RO-193

Technology, Engineering & Construction, Inc.

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Concur w/ recommendations to do up to 5 HPs dwn gradient of site and use this data to conduct RBCA - vapors indoor - and outdoor pathways.

00 NOV 3 AM 9:27
ENVIRONMENTAL PROTECTION

November 29, 2000

Ms. Eva Chu
Hazardous Materials Specialist
Alameda County Health Agency
Division of Environmental Protection
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

RE: QUARTERLY GROUNDWATER MONITORING, SENSITIVE RECEPTOR SURVEY AND SITE CONCEPTUAL MODEL
Former Olympian Gasoline Station
1435 Webster Street
Alameda, California

Dear Ms. Chu:

TEC Accutite (Accutite) is pleased to submit this report for the above referenced site. On September 29, 2000, six monitoring wells (MW-1 through MW-6) were sampled for quarterly analysis. At the request of the Alameda County Health Agency, Accutite completed a sensitive receptor survey and developed a site conceptual model. The results of the quarterly monitoring, sensitive receptor survey, and site conceptual model are presented in the following report.

00 DEC -4 PM 3:19
ENVIRONMENTAL PROTECTION

Thank you for your cooperation. If you have any questions, please call the undersigned at (650) 952-5551, Ext. 208.

Sincerely,
TEC Accutite

David Gregory
Project Manager

cc: Mr. Dan Koch, Olympian, 260 Michelle Court, South San Francisco, CA 94080
Mr. Rusty Firenze, Olympian, 260 Michelle Court, South San Francisco, CA 94080
Mr. David Harris, Esq., Trump, Alioto, Trump & Prescott, LLP, 2280 Union Street, San Francisco, CA 94123
Mr. Jeff Farrar, P.O. Box 1701, Chico, CA 95927

QUARTERLY GROUNDWATER MONITORING, SENSITIVE RECEPTOR SURVEY AND SITE CONCEPTUAL MODEL
AT
FORMER OLYMPIAN SERVICE STATION
1435 WEBSTER STREET
ALAMEDA, CA

PREPARED FOR:
OLYMPIAN
260 MICHELLE COURT
SOUTH SAN FRANCISCO, CA

PREPARED BY:
TEC ACCUTITE
35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO, CA 94080

REPORT DATE:
NOVEMBER 29, 2000

TEC ACCUTITE

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Figures

ATTACHMENT

1.0 INTRODUCTION

On behalf of Olympian, TEC Accutite (Accutite) sampled groundwater monitoring wells (MW-1 through MW-6) at the former Olympian gas station located at 1435 Webster Street in Alameda, California (Figure 1). A site conceptual model (SCM) and sensitive receptor survey were completed at the request of the Alameda County Health Agency. Presented below are the results of the third quarter groundwater monitoring event, sensitive receptor survey and SCM.

2.0 SITE DESCRIPTION

The site is located on the corner of Webster Street and Taylor Avenue in Alameda, CA. Prior to 1989, the site was occupied by an Olympian Service Station. Station facilities consisted of two 10,000 gallon gasoline and one 7,500 gallon diesel underground storage tanks (USTs), two dispenser islands and a 500 gallon waste oil UST (Figure 2).

The surrounding topography is flat and the site is approximately 20 feet above mean sea level. The site is situated in a mixed commercial and residential area and is currently leased by the City of Alameda and operated as a metered parking lot.

2.1 Environmental History

In October 1988, CHIPS Environmental Consultants, Inc. performed soil gas analysis at the subject site. High soil gas readings were found on the eastern side of one of the pump islands, between the pump islands, and from backfill between the gasoline storage tanks.

In September 1989, Accutite removed the following USTs:

- Two 10,000-gallon gasoline USTs
- One 7,500-gallon diesel UST
- One 500-gallon waste oil UST

Analysis of soil samples collected during removal of the USTs detected hydrocarbons at a maximum concentration of 220 parts per million (ppm) Total Petroleum Hydrocarbons as gasoline (TPHg), 430 ppm Total Petroleum Hydrocarbons as diesel (TPHd), and 650 ppm Total Recoverable Petroleum Hydrocarbons as Oil and Grease (TRPH).

In January 1991, remedial excavation of the hydrocarbon impacted soil was conducted by AAA Tank Removal / Forcade Excavations Services. Approximately 950 cubic yards of soil were removed from the former location of the USTs. This soil was bioremediated onsite and returned to the former excavation.

In January 1993, Uriah Environmental Services, Inc. installed three monitoring wells onsite (MW-1 through MW-3). Soil samples collected during installation were submitted for analysis and contained no detectable concentrations of petroleum hydrocarbons. Bi-annual groundwater monitoring was initiated. Dissolved phase hydrocarbons have been detected in all wells at varying concentrations.

On February 11, 1999 Accutite advanced four borings on and offsite (B1 through B4) to determine the extent of hydrocarbon impact to soil and groundwater. The soil analytical results detected non-significant concentrations of TPHg, benzene, toluene, ethyl-benzene, xylenes (BTEX), and methyl tert-butyl ether (MTBE). The groundwater samples detected hydrocarbon concentrations up to 6,000 parts per billion (ppb) MTBE and 38,000 ppb benzene.

Based on noticeable concentrations of TPHg, BTEX, and MTBE, Alameda County Environmental Health Services (ACEHS) suggested the installation of three additional wells to define dissolved phase hydrocarbons and assess plume stability. Three additional wells MW-4 through MW-6 were installed in December 1999. Analysis of soil samples detected hydrocarbon concentrations of 1,100 parts per million (ppm) TPHg, 200 ppm TPHd and 3.4 ppm benzene from soil collected at 9.5 feet below grade (fbg) in well MW-5. No hydrocarbons were detected in soil samples collected during installation of wells MW-4 and MW-6. Groundwater sampling from wells MW-6 and MW-3 defined the dissolved phase hydrocarbon plume upgradient of the former dispenser islands and cross-gradient of the former USTs.

2.2 Site Geology and Hydrogeology

The site is located on the bay plain deposits of the San Francisco Bay consisting of shallow marine and continental deposits known as the "Bay Mud". Sediments beneath the site consist of fine-medium grained, poorly sorted, brown sand to a maximum explored depth of 20 fbg.

Groundwater elevation at the site varies from 8 to 11 fbg. Groundwater flow direction has consistently been toward the south- southeast at an average gradient of 0.002 ft/ft. Groundwater beneath the site has been designated as potentially suitable for municipal and industrial use (San Francisco Bay Water Quality Control Plan, 1995).

3.0 SEPTEMBER 2000 QUARTERLY MONITORING

On September 29, 2000, Accutite measured groundwater elevations in all six wells prior to sampling. The reference mark considered as a base for calculating the groundwater elevations was a fire hydrant, located on the sidewalk of Webster Street.

The calculated groundwater flow direction is to the southeast at a gradient of 0.002 ft/ft (Figure 3). The groundwater elevation data are summarized below (Table 1).

TABLE 1 Elevation Data

Well Identification	Top of Casing Elevation in ft above Mean Sea Level (MSL)	Depth to Groundwater (ft)	Ground Water Elevation in ft (MSL)
MW-1	19.53	10.18	9.35
MW-2	19.80	10.44	9.36
MW-3	19.79	10.20	9.59
MW-4	19.30	10.11	9.19
MW-5	18.99	9.54	9.45
MW-6	20.27	10.81	9.46

3.1 Sampling

Prior to sampling Accutite purged wells MW1 through MW-6. Groundwater was collected with disposable bailers and transferred into certified VOA laboratory vials. The samples were labeled, placed on blue ice and transported under a chain of custody to North State Environmental Laboratory for analysis. Well sampling logs are presented as Attachment A.

3.2 Laboratory Analysis

The laboratory report is presented in Attachment B. Historical groundwater concentrations are summarized below (Table 2).

TABLE 2 Cumulative Groundwater Analytical Results

Sample ID	Date Of Sampling	Depth to Water	TPHd (ppb)	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Xylenes (ppb)	MTBE (ppb)	TRPH (ppm)
MW-1	6/03/93	NA[1]	NA	NA	NA	NA	NA	NA	NA	NA
	9/14/94	11.46	<50	14,000	44	28	25	50	NA	0.8
	12/30/94	9.22	<50	4,000	12	9	6.8	30	NA	<0.5
	3/26/95	6.76	<50	1,000	21	10	7.1	25	NA	2.1
	07/9/95	8.92	<50	16,000	57	28	25	53	NA	NA
	07/31/98	8.30	1,700	4,700	1,300	48	140	150	6,600	<5
	02/11/99	7.91	2000	25,000	18,000	1,600	1,400	500	28,000	NA
	6/23/99	9.03	4,900	42,000	11,000	1,100	1,500	2,300	15,000	NA
	12/06/99	10.86	4,000	44,000	8,900	3,400	1,900	5,100	11,000	NA
	03/16/00	6.93	700	5,100	2,400	100	280	460	2,700[3]	NA
	06/13/00	8.73	2,800	17,000	5,300	260	720	790	7,000[3]	NA
	9/29/00	10.18	5,200*	50,000	11,000	2,900	1,900	4,600	7,200[3]	NA
MW-2	6/03/93	9.54	<50	<50	5.8	<0.5	<0.5	<0.5	NA	<0.5
	9/14/94	11.82	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	12/30/94	9.46	<50	160	1.4	1.4	0.8	5.0	NA	<0.5
	3/26/95	6.82	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	07/9/95	9.22	NA	NA	NA	NA	NA	NA	NA	NA
	07/31/98	8.56	220	<50	<0.5	<0.5	<0.5	<0.5	73	<5
	02/11/99	8.12	<50	<50	<0.5	<0.5	<0.5	<0.5	75	NA
	6/23/99	9.33	420	<50	<0.5	<0.5	<0.5	<0.5	96	NA
	12/06/99	11.20	<110	300	28	45	6	37	210	NA
	03/16/00	6.88	<50	<50	1.0	<0.5	0.5	1.0	3.0	NA
	06/13/00	8.99	<50	68	0.8	<0.5	<0.5	<0.5	38	NA
	09/29/00	10.40	<50	67	0.8	0.5	<0.5	1	86[3]	NA
MW-3	6/03/93	9.80	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	9/14/94	12.19	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	12/30/94	9.72	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	3/26/95	6.88	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.5
	07/9/95	9.52	NA	NA	NA	NA	NA	NA	NA	NA
	07/31/98	8.40	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5
	02/11/99	7.77	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA
	06/23/99	9.21	<50	50	<0.5	<0.5	<0.5	<0.5	3.0	NA
	12/06/99	11.12	<110	<50	3	1	<0.5	1	0.6	NA
	03/16/00	6.48	<50	<50	<0.5	<0.5	<0.5	<1.0	1.0	NA
	06/13/00	8.76	<50	490	0.8	<0.5	<0.5	9	2	NA
	09/29/00	10.20	<50	57	<0.5	<0.5	<0.5	<1.0	<1.0[3]	NA
MW-4	12/06/99	10.79	160	<50	3	2	0.6	4	140	NA
	03/16/00	6.86	90	<50	0.5	0.5	<0.5	2.0	34	NA
	06/13/00	8.18	<50	56	<0.5	<0.5	<0.5	<1.0	1	NA
	09/29/00	10.11	<50	92	0.7	<0.5	<0.5	3	<1.0[3]	NA

Table 2. Cont.										
Sample ID	Date Of Sampling	Depth to Water	TPHd (ppb)	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Xylenes (ppb)	MTBE (ppb)	TRPH (ppm)
MW-5	12/06/99	10.17	2,800	30,000	2,200	3,300	910	7000	670	NA
	03/16/00	6.28	1,100	3,500	1,100	260	210	6300	260	NA
	06/13/00	7.95	1,100	6,500	2200	360	360	730	480	NA
	09/29/00	9.54	700*	3,900	990	120	300	340	390(3)	NA
MW-6	12/06/99	11.46	110	<50	2	2	0.8	8	1	NA
	03/16/00	8.32	<50	<50	8.0	8.0	5	18	<0.5	NA
	06/13/00	9.14	<50	75	0.7	1	0.9	2	0.6	NA
	09/29/00	10.81	<50	<50	<0.5	<0.5	<0.5	<1.0	<0.5	NA

<X = Concentration less than laboratory reporting limit
(1) Well not accessible because of a car obstruction
(2) NA denotes not analyzed for the indicated compound
(3) Confirmed by EPA Method 8260
* Does not match diesel chromatogram pattern

TABLE 3 Total Dissolved Solids (TDS) Concentrations	
Well Identification	TDS Mg/l
MW-1	440
MW-2	700
MW-3	210
MW-4	280
MW-5	680
MW-6	650

3.3 Quarterly Monitoring Conclusions

- The calculated groundwater flow direction is toward the southeast at a gradient of 0.002 ft/ft. This is consistent with previous sampling events.

- The available data indicate the concentration of hydrocarbons in groundwater is greatest near the former dispenser islands (Figure 4). The highest concentration of dissolved phase hydrocarbons were detected in down-gradient well MW-1 at 50,000 ppb TPHg, 11,000 ppb benzene, 7,200 ppb MTBE. Well MW-5, down-gradient of the northern most dispenser island, detected dissolved phase hydrocarbons at concentrations of 3,900 ppb TPHg, 990 ppb benzene, 470 ppb MTBE. No other fuel oxygenates were detected.

4.0 SITE CONCEPTUAL MODEL

Accutite prepared this SCM for the referenced site on behalf of Olympian. The SCM was developed in accordance with the State Water Resources Control Board "Guidelines for Investigation and Cleanup of MTBE and Other Ether-Based Oxygenates" (Guidelines) as outlined in the final draft dated April 7, 2000.

The SCM is a summary of known environmental conditions regarding the site, historic fuel releases, hydrological and geological conditions, and other aspects that are relevant to understanding the potential risk posed by hydrocarbons at the site. Site characterization data included herein address the requests of the Alameda County Health Care Services Agency (ACHCSA) letter dated 24th July 2000 (Attachment C).

4.1 Hydrocarbon Source

Hydrocarbons were first detected beneath the site during soil vapor sampling tests carried out in 1988. High soil gas readings were found adjacent to the UST locations; eastern side of one of the dispenser islands and in-between the dispenser's islands.

Removal of the USTs in 1989, confirmed there had been a hydrocarbon release from the USTs. Hydrocarbon impacted soil surrounding the UST excavation was removed and bioremediated onsite. Analysis of the excavated soil following bioremediation found the concentrations of hydrocarbons in soil had been remediated to undetectable levels before it was placed back into the tank excavation. Effective remediation was further confirmed by analysis of soil samples collected during installation of well MW-2 (post tank post removal), and by insignificant hydrocarbon concentrations detected in groundwater samples collected from well MW-2 (immediately down-gradient of the former tanks location).

Based on increasing hydrocarbon concentrations in down-gradient well MW-1, and previous soil gas readings, it is evident that the source of hydrocarbons is from the former southern dispenser island and/or from the former product piping trench.

4.2 Soil Definition Status

Hydrocarbons were not detected in soil samples collected during installation of well MW-2 (Table 4). Historical hydrocarbon concentrations in groundwater from well MW-2 have also been insignificant, indicating soil surrounding the former USTs was adequately remediated of residual hydrocarbons and is no longer contributing hydrocarbons to the groundwater contaminant plume.

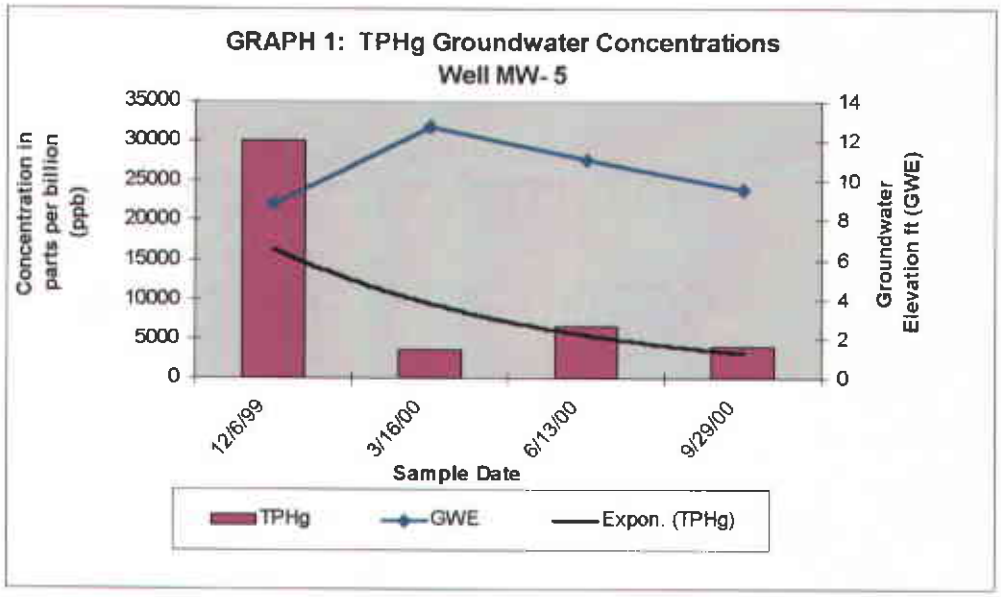
Initial soil gas readings suggest a hydrocarbon release near the dispensers. Past investigations (well installations MW1, MW-5, and soil borings B1-B4) surrounding the dispensers have found soil hydrocarbon concentrations to be non detect. The highest hydrocarbon concentration (1100 ppm TPHg, 200 ppm TPHd, 3.4 ppm benzene) were detected in soil from MW-5 at 9.5 fbg, a review of drill logs and groundwater elevations suggests the sample was collected from the saturated zone. Based on the moderate to high estimated permeability of soils beneath the site and shallow groundwater elevation, any past release of hydrocarbons from the dispenser islands or product piping would have migrated to groundwater. Based on past boring investigations and subsurface characteristics, large concentrations of hydrocarbons are unlikely to be residual in soil, therefore further soil definition is not warranted.

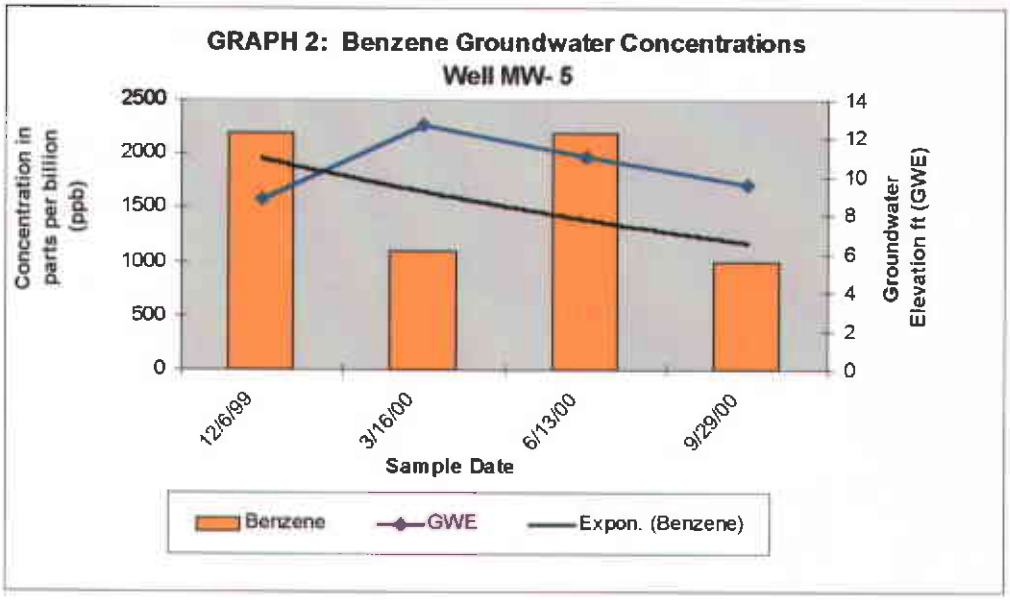
4.3 Groundwater Definition Status

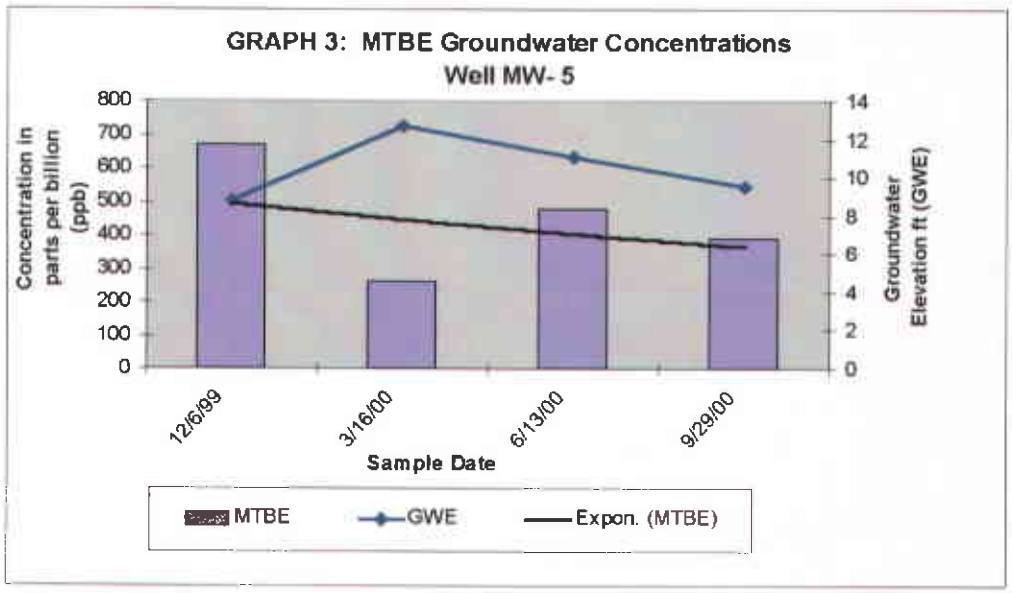
The status of groundwater contaminants is represented by concentration-time plots (Graphs 1 through 6) and isoconcentration contour maps for benzene and MTBE (Figures 5 & 6).

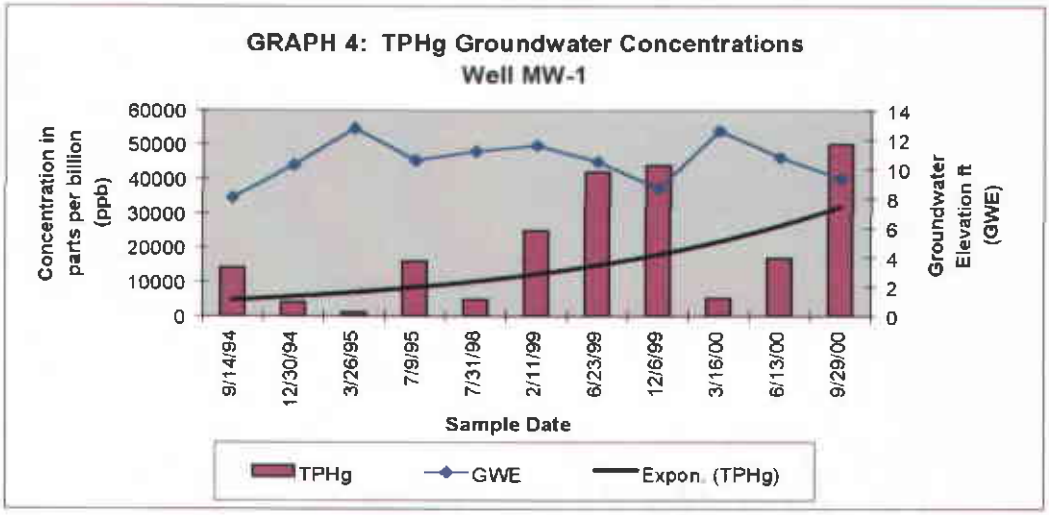
The highest concentration of dissolved phase hydrocarbons is centered around well MW-1. Recent quarterly monitoring detected 50,000 ppm TPHg, 11,000 ppm benzene and 7,200 ppm MTBE from well MW-1. Samples collected from wells MW-6, MW-3 and MW-2 define the groundwater contaminant plume to the west.

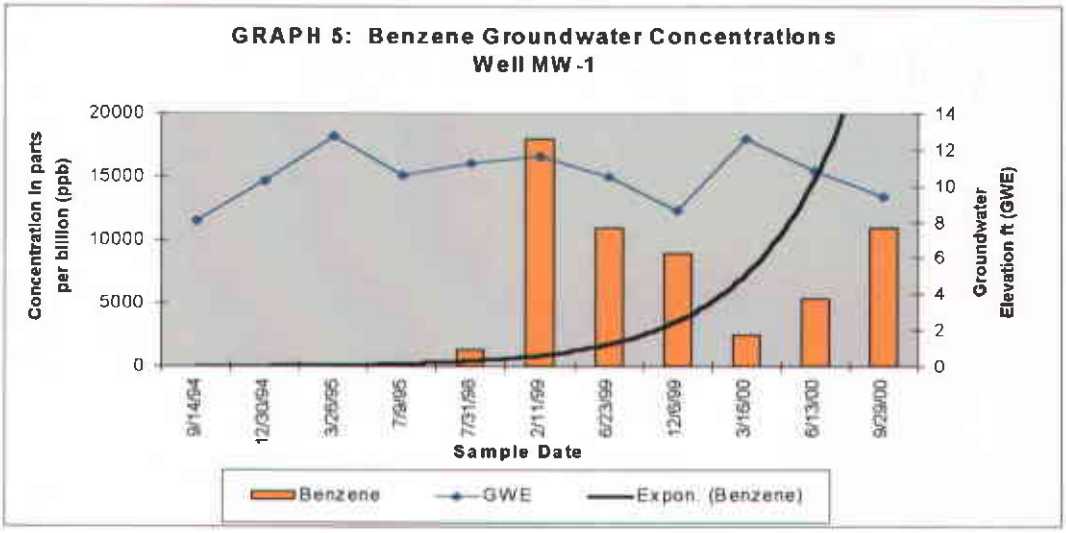
Graphs 1 through 3 illustrate hydrocarbon concentrations in well MW-5 are decreasing, indicating well MW-5 is upgradient of the source and concentrations have been decreasing as the

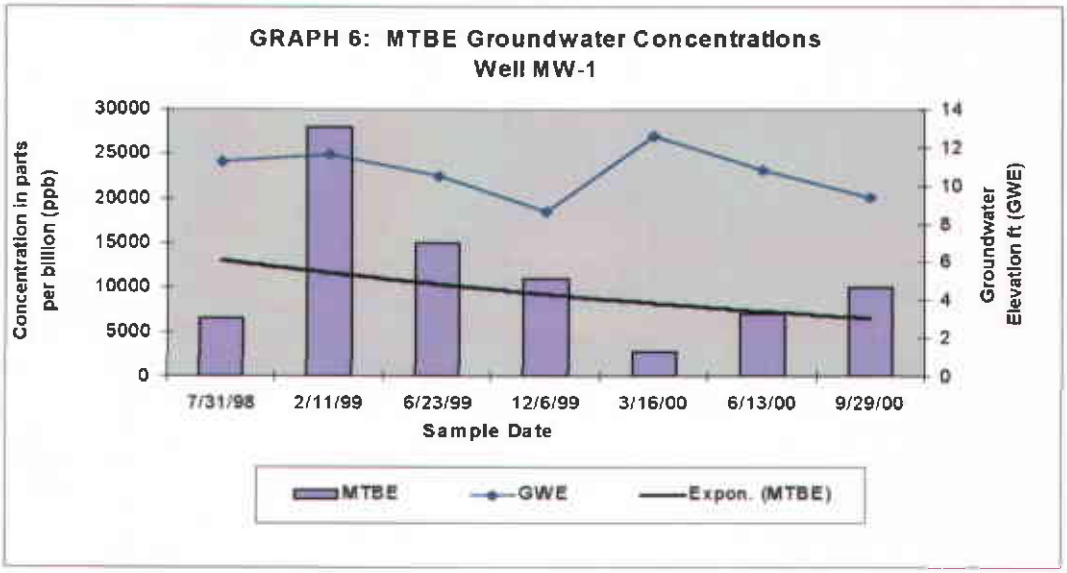

GRAPH 1: TPHg Groundwater Concentrations
Well MW- 5
Concentration in parts per billion (ppb)
35000
30000
25000
20000
15000
10000
5000
0
14
12
10
8
6
4
2
0
Groundwater Elevation ft (GWE)
12/6/99
3/16/00
6/13/00
9/29/00
Sample Date
TPHg
GWE
Expon. (TPHg)


GRAPH 2: Benzene Groundwater Concentrations
Well MW- 5
Concentration in parts per billion (ppb)
2500
2000
1500
1000
500
0
14
12
10
8
6
4
2
0
Groundwater Elevation ft (GWE)
12/6/99
3/16/00
6/13/00
9/29/00
Sample Date
Benzene
GWE
Expon. (Benzene)


GRAPH 3: MTBE Groundwater Concentrations
Well MW- 5
Concentration in parts per billion (ppb)
800
700
600
500
400
300
200
100
0
14
12
10
8
6
4
2
0
Groundwater Elevation ft (GWE)
12/6/99
3/16/00
6/13/00
9/29/00
Sample Date
MTBE
GWE
Expon. (MTBE)


GRAPH 4: TPHg Groundwater Concentrations
Well MW-1
Concentration in parts per billion (ppb)
60000
50000
40000
30000
20000
10000
0
14
12
10
8
6
4
2
0
Groundwater Elevation ft (GWE)
9/14/94
12/30/94
3/26/95
7/9/95
7/31/98
2/11/99
6/23/99
12/6/99
3/16/00
6/13/00
9/29/00
Sample Date
TPHg
GWE
Expon. (TPHg)


GRAPH 5: Benzene Groundwater Concentrations
Well MW-1
Concentration in parts per billion (ppb)
20000
15000
10000
5000
0
14
12
10
8
6
4
2
0
Groundwater Elevation ft (GWE)
9/14/94
12/30/94
3/26/95
7/9/95
7/31/98
2/11/99
6/23/99
12/6/99
3/16/00
6/13/00
9/29/00
Sample Date
Benzene
GWE
Expon. (Benzene)


GRAPH 6: MTBE Groundwater Concentrations
Well MW-1
Concentration in parts per billion (ppb)
30000
25000
20000
15000
10000
5000
0
14
12
10
8
6
4
2
0
Groundwater Elevation ft (GWE)
7/31/98
2/11/99
6/23/99
12/6/99
3/16/00
6/13/00
9/29/00
Sample Date
MTBE
GWE
Expon. (MTBE)

contaminant plume shifts down-gradient. Based on the migration trends seen to date, further definition of the groundwater contaminant plume north of well MW-5 is not warranted as hydrocarbon concentrations are expected to decline further.

Graphs 4 and 5 illustrate TPHg and benzene concentrations have been increasing in down-gradient well MW-1. The increase in concentration is interpreted to represent the travel time required for hydrocarbons to pass through the vadose zone into the saturated zone and migrate down-gradient as dissolved phase hydrocarbons to well MW-1. Graph 6 illustrates MTBE concentrations peaked during 1999 and are now decreasing in well MW-1. As MTBE tends to remain in groundwater, instead of sorbing to soil, volatizing to soil vapor, or biodegrading, it has greater mobility than the BTEX compounds in a groundwater contaminant plume. Trends seen in graphs 4 through 6 and figures 5 and 6, reflect the different migration characteristics of MTBE and benzene within the contaminant plume. Benzene being more susceptible to retardation, appears to be migrating slower and is less dispersed than MTBE.

The available data suggests the groundwater contaminant plume is unstable and migrating down-gradient. Based on the above conclusions further definition of dissolved phase hydrocarbons down-gradient (south-southeast) and cross-gradient (east) is warranted.

5.0 CONDUIT STUDY

In July 1999, Accutite performed a conduit study at the site to determine if underground utilities were acting as preferential pathways for groundwater movement. A conduit location map is presented as Figure 7.

Underground Service Alert was notified in October 2000. No new utilities have been installed since 1999. Communication with utility operators identified four underground utility lines surrounding the site:

- An 8-inch diameter sewer main on Webster Street approximately 6 feet below grade (fbg).
- A 4-inch diameter gas line on Webster Street approximately 3-5 fbg.
- A 16-inch diameter water line approximately 3 to 4 fbg.
- A 4-inch diameter electrical conduit beneath the sidewalk approximately 2-3 fbg.

Given the deepest utility is approximately 6 fbg and groundwater is greater than 8 fbg the underground utilities are not expected to act as preferential pathways for groundwater movement.

6.0 WELL AND SENSITIVE RECEPTOR SURVEY

6.1 Area Survey

On October 10 2000, Accutite personnel conducted a site visit and survey of the surrounding area within a 1000 feet (ft) radius of the site. The surrounding land-use is a mixture of commercial businesses (primarily located along Webster Street), residential dwellings and recreational parks. Domestic water is supplied to the City of Alameda by East Bay Municipal Utility District who obtains water from Shasta County reservoirs. Two sensitive receptors were identified within the surveyed area (Figure 8).

1. Saint Barnabas Elementary School, located at 1400 6th Street, is approximately 500 ft west-south west of the site in a cross gradient direction.

2. News Maker Home Day Care Center, located on the corner of Taylor and 6th Streets is approximately 500 ft west of the site in an up-cross gradient direction.

Given the groundwater flow direction and historical hydrocarbon concentrations in cross-gradient wells MW-2, MW-3, MW-6, it is unlikely site hydrocarbons present any risk to the above sensitive receptors.

6.2 Surface Water

There is no surface water within a 1000 ft radius of the site. The nearest surface water is the San Francisco Bay located approximately 1500 ft south of the site. Given the distance to San Francisco Bay, site hydrocarbons pose no threat to surrounding surface water.

6.2 Well Survey Results

Department of Water Resources (DWR) records were reviewed for wells within a 1000 ft radius of the site. Nine groundwater monitoring wells were identified. **No domestic, municipal or industrial** wells were identified, construction details and locations are presented in the attached Table 5 and Figure 8, respectively.

Well #1: Represents wells MW-1 through MW-6 *located onsite at 1435 Webster Street*, Alameda. These wells are used for groundwater monitoring.

Well #2: Represents wells S1, MW-1, MW-2. These are groundwater monitoring wells for the Shell gas station located at 1601 Webster Street (approximately 1000 ft north of the site).

7.0 CONTAMINANT TRANSPORT RATES

Groundwater flow velocity of 0.06 feet/per day was calculated using literature values for a medium grained sand (Drescall, 1986). Based on the calculated flow velocity and distance to the nearest down-gradient sensitive receptor (San Francisco Bay, 1500ft), it is anticipated to take over 50 years for MTBE to migrate to the San Francisco Bay. Cross-gradient receptors are under no threat from site hydrocarbons as hydrocarbon concentrations have been insignificant in cross-gradient wells MW-3 and MW-2.

8.0 GROUNDWATER CLASSIFICATION

The site does not exhibit any of the characteristics defined by the "Guidelines" to identify site areas most vulnerable to groundwater contamination. The site:

- Is not located on near-surface bedrock geology that is a source of water supply for a community,
- is not located above an aquifer that is a source of water supply for a community, and
- is not located within a 1000ft radius of a drinking well or surface water body used as a source of drinking water

Given the estimated plume travel time to the nearest downgradient receptor is anticipated to be greater than 20 years the site would be classified as "Cleanup Priority Class 3" as outlined in the "Guidelines".

9.0 RISK ASSESMENT

No formal risk assessment has been completed at this time.

The current data indicate that site hydrocarbons transported in groundwater do not pose a risk to surface water or groundwater, based on its current use.

Given the concentration of hydrocarbons in groundwater, shallow groundwater elevation (9 fbg), estimated high permeability of soils beneath the site, the potential for vapor phase migration from hydrocarbon affected groundwater to indoor and ambient air may require future evaluation. Any risk evaluation should consider "exposure pathways" associated with the current site use (inhalation) and any anticipated future site development (inhalation/dermal).

10.0 CONCLUSIONS

In summary, a historical review has revealed that a hydrocarbon release appears to have occurred from the USTs and dispenser islands or associated piping. Bioremediation of the hydrocarbon impacted soil surrounding the USTs was effective and that soil is no longer contributing hydrocarbons to groundwater. A release from the dispenser facilities was not remediated and the effects of this release are currently expressed as dissolved phase hydrocarbons detected in nearby wells MW-5 and MW-1.

The groundwater contaminant plume is currently unstable and is moving down-gradient to the southeast, illustrated by time-concentration plots for MW-1. The contaminant plume is currently undefined in the down-gradient direction and to the east. Definition to the west by wells MW-3 and MW-2 indicate that the identified receptors west of the site (school and day care center) are under no threat from site hydrocarbons.

Given the calculated groundwater velocity and distance to the nearest down-gradient receptor, it is anticipated to take more than 50 years for MTBE to reach the San Francisco Bay. Based on the classification criteria outlined in the "Guidelines" the site would be assigned a "Cleanup Priority Class 3" (plume travel time to the nearest downgradient receptor is anticipated to be greater than 20 years).

MTBE impacted groundwater beneath the site;
(a) fits the criteria of Classification Class 3,
(b) is in a area defined as not being most vulnerable to groundwater contamination,
(c) is no threat to current groundwater usage, and
(d) is unlikely to impact receptors within a 1000 ft radius of the site;

The current data indicate that the potential risk from site hydrocarbons is by vapor phase migration of impacted groundwater to surrounding ambient/and or indoor air.

11.0 RECOMENDATIONS

To date the dissolved phase hydrocarbon plume is not defined down-gradient. Hydrocarbon concentrations have been increasing in down-gradient wells MW-1 suggesting the plume is not stable. Based on plume characteristics and dissolved phase hydrocarbon concentrations further plume definition is warranted. Plume definition is required to initiate a meaningful Risk Based Corrective Action (RBCA) study and/or determine effective remediation technologies.

Accutite proposes:

1. No further soil definition. High permeability sandy soils are not expected to retain significant concentrations of residual hydrocarbons, especially oxygenates as they have low sorption properties.

2. Four shallow geoprobe borings to obtain hydropunch samples to determine the extent of dissolved phase hydrocarbon plume (Figure 9). A fifth soil boring will be optional if hydrocarbon odor is detected in the down-gradient sample.

3. Coincide hydropunch sampling with the first quarter 2001 quarterly groundwater sampling event. As MTBE was the only oxygenate detected in the recent sampling event, it is recommended that analysis for the full suite of oxygenates be discontinued. OK

Future efforts should be directed toward assessing the potential risks of vapor phase migration (exposure pathways) from impacted groundwater to the surrounding environment (indoor/ambient air). A risk evaluation should consider current site use and any anticipated future site development.

12.0 LIMITATIONS

Our services consist of professional opinions, conclusions, and recommendations made today in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties either expressed or implied.

Thankyou for your cooperation. If you have any questions please contact the undersigned at (605) 952-5551, Ext. 208.

Sincerely,
TEC Accutite

David Gregory
Project Manager

Reviewed by:

Sami Malaeb. P.E., R.E.A.
Environmental Director

REGISTERED PROFESSIONAL ENGINEER
SAMI M. MALAEB
No. 60888
Exp. 12/31/04
CIVIL
STATE OF CALIFORNIA

C:\Projects\1435 Webster St\SCM.doc

13.0 SITED REFERENCES

California Regional Water Quality Control Board – San Francisco Bay Region 2 Water Quality *Control Plan*, June 1995.

Drescall, F.G., 1986; Groundwater and Wells (Second Edition); Johnson Filtration Systems Inc., St. Paul, Minnesota.

Table 4 : Historical Soil Analytical Data, 1435 Webster Street, Alameda, CA.

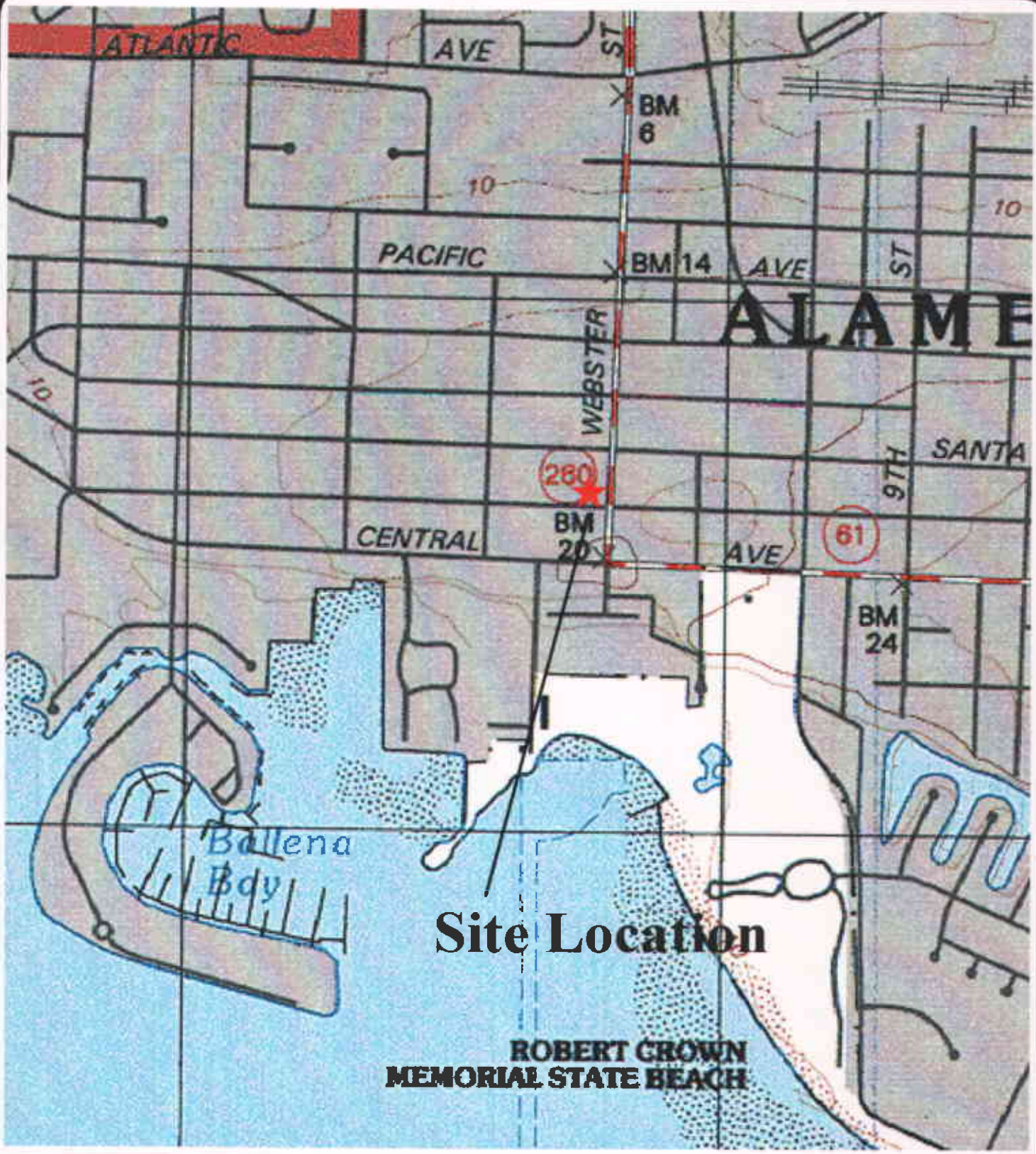
Sample ID	Date	Depth	TPHg	TPHd	TOG	Benzene	Ethylbenzene	Toluene	Xylenes	MTBE	Pb
					Concentrations in parts per million (ppm)						
MW-1	6/12/93	?	ND	ND	ND	ND	ND	ND	ND	NA	NA
MW-2	6/12/93	?	ND	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	6/12/93	?	ND	ND	ND	ND	ND	ND	ND	NA	NA
B1-7.5	2/11/99	7.5	0.65	ND	NA	ND	ND	ND	ND	ND	ND
B2-7.5	2/11/99	7.5	ND	ND	NA	ND	ND	ND	ND	ND	2
B3-6	2/11/99	6	ND	ND	NA	ND	ND	ND	ND	ND	1.2
B4-7.5	2/11/99	7.5	ND	ND	NA	ND	ND	ND	ND	ND	1.2
MW-4	11/11/99	9.5	ND	ND	NA	ND	ND	ND	ND	ND	NA
MW-5	11/10/99	9.5	1,100	200	NA	3.4	14	21	70	ND	NA
MW-6	11/10/99	9	ND	ND	NA	ND	ND	ND	ND	ND	NA

TPHg = Total petroleum hydrocarbons as gasoline, EPA Method 8015.
TPHd = Total petroleum hydrocarbons as diesel, EPA Method 8015.
TOG = Total oil and grease, SM 5520 E/F
Benzene, Ethylbenzene, Toluene, Xylenes, EPA Method 8020.
MTBE = Methyl tert-butyl ether, EPA Method 8020
Pb = Lead, Method 7420

Table 5: 1000 FT RADIUS WELL SURVEY - 1435 Webster Street, Alameda, CA

Figure 6 Location ID	Twnship	Rnge	Sctn/Tract	Well ID	Owner	Depth (ft)	Screen Interval (ft)	Address (based on information from DWR-188 forms)	Location	Installation Date	Well Use	Status
1	2S	4W	11/F	MW-1 to MW-6	Olympian	20	5 - 20	1435 Webster Street, Alameda, CA	As stated	1993, 1999	M	A
2	2S	4W	11/F	S-1, MW-1, MW-2	Shell Oil	20	5 - 20	1601 Webster Street, Alameda, CA	As stated	1987, 1990	M	A

M = Monitoring
A = Active
Twnship = Township
Rnge = Range
Sctn/Trct = Section and Tract No.



	DATE 11/15/00	PAGE 1 of 1
N	NO SCALE	
	LEGEND:	

TEG ACCUTITE

35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO

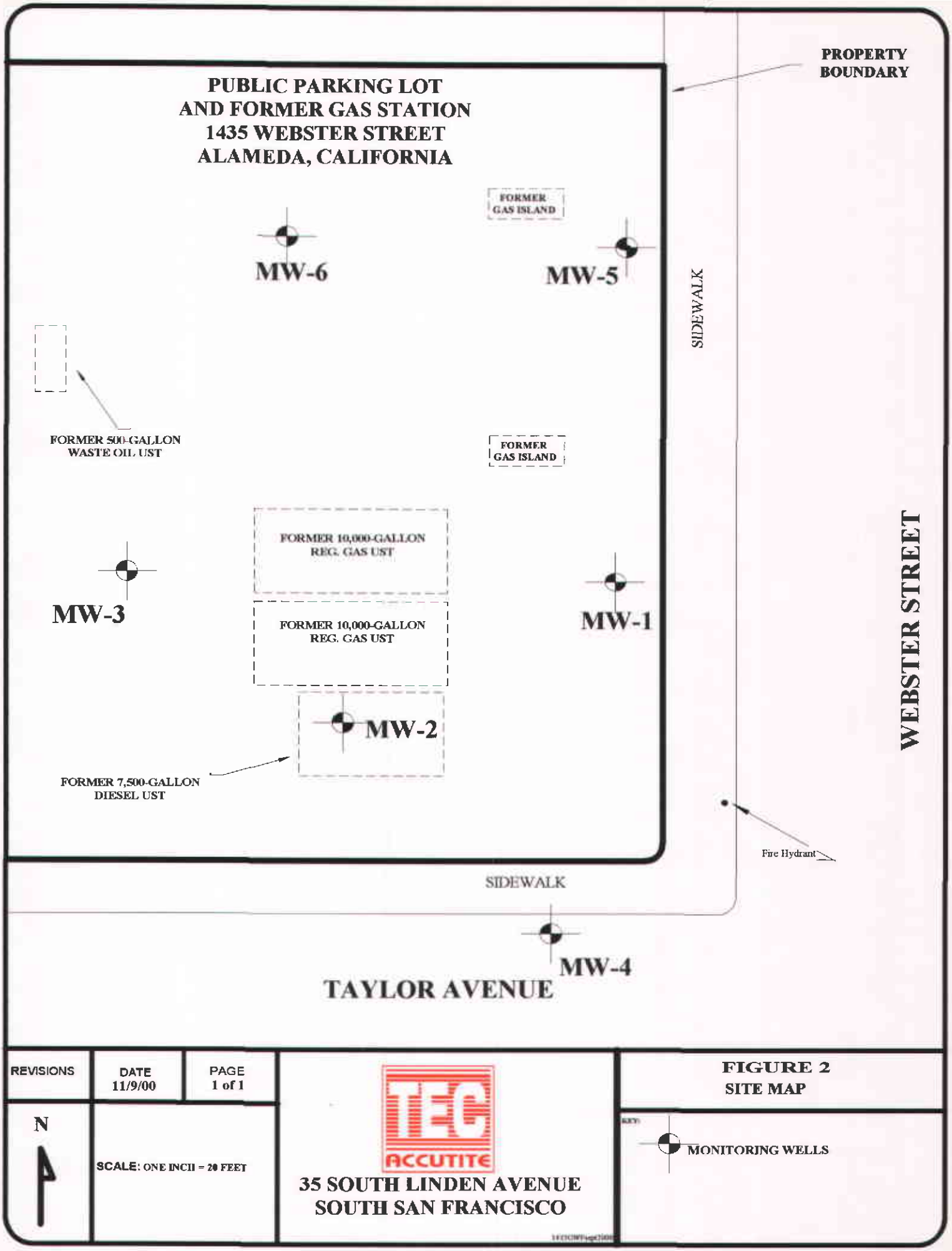
FIGURE 1

SITE VICINITY MAP

Vicinitymap TCW

SITE:

1435 WEBSTER STREET
ALAMEDA, CA



REVISIONS	DATE	PAGE
	11/9/00	1 of 1

N

SCALE: ONE INCH = 20 FEET

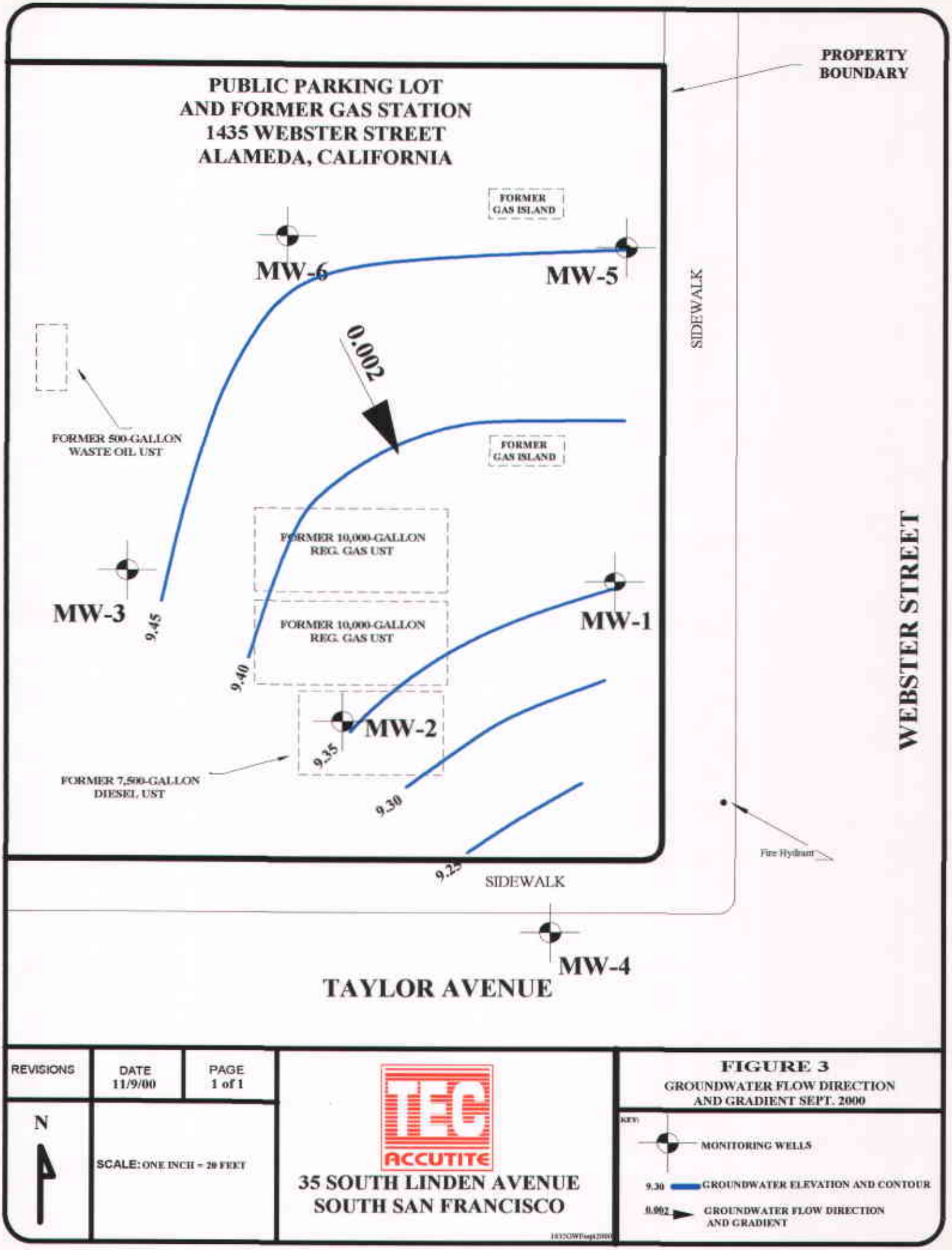
ACCUTITE

35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO

FIGURE 2
SITE MAP

KEY:

MONITORING WELLS



REVISIONS	DATE	PAGE
	11/9/00	1 of 1

N

SCALE: ONE INCH = 20 FEET

TEC ACCUTITE

35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO

1832GWSept2000

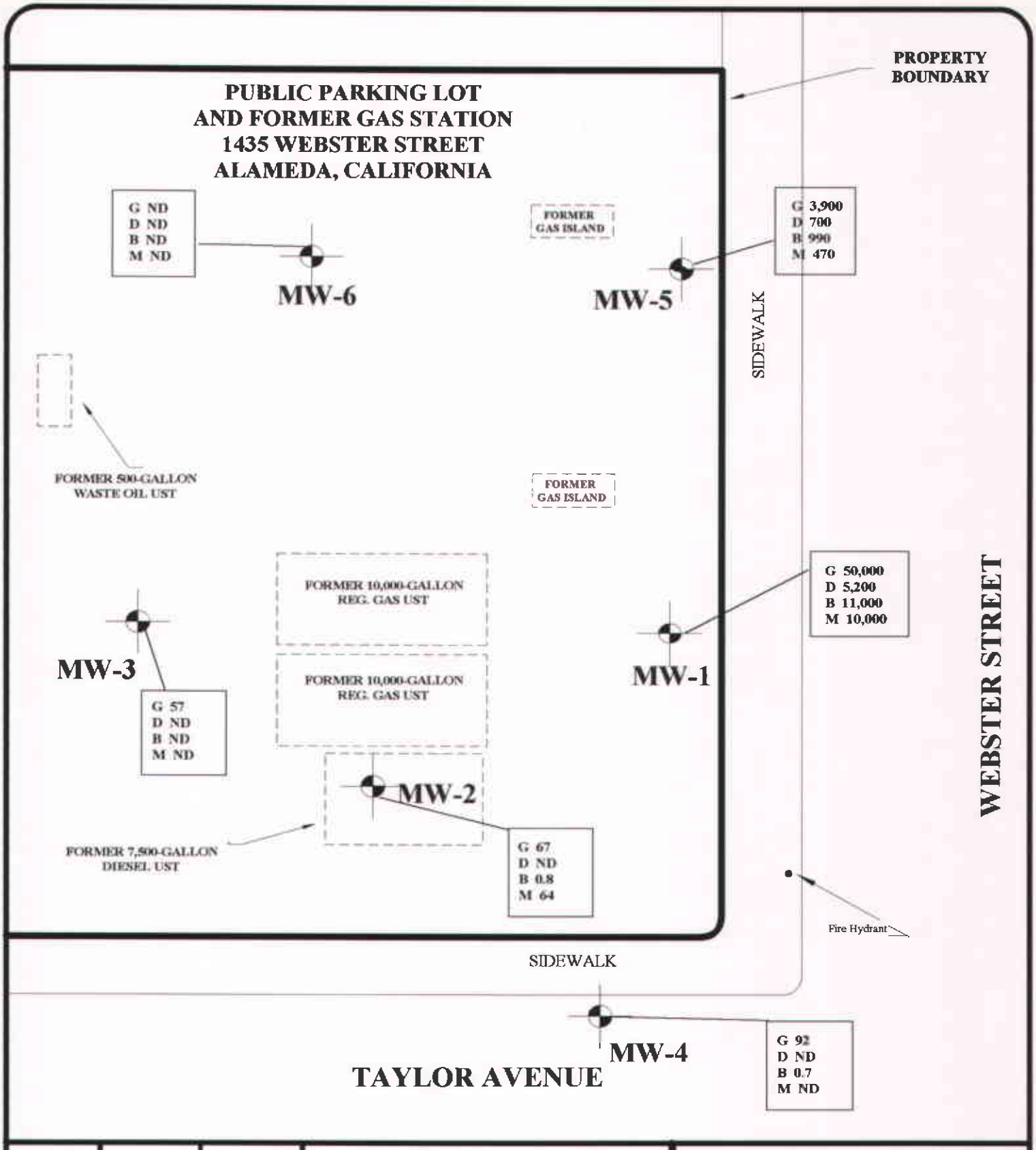
FIGURE 3
GROUNDWATER FLOW DIRECTION AND GRADIENT SEPT. 2000

KEY:

MONITORING WELLS

9.30 GROUNDWATER ELEVATION AND CONTOUR

0.002 GROUNDWATER FLOW DIRECTION AND GRADIENT



REVISIONS	DATE	PAGE
	11/9/00	1 of 1

N

SCALE: ONE INCH = 20 FEET

TEG ACCUTITE

35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO

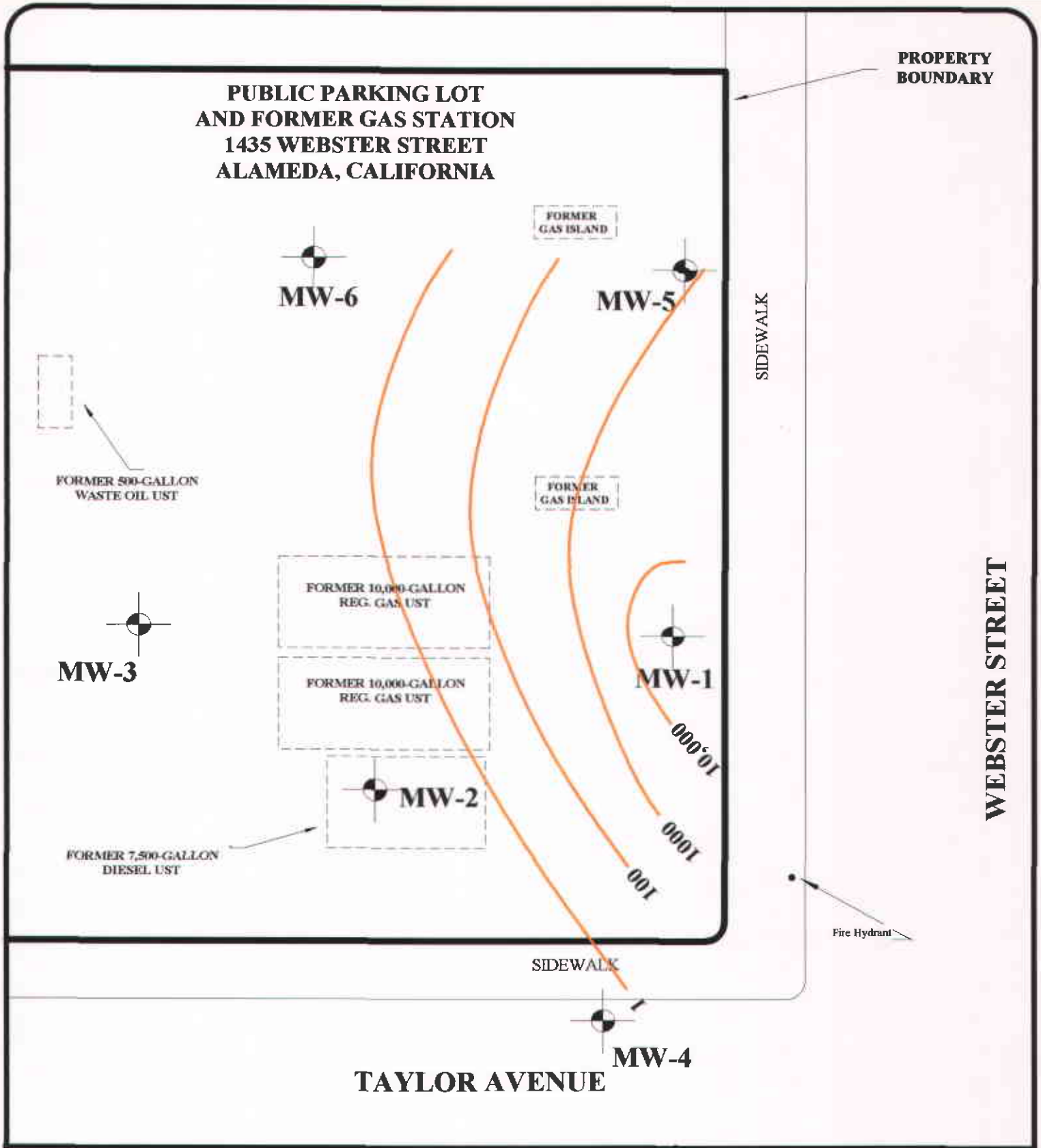
FIGURE 4
GROUNDWATER HYDROCARBON CONCENTRATIONS

KEY:

MONITORING WELLS

G = TPHG
D = TPHD
B = BENZENE
M = MTBE

GWHCsept2000.TCW



REVISIONS	DATE	PAGE
	11/9/00	1 of 1

N

SITE: Former Olympian Station
1435 Webster Street
Alameda, CA

SCALE: ONE INCH = 20 FEET

TEC ACCUTITE

35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO

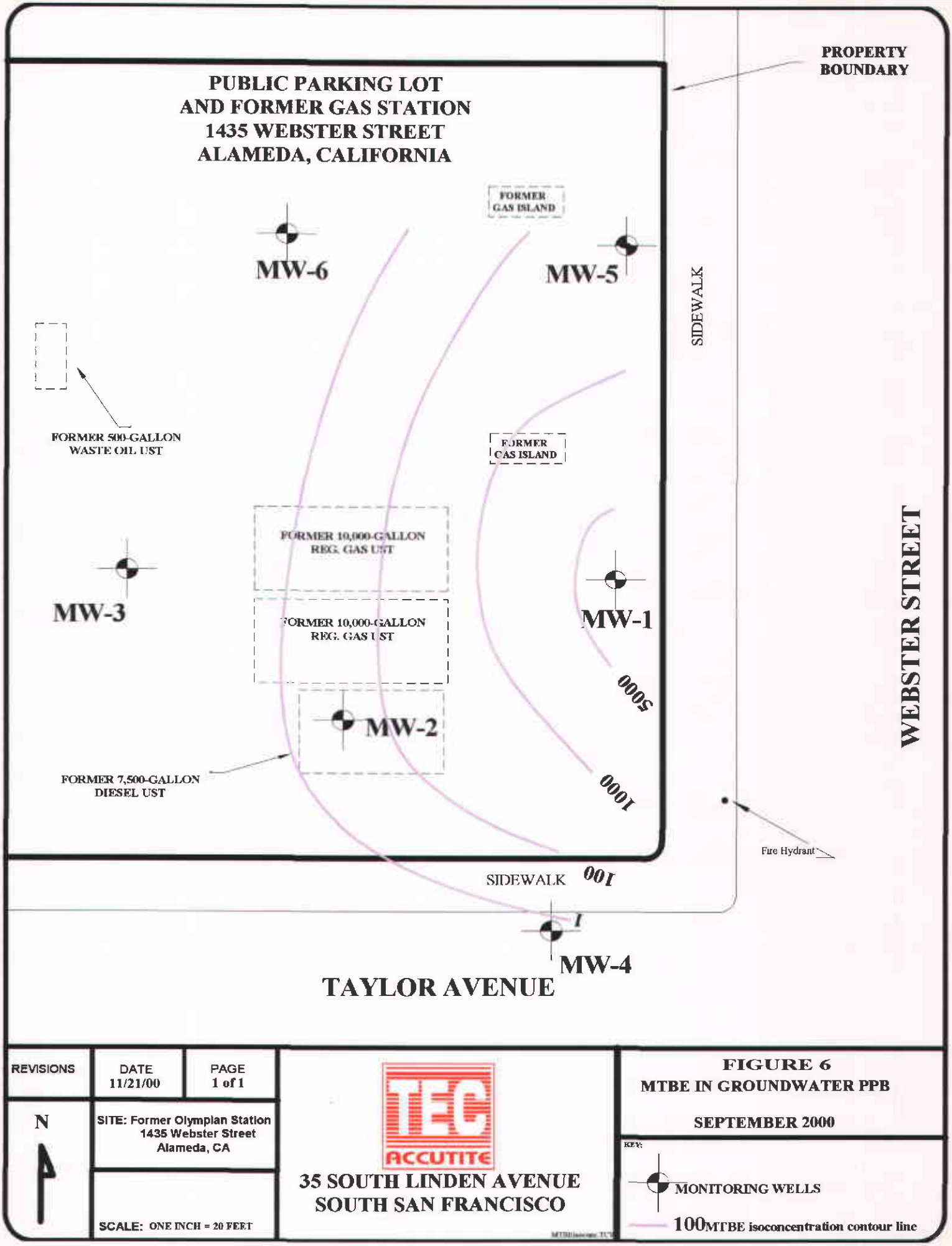
Benzeneisoconc TCW

FIGURE 5
BENZENE IN GROUNDWATER PPB
SEPTEMBER 2000

KEY:

MONITORING WELLS

100 Benzene isoconcentration contour line



REVISIONS	DATE	PAGE
	11/21/00	1 of 1

N

SITE: Former Olympian Station
1435 Webster Street
Alameda, CA

SCALE: ONE INCH = 20 FEET

TEG ACCUTITE

35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO

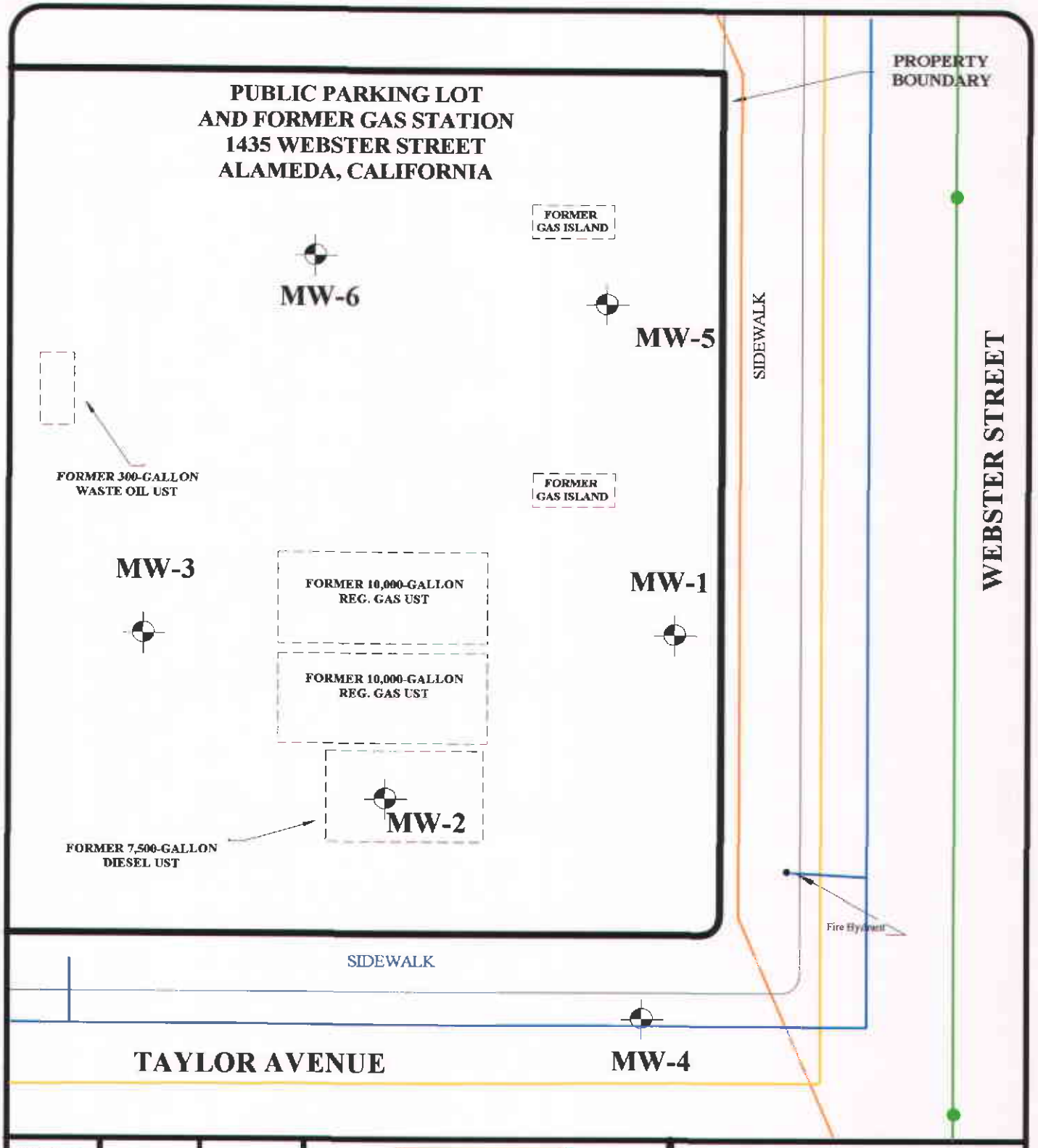
FIGURE 6
MTBE IN GROUNDWATER PPB

SEPTEMBER 2000

KEY:

MONITORING WELLS

100 MTBE isoconcentration contour line



REVISIONS	DATE	PAGE
	11/15/00	1 of 1

N

LEGEND:

- GROUNDWATER MONITORING WELLS
- PACIFIC BELL & TCI COMMUNICATIONS
- PG & E
- EBMUD
- SEWER MAIN - CITY OF ALAMEDA

TEG ACCUTITE

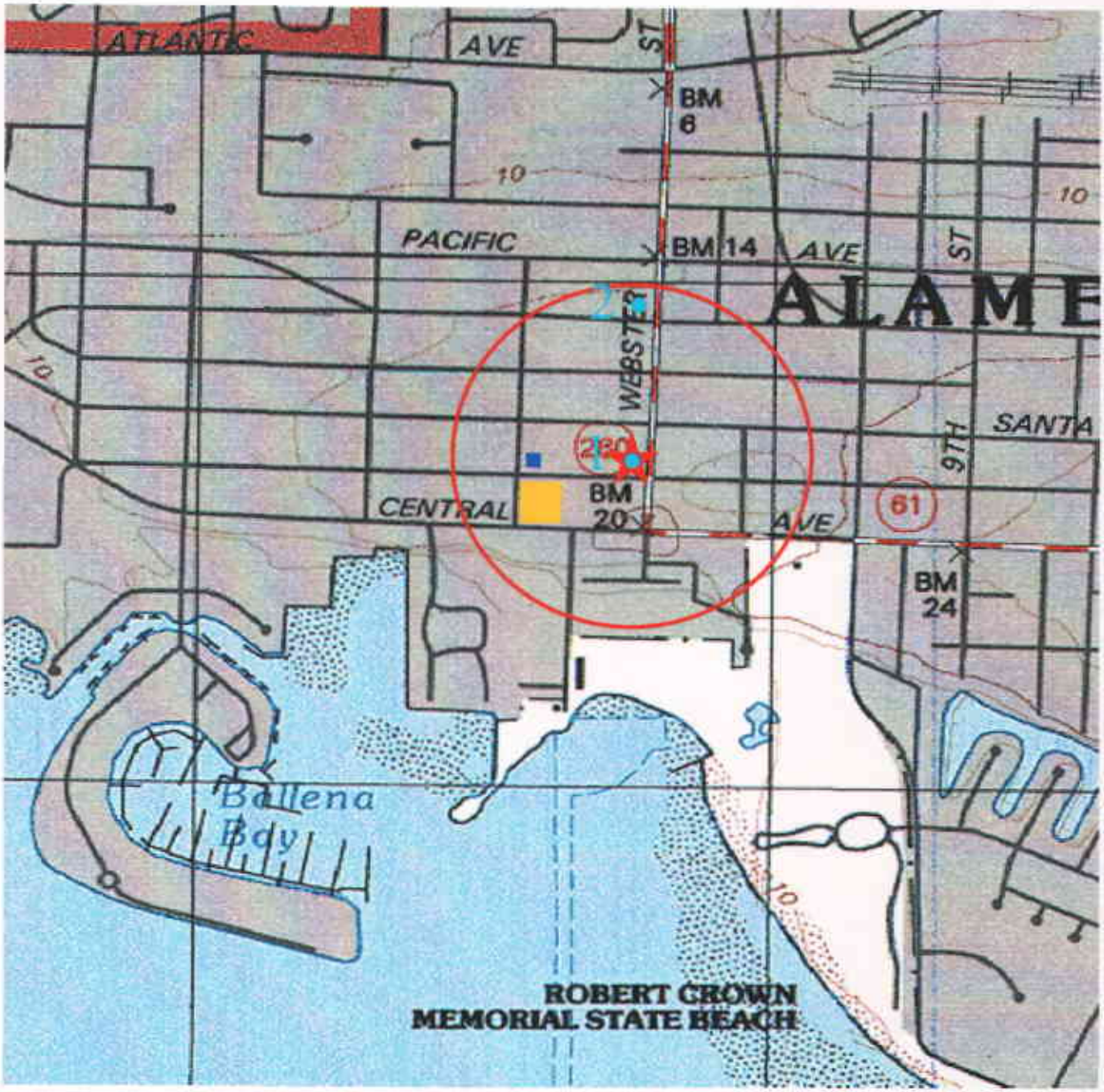
35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO

FIGURE 7
UNDERGROUND UTILITY LOCATIONS

1435 Webster Street
Alameda, California

SCALE: 20 FEET

1435cond.tcw



Key:

- ★ Site Location
- ○ Approximately 1000ft Radius
- ■ St Barnabas Elementary School
- ■ News Maker Home Day Care Center
- ● 1 Well Location and Table 3 ID Number

	DATE 11/17/00	PAGE 1 of 1
N	SCALE: SHOWN ABOVE	
	LEGEND:	

ACCUTITE

35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO

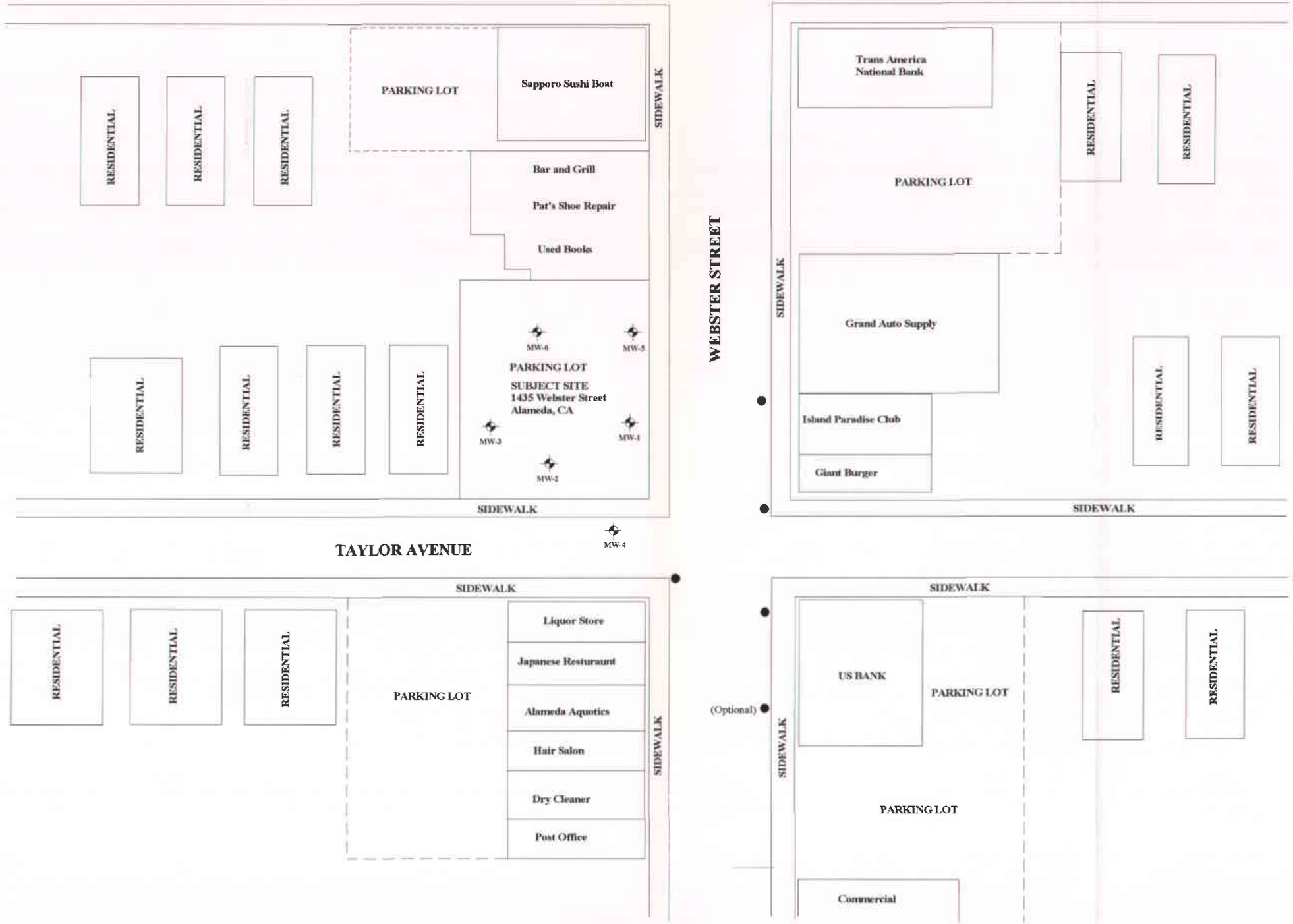
FIGURE 8

SENSITIVE RECEPTOR SURVEY

sm2.tsw

SITE:

1435 WEBSTER STREET
ALAMEDA, CA



N
SCALE: 1:60

Legend:
- Monitoring Well
- Proposed soil boring location

Drawn by: D Gregory
Date: 11/24/00
File:borprop.tcw

TEC ACCUTITE
35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO

Former Olympian Station
1435 Webster Street,
Alameda, CA

FIGURE 9:

Proposed Soil Boring Locations

ATTACHMENT A

MONITORING WELL SAMPLING LOGS

NORTH STATE ENVIRONMENTAL

FLUID-LEVEL MONITORING DATA

Project No: PO # 5966 Date: 9.29.00

Site Location: OLYMPIA, 1435 WEBSTER ALAMEDA

Technician: JOE SALADO Method: _____

Boring/ Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Total Well Depth (feet)	Comments
MW-1-W	10.18			22.82	@ 11:14
MW-2-W	10.44			19.14	@ 11:11
MW-3-W	10.20			21.72	@ 11:02
MW-4-W	10.11			17.20	@ 11:07
MW-5-W	9.54			18.34	@11:04
MW-6-W	10.81			18.52	@10:57

Measurements referenced to top of well casing.

WATER SAMPLING FORM

CLIENT: TEL
ADDRESS: 1435 WEBSTER, ALAMEDA
WELL # TESTED: MW-1-W

To convert water column height to total amount of gallons in one (1) well volume, multiply the water colum height by A.

WELL DIAMETER	A
2"	0.17
3"	0.36
4"	0.65

TOTAL WELL DEPTH 22.82
- DEPTH TO WATER 10.18
= WATER COLUM HEIGHT 12.64 x A = 2.15 GAL (1 well volume)

Multiply one (1) well volume by three (3) to obtain the minimum # of gallons to be extracted before taking well sample(s)

3 x 2.15 = 6.45 (3 well volume)

DATE 9-29-00
TIME: 11:14
WATER LEVEL 10.18

TIME:	GALS PUMPED	TEMP	(x100) COND.	PH
1250	0.0	77.1	5.14	6.39
1252	2.0	76.3	377	6.46
1255	3.5	77.0	4.43	6.44
1257	5.0	76.7	4.80	6.47
1259	7.0	77.1	5.14	6.47

Time: 1259
Volume Pumped 7.0 gal
Sampler J. SANDIN

Sheen or inches of free product
Analyzed for:

WATER SAMPLING FORM

CLIENT: TEC
ADDRESS: 1435 WEBSTER
WELL # TESTED: MW-2-W

To convert water column height to total amount of gallons in one (1) well volume, multiply the water colum height by A.

WELL DIAMETER	A
2"	0.17
3"	0.36
4"	0.65

TOTAL WELL DEPTH 19.14
- DEPTH TO WATER 10.44
= WATER COLUM HEIGHT 8.17 x A = 1.48 GAL (1 well volume)

Multiply one (1) well volume by three (3) to obtain the minimum # of gallons to be extracted before taking well sample(s)

3 x 1.48 = 4.4 (3 well volume)

DATE: 9-29-00
TIME: 1011
WATER LEVEL 10.44

TIME:	GALS PUMPED	TEMP	COND. (x100)	PH
1208	0.0	79.0	795	6.57
1211	2.0	77.1	7.61	6.89
1214	3.0	76.4	6.40	6.98
1216	4.0	75.0	632	7.00
1217	5.0	75.5	6.09	7.01

Time: 1217
Volume Pumped 5.0 gal
Sampler Joe Sandoval

Sheen or inches of free product
Analyzed for:

WATER SAMPLING FORM

CLIENT: TEC
ADDRESS: 1435 WEBSTER
WELL # TESTED. MW-3-W

To convert water column height to total amount of gallons in one (1) well volume, multiply the water colum height by A.

WELL DIAMETER	A
2"	0.17
3"	0.36
4"	0.65

TOTAL WELL DEPTH 21.72
- DEPTH TO WATER 10.20
= WATER COLUM HEIGHT 11.52 x A = 1.96 GAL (1 well volume)

Multiply one (1) well volume by three (3) to obtain the minimum # of gallons to be extracted before taking well sample(s)

3 x 1.96 = 5.88 (3 well volume)

DATE. 9-29-00
TIME: 1102
WATER LEVEL 10.20

TIME:	GALS PUMPED	TEMP	(x100) COND.	PH
12:05	0.0	77.9	1.99	7.49
12:08	1.5	76.2	1.92	7.17
12:12	3.0	77.0	1.86	6.99
12:15	4.5	77.3	1.89	6.83
12:18	6.0	77.4	2.19	6.71

Time: 12:18
Volume Pumped 6.0 gal
Sampler J. SMADO

Sheen or inches of free product
Analyzed for:

WATER SAMPLING FORM

CLIENT: TEC
ADDRESS: 1435 WEBSTER
WELL # TESTED. MW-4-W

To convert water column height to total amount of gallons in one (1) well volume, multiply the water colum height by A.

WELL DIAMETER	A
2"	0.17
3"	0.36
4"	0.65

TOTAL WELL DEPTH 17.20
- DEPTH TO WATER 10.11
= WATER COLUM HEIGHT 7.09 x A = 1.21 GAL (1 well volume)

Multiply one (1) well volume by three (3) to obtain the minimum # of gallons to be extracted before taking well sample(s)

3 x 1.21 = 3.6 (3 well volume)

DATE 9.29-00
TIME: 10.07
WATER LEVEL 10.11

TIME:	GALS PUMPED	TEMP	(x100) COND	PH
1228	0.0	75.2	2.86	6.52
1229	1.0	73.3	3.12	6.50
1230	2.0	73.3	3.01	6.57
1235	3.0	74.0	3.13	6.56
1241	4.0	74.3	3.17	6.54

Time:
Volume Pumped
Sampler J SANDERS

Sheen or inches of free product
Analyzed for:

WATER SAMPLING FORM

CLIENT: TEC
ADDRESS: 1435 WEBSTER
WELL # TESTED. MW-5-W

To convert water column height to total amount of gallons in one (1) well volume, multiply the water colum height by A.

WELL DIAMETER	A
2"	0.17
3"	0.36
4"	0.65

TOTAL WELL DEPTH 18.34
- DEPTH TO WATER 9.54
= WATER COLUM HEIGHT 8.8 x A = 1.50 GAL (1 well volume)

Multiply one (1) well volume by three (3) to obtain the minimum # of gallons to be extracted before taking well sample(s)

3 x 1.50 = 4.49 (3 well volume)

DATE. 9.29.00
TIME: 1104
WATER LEVEL 9.54

* STRONG ODOR

TIME:	GALS PUMPED	TEMP	(x100) COND	PH
11:47	0.0	78.0	8.52	6.62
11:50	2.0	75.9	8.38	6.73
11:52	3.0	76.4	8.14	6.99
11:53	4.0	77.2	8.25	7.00
11:54	5.0	77.0	8.29	7.02

Time: 11:54
Volume Pumped 5.0 gal
Sampler JSANDOVAL

Sheen or inches of free product
Analyzed for:

WATER SAMPLING FORM

CLIENT: TEZ
ADDRESS: 1435 WEBSTER
WELL # TESTED: MW-6-W

To convert water column height to total amount of gallons in one (1) well volume, multiply the water colum height by A.

WELL DIAMETER	A
2"	0.17
3"	0.36
4"	0.65

TOTAL WELL DEPTH 18.52
- DEPTH TO WATER 10.81
= WATER COLUM HEIGHT 7.71 x A = 1.31 GAL (1 well volume)

Multiply one (1) well volume by three (3) to obtain the minimum # of gallons to be extracted before taking well sample(s)

3 x 1.31 = 3.94 (3 well volume)

DATE: 9-29-00
TIME: 10:57
WATER LEVEL 10.81

TIME:	GALS PUMPED	TEMP	(x100) COND	PH
11:33	0.0	78.7	7.54	7.01
11:35	1.0	78.6	6.81	6.64
11:36	2.0	78.3	6.90	6.62
11:37	3.0	78.2	6.91	6.53
11:39	4.0	78.1	6.82	6.45

Time: 11:38
Volume Pumped 4.0 gal
Sampler: JSANTOS

Sheen or inches of free product
Analyzed for:

ATTACHMENT B

LABORATORY RESULTS

North State Environmental Laboratory
CA ELAP# 1753
90 South Spruce Avenue, Suite V • South San Francisco, CA 94080 • (650) 266-4563 • FAX (650) 266-4560

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 00-1423
Client: Technology Eng. Const.
Project: 5966 / OLYMPIA, 1435 WEBSTER, ALAMEDA

Date Reported: 10/09/2000

Gasoline,BTEX and MTBE by Methods 8015M and 8020
Diesel Range Hydrocarbons by Method 8015M
Total Dissolved Solids by Method 160.1

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 00-1423-01 Client ID: MW-1-W				09/29/2000	WATER
Gasoline	8015M	50000	ug/L		10/05/2000
Benzene	8020	11000	ug/L		
Ethylbenzene	8020	1900	ug/L		
MTBE	8020	*10000	ug/L		
Toluene	8020	2900	ug/L		
Xylenes	8020	4600	ug/L		
Solids	160.1	440	mg/L		10/09/2000
Diesel	8015M	**5.2	mg/L		10/05/2000
Sample: 00-1423-02 Client ID: MW-2-W				09/29/2000	WATER
Gasoline	8015M	67	ug/L		10/03/2000
Benzene	8020	0.8	ug/L		
Ethylbenzene	8020	ND			
MTBE	8020	*64	ug/L		
Toluene	8020	0.5	ug/L		
Xylenes	8020	1	ug/L		
Solids	160.1	700	mg/L		10/09/2000
Diesel	8015M	ND			10/05/2000

*Conf.by GC/MS method 8260.**Does not match diesel pattern.

North State Environmental Laboratory
CA ELAP # 1753
90 South Spruce Avenue, Suite V • South San Francisco, CA 94080 • (650) 266-4563 • FAX (650) 266-4560

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 00-1423
Client: Technology Eng. Const.
Project: 5966 / OLYMPIA, 1435 WEBSTER, ALAMEDA

Date Reported: 10/09/2000

Gasoline,BTEX and MTBE by Methods 8015M and 8020
Diesel Range Hydrocarbons by Method 8015M
Total Dissolved Solids by Method 160.1

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 00-1423-03 Client ID: MW-3-W				09/29/2000	WATER
Gasoline	8015M	57	ug/L		10/03/2000
Benzene	8020	ND			
Ethylbenzene	8020	ND			
MTBE	8020	*ND			
Toluene	8020	ND			
Xylenes	8020	ND			
Solids	160.1	210	mg/L		10/09/2000
Diesel	8015M	ND			10/05/2000
Sample: 00-1423-04 Client ID: MW-4-W				09/29/2000	WATER
Gasoline	8015M	92	ug/L		10/03/2000
Benzene	8020	0.7	ug/L		
Ethylbenzene	8020	ND			
MTBE	8020	*ND			
Toluene	8020	ND			
Xylenes	8020	3	ug/L		
Solids	160.1	280	mg/L		10/09/2000
Diesel	8015M	ND			10/05/2000

*Conf.by GC/MS method 8260.**Does not match diesel pattern.

North State Environmental Laboratory
CA ELAP # 1753
90 South Spruce Avenue, Suite V • South San Francisco, CA 94080 • (650) 266-4563 • FAX (650) 266-4560

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 00-1423
Client: Technology Eng. Const.
Project: 5966 / OLYMPIA, 1435 WEBSTER, ALAMEDA

Date Reported: 10/09/2000

Gasoline,BTEX and MTBE by Methods 8015M and 8020
Diesel Range Hydrocarbons by Method 8015M
Total Dissolved Solids by Method 160.1

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 00-1423-05 Client ID: MW-5-W				09/29/2000	WATER
Gasoline	8015M	3900	ug/L		10/03/2000
Benzene	8020	990	ug/L		
Ethylbenzene	8020	300	ug/L		
MTBE	8020	*470	ug/L		
Toluene	8020	120	ug/L		
Xylenes	8020	340	ug/L		
Solids	160.1	680	mg/L		10/09/2000
Diesel	8015M	**0.7	mg/L		10/05/2000
Sample: 00-1423-06 Client ID: MW-6-W				09/29/2000	WATER
Gasoline	8015M	ND			10/03/2000
Benzene	8020	ND			
Ethylbenzene	8020	ND			
MTBE	8020	ND			
Toluene	8020	ND			
Xylenes	8020	ND			
Solids	160.1	650	mg/L		10/09/2000
Diesel	8015M	ND			10/05/2000

*Conf.by GC/MS method 8260.**Does not match diesel pattern.

North State Environmental Laboratory
CA ELAP # 1753
90 South Spruce Avenue, Suite V • South San Francisco, CA 94080 • (650) 266-4563 • FAX (650) 266-4560

C E R T I F I C A T E O F A N A L Y S I S

Quality Control/Quality Assurance

Lab Number: 00-1423
Client: Technology Eng. Const.
Project: 5966 / OLYMPIA, 1435 WEBSTER, ALAMEDA

Date Reported: 10/09/2000

Gasoline,BTEX and MTBE by Methods 8015M and 8020
Diesel Range Hydrocarbons by Method 8015M
Total Dissolved Solids by Method 160.1

Analyte	Method	Reporting Limit	Unit	Blank	Avg MS/MSD Recovery	RPD
Gasoline	8015M	50	ug/L	ND	114	1
Benzene	8020	0.5	ug/L	ND	96	0
Toluene	8020	0.5	ug/L	ND	98	2
Ethylbenzene	8020	0.5	ug/L	ND	99	2
Xylenes	8020	1.0	ug/L	ND	99	3
MTBE	8020	0.5	ug/L	ND	120	4
Diesel	8015M	0.05	mg/L	ND	66	5
Solids	160.1	1	mg/L	ND	NA	NA

ELAP Certificate NO:1753
Reviewed and Approved

John A.Murphy,Laboratory Director

North State Environmental Laboratory
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C E R T I F I C A T E O F A N A L Y S I S

Job Number: 00-1423
Client : Technology Eng. Const.
Project : 5966 / OLYMPIA, 1435 WEBSTER, ALAMEDA

Date Sampled : 09/29/2000
Date Analyzed: 10/03/2000
Date Reported: 10/09/2000

Volatile Organics by GC/MS Method 8260

Laboratory Number	00-1423-01	00-1423-02	00-1423-03	00-1423-04	00-1423-05	00-1423-06
Client ID	MW-1-W	MW-2-W	MW-3-W	MW-4-W	MW-5-W	MW-6-W
Matrix	WATER	WATER	WATER	WATER	WATER	WATER
Analyte	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Ethanol	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100
Methyl-t-Butyl Ether	7200	86	ND<1	ND<1	390	ND<1
Di-isopropyl Ether	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
tertiary Butyl Alcohol	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50
Ethyl-t-Butyl Ether	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
t-Amyl Methyl Ether	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
SUR-Dibromofluoromethane	85% Rec	83% Rec	83% Rec	89% Rec	88% Rec	87% Rec
SUR-Toluene-d8	98% Rec	101% Rec	98% Rec	98% Rec	96% Rec	96% Rec
SUR-4-Bromofluorobenzene	90% Rec	93% Rec	93% Rec	92% Rec	95% Rec	93% Rec

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C E R T I F I C A T E O F A N A L Y S I S

Job Number: 00-1423
Client : Technology Eng. Const.
Project : 5966 / OLYMPIA, 1435 WEBSTER, ALAMEDA

Date Sampled : 09/29/2000
Date Analyzed: 10/03/2000
Date Reported: 10/09/2000

Volatile Organics by GC/MS Method 8260
Quality Control/Quality Assurance Summary

Laboratory Number	00-1423	MS/MSD	RPD
Client ID	Blank	Recovery	
Matrix	WATER	WATER	
Analyte	Results ug/L	%Recoveries	
Ethanol	ND<100		
Methyl-t-Butyl Ether	ND<1		
Di-isopropyl Ether	ND<1		
tertiary Butyl Alcohol	ND<50		
Ethyl-t-Butyl Ether	ND<1		
t-Amyl Methyl Ether	ND<1		
1,1-Dichloroethene	ND<1	86	1
Benzene	ND<1	95	0
Trichloroethene	ND<1	99	1
Toluene	ND<1	98	1
Chlorobenzene	ND<1	109	3
SUR-Dibromofluoromethane	76% Rec	84/87	4
SUR-Toluene-d8	100% Rec	96/94	2
SUR-4-Bromofluorobenzene	93% Rec	93/93	0

Reviewed and Approved

John A. Murphy
Laboratory Director

00-1423

Chain of Custody Accutite Environmental Engineering

Client	Accutite Environmental Engineering	Report To	Matt J. Gaffney	Turnaround
Address	35 South Linden Avenue South San Francisco, CA 94080	Bill To: Accutite Billing Reference# PO# 5966		ASAP / 1 Day / 2 Day / 3 Day (1 Week) / 2 Week / Others
Phone	650-952-5551	Analysis Required		
Project Name/Address	Olympia 1435 Webster Alameda			
Sampler	Joe Sanda	Date: 9.29.00		

Sample ID	Sample Matrix	# of Containers	Container Type	Sample Date/Time	TPHg, MTBE BTEX	TPHD	OXY/by* 8260	Total Dissolved Solid						Remarks
MW-1-W	Water	5	VOA-1 L/500ml	9.29.00/1505	X	X	X	X						
MW-2-W	↓	5	↓	1526	X	X	X	X						
MW-3-W	↓	5	↓	1455	X	X	X	X						
MW-4-W	↓	5	↓	1415	X	X	X	X						
MW-5-W	↓	5	↓	1435	X	X	X	X						
MW-6-W	↓	5	↓	1425	X	X	X	X						

Remarks: * ~~Highest MTBE Confirm w/ EPA 8260,~~ Also Analyze ~~for Oxygenates~~

Relinquished by:	Date	Time	Received by:	Date	Time
Joe Sanda	9.29.	16:30	[signature]	9/29/00	16:35

Oct 10 00 08:59a p.2

ATTACHMENT C

AGENCY CORROSPONDENCE LETTER

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

StID 3568

July 24, 2000

Mr. Dan Koch
Olympian
260 Michelle Court
South San Francisco, CA 94080

RE: Next QMR for 1435 Webster Street, Alameda, CA

Dear Mr. Koch:

I have completed review of TEC-Accutite's July 2000 *Quarterly Sampling and Analysis of Six Monitoring Wells* report prepared for the above referenced site. Groundwater analytical data revealed elevated MTBE in Wells MW-1 and MW-5. The extent of the MTBE plume has not been delineated.

For the next groundwater sampling event, due in September 2000, water samples should be analyzed for the full suite of oxygenates (including TAME, ETBE, TBA, DIPE and MTBE). Total dissolved solids should also be measured. Results of the groundwater data should be submitted in a quarterly monitoring report (QMR). The next QMR should also included a site conceptual model (SCM) for the site, where the distribution of chemicals is plotted on a site plan, potential sensitive receptors are identified, contaminant transport rates calculated to determine if sensitive receptors will be impacted, among others. The SCM should adhere to the SWRCB's final draft May 2000 *Guidelines for Investigation and Cleanup of MTBE and Other Ether-Based Oxygenates*. A copy of the guidelines is available on the SWRCB's web site: www.swrcb.ca.gov, under the NEWS heading.

If you have any questions, I can be reached at (510) 567-6762.

eva chu
Hazardous Materials Specialist

cc: Jeff Ferrar, P.O.Box 1701, Chico, CA 95927
Sami Malaeb, TEC, 35 South Linden Ave., South San Francisco, CA 94080-6407

ferrar6