 11/27/95	Time: 1:10	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date: 11/27/95	Time: 1610

Were Samples Received in Good Condition? ☒ Yes ☐ No Samples on Ice? ☒ Yes ☐ No Method of Shipment _____

Pink - Client
Yellow - Sequoia
White - Sequoia

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

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❑ 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600 FAX (510) 686-9689

Company Name: Alton Geoscience	Project Name: VSA #57
Address: 30A Lindbergh Ave	Billing Address (if different):
City: Livermore State: CA Zip Code: 94550	
Telephone: 510 606 9150 FAX #: 5106069260	P.O. #: 41·00 34·07
Report To: Alica LeMa Sampler: AGL	QC Data: ☒ Level A (Standard) ❑ Level B ❑ Level C ❑ Level D

Turnaround Time: ☒ 10 Working Days ❑ 7 Working Days ❑ 5 Working Days ❑ 3 Working Days ❑ 2 Working Days ❑ 24 Hours ❑ 2 - 8 Hours

❑ Drinking Water ❑ Waste Water ❑ Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Comments
1 MW-6(30')	11.20	soil	1	tube		
2. MW-6(35')	"	"	"	"		
3. MW-6(40')	"	"	"	"		
4 MW-7(5)	11.21	"	"	"		
5. MW-7(10)						
6. MW-7(15)						
7. MW-7(20)						
8. MW-7(25)						
9 MW-7(30)						
10 MW-7(35)						

Relinquished By:	Date: 11/27	Time:	Received By: Rafi Bawli	Date: 11/27/95	Time: 9:35
Relinquished By: Rafi Bawli	Date: 11/27/95	Time: 4:10	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date: 11/28/95	Time:

Were Samples Received in Good Condition? ☒ Yes ❑ No Samples on Ice? ☒ Yes ❑ No Method of Shipment _____ Page __ of __

Pink - Client
Yellow - Sequoia
White - Sequoia

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

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☐ 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600 FAX (510) 686-9689

Company Name: Alton Geoscience		Project Name: UCA #5 R	
Address: 30A Knollcrest Drive		Billing Address (if different):	
City: Livermore State: CA	Zip Code: 94550		
Telephone: 510 606 9150	FAX #: 5106069260	P.O. #: 410034-03	
Report To: Lisa Le Mieux	Sampler: [signature]	QC Data: ☒ Level A (Standard) ☐ Level B ☐ Level C ☐ Level D	

Turnaround Time: ☒ 10 Working Days ☐ 3 Working Days ☐ 2 - 8 Hours ☐ 7 Working Days ☐ 2 Working Days ☐ 5 Working Days ☐ 24 Hours

☐ Drinking Water ☐ Waste Water ☒ Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Comments
1. MW-5 (15')	11-20	Soil	1	Tube		
2. MW-5 (20')						
3. MW 5 (30')						
4. MW-5 (35')						
5. MW-5 (40')						
6. MW-6 (5')						
7. MW-6 (10')						
8. MW-6 (15')						
9. MW-6 (20')						
10. MW-6 (25')						

Relinquished By: [signature]	Date: 11-27	Time:	Received By: [signature]	Date: 11/27/95	Time: 9:35
Relinquished By: [signature]	Date: 11/27/95	Time: 4:10	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: [signature]	Date: 11/27/95	Time: 1610

Were Samples Received in Good Condition? ☐ Yes ☐ No Samples on Ice? ☐ Yes ☐ No Method of Shipment _____ Page 2 of __

Pink - Client
Yellow - Sequoia
White - Sequoia

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

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☐ 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600 FAX (510) 686-9689

Company Name: ALTON Geoscience	Project Name: USA #5 7
Address: 30A Lindbergh Ave	Billing Address (if different):
City: Livermore State: CA Zip Code: 94550	
Telephone: 510 606 9150 FAX #: 510 606 9160	P.O. #: 41-0034-0
Report To: Dilsa Le Mat Sampler:	QC Data: ☒ Level A (Standard) ☐ Level B ☐ Level C ☐ Level D

Turnaround Time: ☒ 10 Working Days ☐ 7 Working Days ☐ 5 Working Days ☐ 3 Working Days ☐ 2 Working Days ☐ 24 Hours ☐ 2 - 8 Hours

☐ Drinking Water ☐ Waste Water ☒ Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Comments
1. MW-4 (5')	11-21	Soil	1	tube		
2. MW-4 (10')						
3. MW-4 (15)						
4. MW-4 (20')						
5. MW-4 (25')						
6. MW-4 (30')						
7. MW-4 (35')						
8. MW-4 (40')						
9. MW-5 (5')						
10. MW-5 (10')						

Relinquished By:	Date: 11/21/95	Time:	Received By: Bill Bamill	Date: 11/27/95	Time: 9:35
Relinquished By: Bill Bamill	Date: 11/27/95	Time: 4:10	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date: 11/27/95	Time: 1610

Were Samples Received in Good Condition? ☒ Yes ☐ No Samples on Ice? ☒ Yes ☐ No Method of Shipment _____ Page 1 of 1

Pink - Client
Yellow - Sequoia
White - Sequoia

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

REQUEST TO RELOG SAMPLES

(Please submit to sample control with a copy of the COC)

CLIENT: Alton Geoscience MATRIX: Soil

PREVIOUSLY LOGGED SAMPLES

[X] TAT Change status to: 5-Day

Change status as of Day: 12/1/95 Time: 3:03 PM

[ ] CHANGE ANALYSES

Add Analyses [ ] Cancel Analyses [ ]

Sequoia Project ID: 0

Sample Number	Analyses
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA

SAMPLES ON HOLD

Sample Description	Analyses	
MW - 4 (10')	Gas/BTEX, Diesel	5120201
MW - 5 (10')	Gas/BTEX, Diesel	5120202
MW - 5 (15')	Gas/BTEX, Diesel	5120203
MW - 6 (10')	Gas/BTEX, Diesel	5120204
MW - 7 (10')	Gas/BTEX, Diesel	5120205
MW - 7 (15')	Gas/BTEX, Diesel	5120206
MW - 7 (20')	Gas/BTEX, Diesel	5120207
MW - 8 (10')	Gas/BTEX, Diesel	5120208
MW - 8 (15')	Gas/BTEX, Diesel	5120209

Client Authorization (Person/Date/Time): Ailsa LeMay 12/1/95 3:03 PM

Project Manager: Kevin Van Slambrook

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

REQUEST TO RELOG SAMPLES

(Please submit to sample control with a copy of the COC)

CLIENT: Alton Geoscience MATRIX: Soil

PREVIOUSLY LOGGED SAMPLES

[X] TAT Change status to: 5-Day

Change status as of Day: 12/1/95 Time: 3:03 PM

[ ] CHANGE ANALYSES

Add Analyses [ ] Cancel Analyses [ ]

Sequoia Project ID: 0

Sample Number	Analyses
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA

SAMPLES ON HOLD

Sample Description	Analyses
MW - 8 (20')	Gas/BTEX, Diesel [redacted] 5120320

Client Authorization (Person/Date/Time): Ailsa LeMay 12/1/95 3:03 PM

Project Manager: Kevin Van Slambrook

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alton Geoscience	Client Project ID:	U.S.A. Gas Station #57	Sampled: Nov 22, 1995
30-A Lindbergh Ave.	Sample Matrix:	Water	Received: Nov 22, 1995
Livermore, CA 94550	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Dec 7, 1995
Attention: Ailsa LeMay	First Sample #:	511-2062	

QC Batch Number:	GC120595 802002A	GC120595 802002A	GC120595 802002A	GC120595 802002A	GC120595 802004A	GC120595 802002A

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 511-2062 MW-5	Sample I.D. 511-2063 MW-4	Sample I.D. 511-2064 MW-6	Sample I.D. 511-2065 MW-7	Sample I.D. 511-2066 MW-3	Sample I.D. 511-2067 MW-8
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	N.D.	14,000	N.D.
Benzene	0.50	N.D.	N.D.	N.D.	N.D.	5,700	N.D.
Toluene	0.50	1.8	1.5	1.2	0.57	230	1.3
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	N.D.	430	N.D.
Total Xylenes	0.50	3.0	1.7	1.5	0.62	650	2.1
Chromatogram Pattern:		--	--	--	--	Gasoline	--

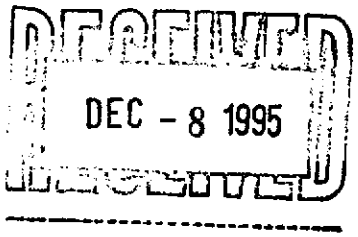
Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	200	1.0
Date Analyzed:	12/5/95	12/5/95	12/5/95	12/5/95	12/5/95	12/5/95
Instrument Identification:	HP-2	HP-2	HP-2	HP-2	HP-4	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	104	103	103	103	94	102

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Project Manager



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Sequoia Analytical

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404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alton Geoscience	Client Project ID:	U.S.A. Gas Station #57	Sampled: Nov 22, 1995
30-A Lindbergh Ave.	Sample Matrix:	Water	Received: Nov 22, 1995
Livermore, CA 94550	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Dec 7, 1995
Attention: Ailsa LeMay	First Sample #:	511-2068	

QC Batch Number: GC120595
802002A

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 511-2068 S-1
Purgeable Hydrocarbons	50	460
Benzene	0.50	13
Toluene	0.50	0.69
Ethyl Benzene	0.50	0.99
Total Xylenes	0.50	1.1
Chromatogram Pattern:		Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	12/5/95
Instrument Identification:	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	113

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Project Manager

5112062.ALT <2>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alton Geoscience	Client Project ID:	U.S.A. Gas Station #57	Sampled: Nov 22, 1995
30-A Lindbergh Ave.	Sample Descript:	Water	Received: Nov 22, 1995
Livermore, CA 94550	Analysis for:	MTBE (Modified EPA 8020)	
Attention: Allsa LeMay	First Sample #:	511-2062	Analyzed: Dec 5, 1995
			Reported: Dec 7, 1995

LABORATORY ANALYSIS FOR: MTBE (Modified EPA 8020)

Sample Number	Sample Description	Detection Limit µg/L	Sample Result µg/L	QC Batch Number	Instrument ID
511-2062	MW-5	0.60	2.2	GC120595802002A	HP-2
511-2063	MW-4	0.60	6.4	GC120595802002A	HP-2
511-2064	MW-6	0.60	5.3	GC120595802002A	HP-2
511-2065	MW-7	0.60	0.73	GC120595802002A	HP-2
511-2066	MW-3	120	820	GC120595802004A	HP-4
511-2067	MW-8	0.60	2.1	GC120595802002A	HP-2
511-2068	S-1	0.60	460	GC120595802002A	HP-2

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Project Manager

5112062.ALT <3>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alton Geoscience	Client Project ID:	U.S.A. Gas Station #57	Sampled: Nov 22, 1995
30-A Lindbergh Ave.	Sample Matrix:	Water	Received: Nov 22, 1995
Livermore, CA 94550	Analysis Method:	EPA 3510/8015 Mod.	Reported: Dec 7, 1995
Attention: Ailsa LeMay	First Sample #:	511-2062	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 511-2062 MW-5	Sample I.D. 511-2063 MW-4	Sample I.D. 511-2064 MW-6	Sample I.D. 511-2065 MW-7	Sample I.D. 511-2066 MW-3	Sample I.D. 511-2067 MW-8
QC Batch Number:		SP112995 8015EXA	SP112995 8015EXA	SP112995 8015EXA	SP112995 8015EXA	SP112995 8015EXA	SP112995 8015EXA
Extractable Hydrocarbons	50	280	200	140	180	5400	360
Chromatogram Pattern:		Diesel & Unidentified Hydrocarbons <C15	Diesel & Unidentified Hydrocarbons <C15	Diesel	Diesel	Diesel & Unidentified Hydrocarbons <C15	Diesel & Unidentified Hydrocarbons <C15

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Extracted:	11/29/95	11/29/95	11/29/95	11/29/95	11/29/95	11/29/95
Date Analyzed:	11/30/95	11/30/95	11/30/95	11/30/95	11/30/95	11/30/95
Instrument Identification:	HP-3B	HP-3B	HP-3B	HP-3B	HP-3B	HP-3B

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Project Manager

5112062.ALT <4>

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alton Geoscience	Client Project ID:	U.S.A. Gas Station #57	Sampled: Nov 22, 1995
30-A Lindbergh Ave.	Sample Matrix:	Water	Received: Nov 22, 1995
Livermore, CA 94550	Analysis Method:	EPA 3510/8015 Mod.	Reported: Dec 7, 1995
Attention: Ailsa LeMay	First Sample #:	511-2068	

QC Batch Number: SP112995

8015EXA

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 511-2068 S-1
Extractable Hydrocarbons	50	6100
Chromatogram Pattern:		Diesel

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	11/29/95
Date Analyzed:	11/30/95
Instrument Identification:	HP-3B

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Project Manager

5112062.ALT <5>

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alton Geoscience
30-A Lindbergh Ave.
Livermore, CA 94550
Attention: Ailsa LeMay

Client Project ID: U.S.A. Gas Station #57
Matrix: Liquid
QC Sample Group: 5112062-068
Reported: Dec 7, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
QC Batch#:	GC120595	GC120595	GC120595	GC120595	SP112995
	802002A	802002A	802002A	802002A	8015EXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 3510
Analyst:	M. Creusere	M. Creusere	M. Creusere	M. Creusere	J. Dinsay
MS/MSD #:	5112113	5112113	5112113	5112113	BLK112995
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/5/95	12/5/95	12/5/95	12/5/95	11/29/95
Analyzed Date:	12/5/95	12/5/95	12/5/95	12/5/95	11/30/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	GCHP-3A
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Result:	24	23	24	72	350
MS % Recovery:	120	115	120	120	117
Dup. Result:	24	23	24	72	340
MSD % Recov.:	120	115	120	120	113
RPD:	0.0	0.0	0.0	0.0	2.9
RPD Limit:	0-20	0-20	0-20	0-20	0-20

LCS #:	1LCS120595	1LCS120595	1LCS120595	1LCS120595	LCS112995
Prepared Date:	12/5/95	12/5/95	12/5/95	12/5/95	11/29/95
Analyzed Date:	12/5/95	12/5/95	12/5/95	12/5/95	11/30/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	GCHP-3A
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
LCS Result:	20	19	20	59	350
LCS % Recov.:	98	96	99	99	117

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120	38-122

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Alton Geoscience
30-A Lindbergh Ave.
Livermore, CA 94550
Attention: Alisa LeMay

Client Project ID: U.S.A. Gas Station #57
Matrix: Liquid
QC Sample Group: 5112062-068

Reported: Dec 7, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC120595 802004A	GC120595 802004A	GC120595 802004A	GC120595 802004A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	M. Creusere	M. Creusere	M. Creusere	M. Creusere
MS/MSD #:	5112114	5112114	5112114	5112114
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	12/5/95	12/5/95	12/5/95	12/5/95
Analyzed Date:	12/5/95	12/5/95	12/5/95	12/5/95
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Result:	21	22	22	65
MS % Recovery:	105	110	110	108
Dup. Result:	21	21	21	64
MSD % Recov.:	105	105	105	107
RPD:	0.0	4.7	4.7	1.6
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	2LCS120595	2LCS120595	2LCS120595	2LCS120595
Prepared Date:	12/5/95	12/5/95	12/5/95	12/5/95
Analyzed Date:	12/5/95	12/5/95	12/5/95	12/5/95
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
LCS Result:	18	19	19	59
LCS % Recov.:	89	95	97	99

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL, #1271

Kevin Van Slambrook
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

[redacted] Chesapeake Drive • Redwood City, CA 94063 • (415) 364-9600 FAX (415) 364-9233
❑ 819 West Striker Ave. • Sacramento, CA 95834 • (916) 921-9600 FAX (916) 921-0100
❑ 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600 FAX (510) 686-9689

Company Name: ALTon Geoscience	Project Name: U.S.A. Gas Station #57
Address: 30A Crossridge Dr	Billing Address (if different):
City: Livermore State: CA Zip Code: 94550	
Telephone: 510-606-9156 FAX #: 510-606-9160	P.O. #: 41-0034
Report To: Alisa Gemat Sampler: Mark Foster	QC Data: ☑ Level A (Standard) ❑ Level B ❑ Level C ❑ Level D

Turnaround Time: ☒ 10 Working Days ❑ 3 Working Days ❑ 2 - 8 Hours ❑ 7 Working Days ❑ 2 Working Days ❑ 5 Working Days ❑ 24 Hours

❑ Drinking Water ❑ Waste Water ☒ Other

Analyses Requested: TPH-Gas, TPH-Diesel, BTEX

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	TPH-Gas	TPH-Diesel	BTEX	Comments
1. MW-5	11/22 11:30	H2O	3/1	VOA/1Liter	5112062	X	X	X	
2. MW-4	11:55				5112063	X	X	X	
3. MW-6	12:20				5112064	X	X	X	
4. MW-7	12:45				5112065	X	X	X	
5. MW-3	1:10				5112066	X	X	X	
6. MW-8	1:40				5112067	X	X	X	
7. S-1	2:15				5112068	X	X	X	
8.									
9.									
10.									

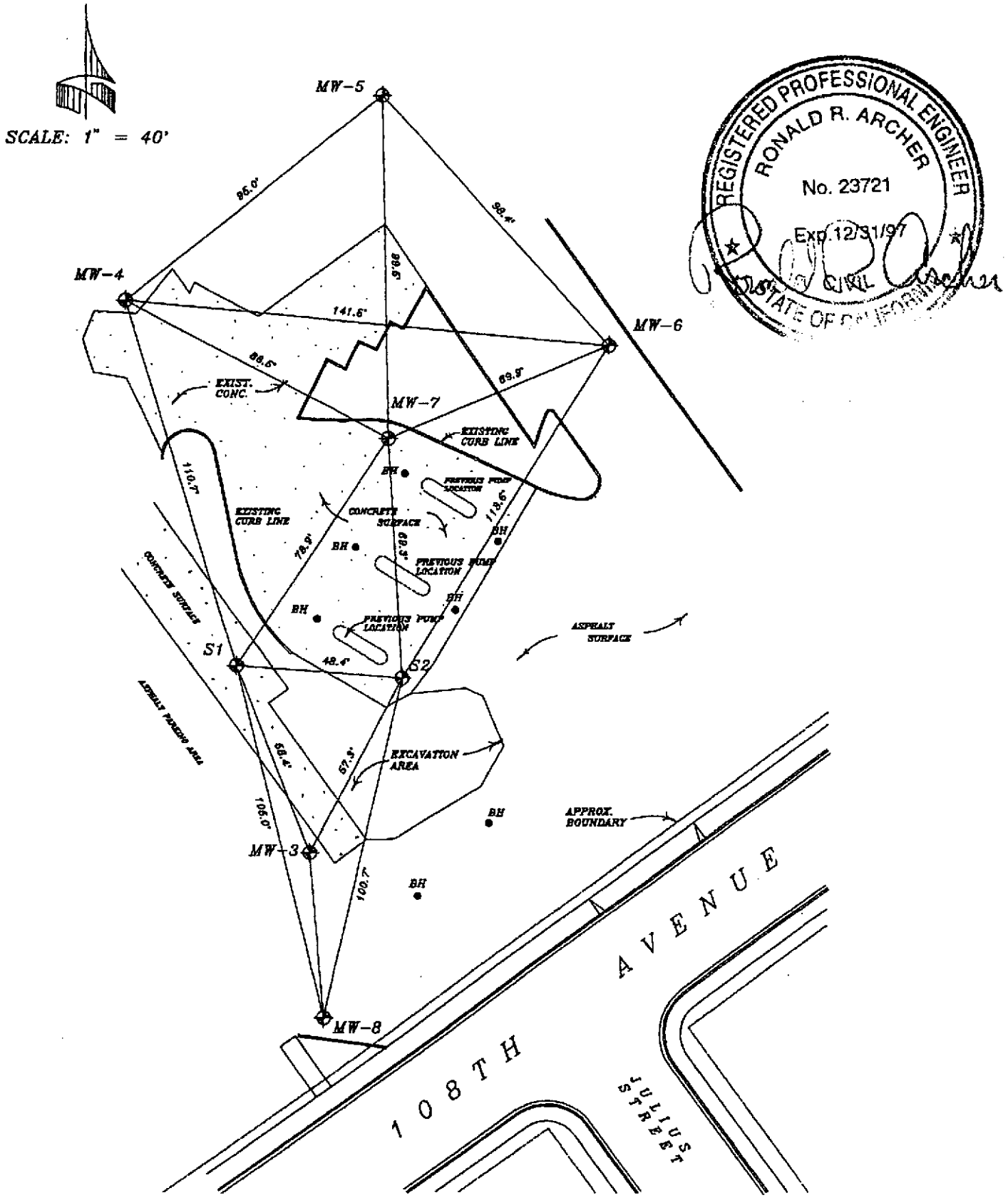
Pink - Client
Yellow - Sequoia
White - Sequoia

Relinquished By: [signature]	Date:	Time:	Received By: Ralph Bonilla	Date: 11/22/95	Time: 5:15
Relinquished By: Ralph Bonilla	Date: 11/22/95	Time: 6:30	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: Kevin Mclaughlin	Date: 11/22/95	Time: 18:30

Were Samples Received in Good Condition? ❑ Yes ❑ No Samples on Ice? ❑ Yes ❑ No Method of Shipment_____ Page __ of __

APPENDIX C

SURVEY DATA



REGISTERED PROFESSIONAL ENGINEER
RONALD R. ARCHER
No. 23721
Exp. 12/31/97
CIVIL
STATE OF CALIFORNIA

RON ARCHER CIVIL ENGINEER INC. • 4133 MOHR AVE. SUITE E • PLEASANTON CA. 94566	DATE: *NOVEMBER 22, 1995*	JOB NO. *2258.1*