



Technology, Engineering & Construction, Inc.

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June 27. HPS tentative schedule R0193

D. Gregory will compare chromatograms to see if TPHd appears to be degraded gasoline, or degraded ~~gasoline~~ diesel.

If it is indeed degraded ~~gasoline~~ ^{gasoline}, then can discontinue TPHd analysis.

Can look at semi-annual monitoring

May 8, 2001

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

Subject: Quarterly Monitoring Report for March 2001


**Site: Former Olympian Gasoline Station
1435 Webster Street
Alameda, California**

Dear Ms. Chu:

TEC Accutite is pleased to submit this quarterly monitoring report for the above referenced site. On March 22 2001, TEC Accutite sampled six monitoring wells (MW-1 through MW-6). The results of this quarterly monitoring episode are presented in the following report.

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

Sincerely,
Accutite


David Gregory
Project Manager

cc: Mr. Dan Koch, 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

5/30/01. Reviewed faxed chromatograms of TPHd. Appears that detected TPHd may be weathered gasoline or mineral spirits. Approved discard. TPHd analysis + offense decrease to semi annual monitoring (1st + 3rd qtrs). Relayed info to D. Gregory's voice mailbox

**FIRST QUARTER
GROUNDWATER MONITORING REPORT
MARCH 2001**

**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**

**SAMPLING DATE
MARCH 22, 2001**



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ATTACHMENT

- A GROUNDWATER SAMPLING FORMS
- B LABORATORY REPORT



1.0 INTRODUCTION

On behalf of Olympian, TEC Accutite was contracted to sample six monitoring wells at the former Olympian Station, located at 1435 Webster Street, Alameda, California (Figure 1.). This report summarizes the first quarter 2001 groundwater monitoring event.

2.0 BACKGROUND

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.

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 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.

In February 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.



In December 1999, Accutite installed three additional wells MW-4 through MW-6 to define dissolved phase hydrocarbons and assess plume stability. Analysis of soil samples detected hydrocarbon concentrations of 1,100 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.

In November 2000, Accutite completed a site conceptual model. Based on historical quarterly monitoring data it was determined that the contaminant plume is unstable and is undefined downgradient. An assessment of hydrological conditions, proximity to sensitive receptors and current groundwater usage, suggests that MTBE in groundwater is not the primary chemical of concern. Given the shallow groundwater elevation (9 fbg), estimated high permeability of soils beneath the site, the potential for benzene vapor phase migration from hydrocarbon affected groundwater to indoor and ambient air was identified as an exposure pathway requiring future evaluation.

As part of an ongoing investigation, this report details the first quarter groundwater sampling episode for 2001.

3.0 GROUNDWATER FLOW DIRECTION

On May 22, 2001, Accutite measured the groundwater elevations in five of six wells prior to sampling. Well MW-4 could not be sampled on this day as it was obstructed. Well MW-4 was sampled April 5, 2001. The reference mark considered as a base for calculating the groundwater elevations was a fire hydrant, located on the sidewalk of Webster Street (Figure 2).

The calculated groundwater flow direction was to the southeast (Figure 2) at a gradient of 0.005. Table 1 below summarizes the elevation data:

TABLE 1 Elevation Data			
Well Identification	Elevation of Casing in ft	Depth to Ground-Water in ft	Ground Water Elevation in ft
MW-1	19.53	8.24	11.29
MW-2	19.80	8.46	11.34
MW-3	19.79	8.24	11.55
MW-4	19.30	8.26	11.04
MW-5	18.99	7.48	11.51
MW-6	20.27	8.64	11.63

4.0 SAMPLING

On March 22, 2001, Accutite sampled all five monitoring wells MW-1, MW-2, MW-3, MW-5 and MW-6. Well MW-4 was sampled on April 5, 2001. All wells were purged prior to sampling. The sampling logs are included in Attachment A. The groundwater samples were collected with disposable bailers and transferred into sampling vials and containers. The samples were transported in a cooler at approximately 4°C. A completed chain of custody accompanied the samples to North State Environmental Laboratory.

Groundwater samples were analyzed for:

- TPHg & TPHd (USEPA Method 8015)
- BTEX, MTBE (USA EPA Method 8020)
- Positive MTBE detection's were confirmed by USEPA Method 8260



The laboratory results are included in Attachment B. A tabulated summary of the analytical findings to date is presented 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
	3/22/01	8.24	1,500*	8,600	2,600	750	250	950	3,200 ⁽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
	3/22/01	8.46	<50	<50	1	0.5	<0.5	1	14	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
	3/22/01	8.24	<50	<50	<0.5	<0.5	<0.5	<1.0	2	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
	4/5/01	8.26	<50	51	<0.5	0.5	<0.5	1	6.0 ⁽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
	3/22/01	7.48	380*	4,300	780	240	250	530	190	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
	3/22/01	8.64	<50	66	0.5	<0.5	<0.5	<1.0	3	NA

<X = Concentration less than laboratory reporting limit

(1) Well not accessible because of a car obstruction

(2) NA denotes not analyzed

(3) Confirmed by EPA Method 8260

* Does not match diesel chromatogram pattern

5.0 FINDINGS

- The calculated groundwater flow direction is toward the southeast at a gradient of 0.005. This is consistent with previous sampling events.
- The greatest concentrations of dissolved phase hydrocarbons were detected in well MW-1 at 8,600 ppb TPHg, 2,600 ppb benzene, 3,200 ppb MTBE. Non significant hydrocarbon concentrations were detected in peripheral wells MW-2, MW-3 and MW-6.

6.0 RECOMMENDATIONS

Recent and historical analytical data indicate that TPHd detected in groundwater wells do not match the typical diesel chromatogram pattern. Diesel has been detected in wells MW-1 and MW-5, both wells have detected significant concentrations of TPHg. Detections of TPHd most likely represent the heavy end of the gasoline hydrocarbon range and not diesel. Therefore, Accutite recommends no further analysis for diesel.

Accutite is currently scheduling additional site characterization activities as outlined in Accutite's Report – *Quarterly Groundwater Monitoring, Sensitive Receptor Survey and Site Conceptual Model, November 29, 2000*. Additional site characterization will coincide with the second quarterly sampling event, scheduled for June 2001.

but site had diesel UST. could be degraded TPHd too.

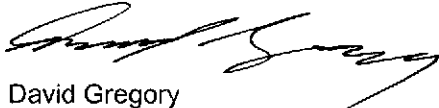


7.0 LIMITATIONS

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.

Thank you for your cooperation. If you have any questions, please contact the undersigned at (650) 952-5551, Ext. 205.

Sincerely,
TEC Accutite



David Gregory
Project Manager

Reviewed by:

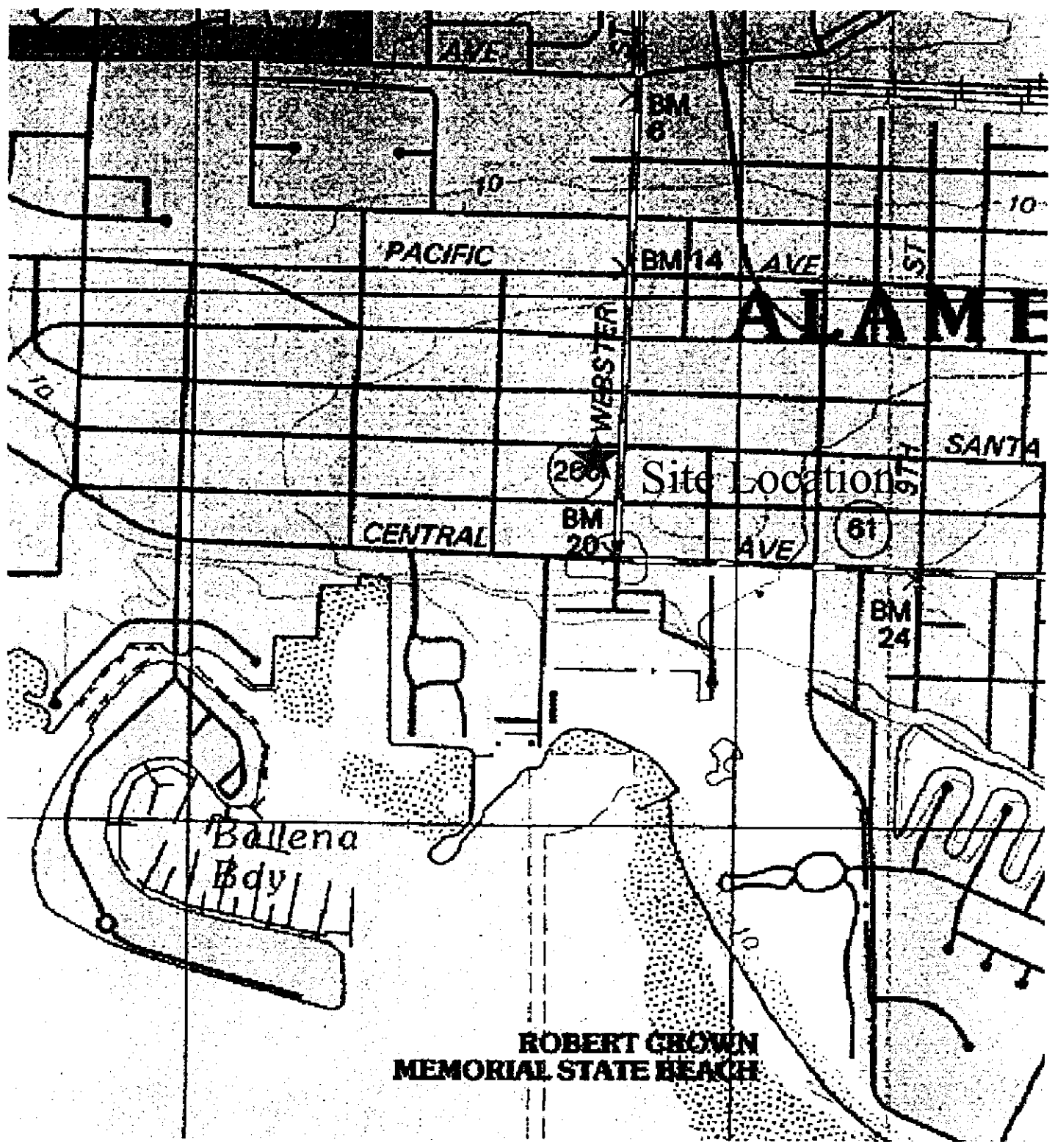


Sami Malaeb, P.E., R.E.A.
Environmental Manager



cc: 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





**ROBERT CROWN
MEMORIAL STATE BEACH**

DATE
11/17/00

PAGE
1 of 1

SCALE:
SHOWN ABOVE

LEGEND:



35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO

FIGURE 1
SITE VICINITY MAP

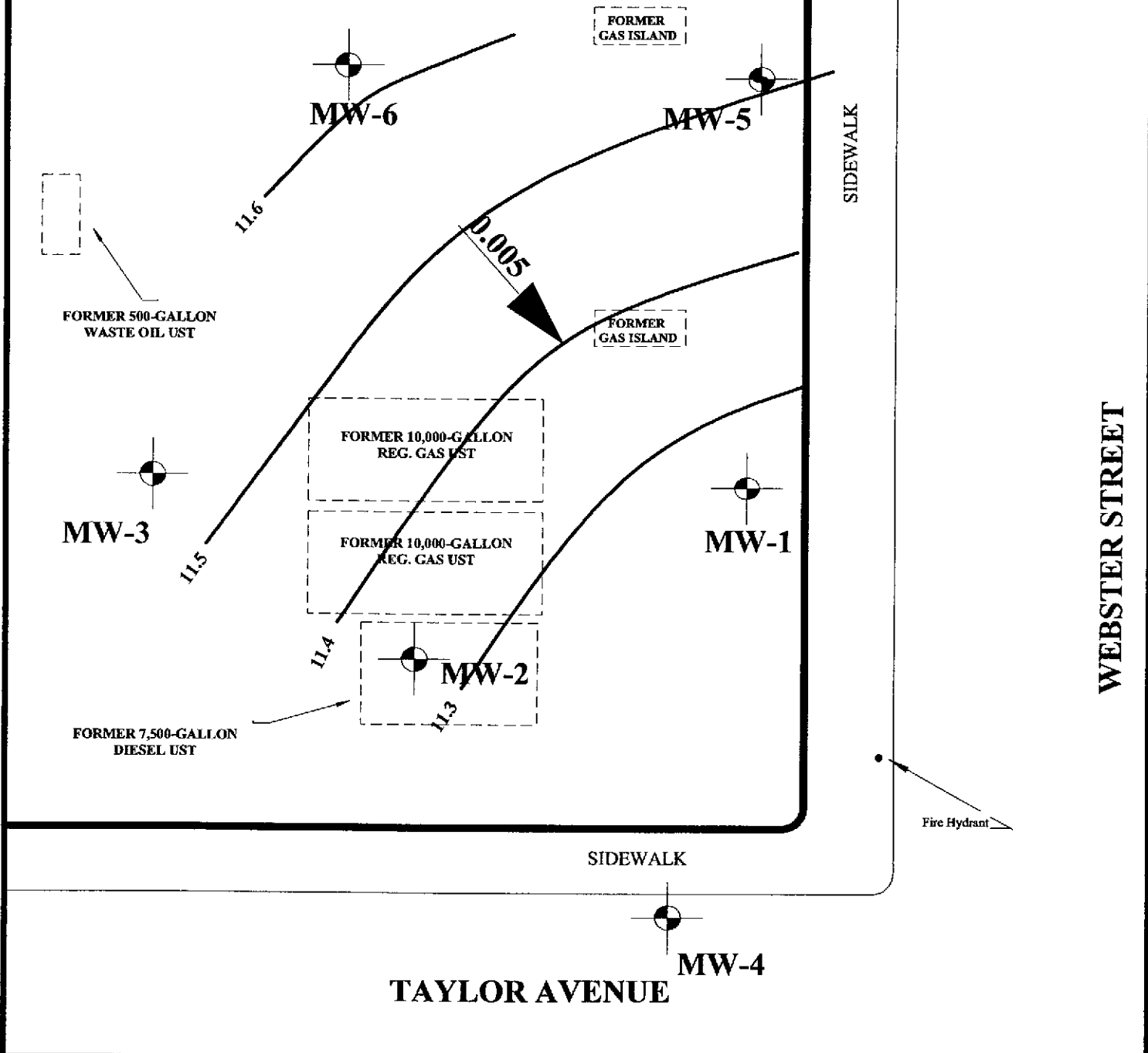
srs2.tcw

SITE:
1435 WEBSTER STREET
ALAMEDA, CA



**PUBLIC PARKING LOT
AND FORMER GAS STATION
1435 WEBSTER STREET
ALAMEDA, CALIFORNIA**

PROPERTY
BOUNDARY



REVISIONS

DATE
5/7/01

PAGE
1 of 1



SCALE: ONE INCH = 20 FEET



35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO

1435GWF.mxd/2000

FIGURE 2
GROUNDWATER FLOW DIRECTION
AND GRADIENT MARCH 2001

KEY:

- MONITORING WELLS
- 11.4 GROUNDWATER ELEVATION AND CONTOUR
- 0.002 GROUNDWATER FLOW DIRECTION AND GRADIENT

**PUBLIC PARKING LOT
AND FORMER GAS STATION
1435 WEBSTER STREET
ALAMEDA, CALIFORNIA**

PROPERTY
BOUNDARY

G 66
D ND
B 0.5
M 3

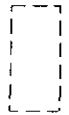
MW-6

FORMER
GAS ISLAND

G 4,300
D 380*
B 780
M 190

MW-5

SIDEWALK



FORMER 500-GALLON
WASTE OIL UST

FORMER
GAS ISLAND

FORMER 10,000-GALLON
REG. GAS UST

FORMER 10,000-GALLON
REG. GAS UST

G 8,600
D 1,500*
B 2,600
M 3,200

MW-3

G ND
D ND
B ND
M 2

MW-1

FORMER 7,500-GALLON
DIESEL UST

FORMER 10,000-GALLON
REG. GAS UST

MW-2

G ND
D ND
B 1
M 14

Fire Hydrant

WEBSTER STREET

SIDEWALK

MW-4

G 51
D ND
B ND
M 6.0

TAYLOR AVENUE

REVISIONS

DATE
11/9/00

PAGE
1 of 1



SCALE: ONE INCH = 20 FEET



35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO

FIGURE 3

GROUNDWATER HYDROCARBON CONCENTRATIONS
MARCH 2001



MONITORING WELLS

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

GWHCsept2000.TCW

ATTACHMENT A
MONITORING WELL SAMPLING LOGS



WATER SAMPLING FORM

CLIENT: *Olympian*
 ADDRESS: *1435 Webster*
 WELL # TESTED: *MW1*

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

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

TOTAL WELL DEPTH *20*
 - DEPTH TO WATER *8.24*
 = WATER COLUMN HEIGHT *11.76* x A = *2.0* 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 = *6* (3 well volume)

DATE: *3/22/01*
 TIME: *2:30*
 WATER LEVEL: *8.38*

TIME:	GALS PUMPED	TEMP	COND.	PH
<i>2:00</i>	<i>2</i>	<i>72</i>	<i>0.37</i>	<i>6.7</i>
<i>2:10</i>	<i>4</i>	<i>66.7</i>	<i>0.39</i>	<i>6.74</i>
<i>2:15</i>	<i>6</i>	<i>67.2</i>	<i>0.40</i>	<i>6.77</i>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Time: *2:30*
 Volume Pumped: *6*
 Sampler: *D.G*

Sheen or inches of free product:
 Analyzed for:

WATER SAMPLING FORM

CLIENT: Dynaplan
 ADDRESS: 1435 Webster St
 WELL # TESTED: MW 2

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

WELL DIAMETER	A
<u>2"</u>	0.17
3"	0.36
4"	0.65

TOTAL WELL DEPTH 20
 - DEPTH TO WATER 8.46
 = WATER COLUMN HEIGHT 11.54 x A = 1.95 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 1.95 = 5.8 (3 well volume)

DATE: 3/22/01
 TIME: 12.00
 WATER LEVEL: 8.51

TIME:	GALS PUMPED	TEMP	COND. ^{x1000}	PH
<u>12.35</u>	<u>1.9</u>	<u>68</u>	<u>0.65</u>	<u>6.83</u>
<u>12.45</u>	<u>3.8</u>	<u>69.3</u>	<u>0.65</u>	<u>6.84</u>
<u>12.55</u>	<u>5.8</u>	<u>70.7</u>	<u>0.66</u>	<u>6.9</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Time: 12.1.00
 Volume Pumped: 5.8
 Sampler: D.G

Sheen or inches of free product:
 Analyzed for:

WATER SAMPLING FORM

CLIENT: Olympian
 ADDRESS: 1435 Webster St.
 WELL # TESTED: MW 3

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

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

TOTAL WELL DEPTH 20
 - DEPTH TO WATER 8.24
 = WATER COLUMN HEIGHT 11.76 x A = 2 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 = 6 (3 well volume)

DATE: 3/22/01
 TIME: 1:45
 WATER LEVEL: 8.31

TIME:	GALS PUMPED	TEMP	COND. ^{µmho}	PH
<u>1:20</u>	<u>2</u>	<u>73.2</u>	<u>0.2</u>	<u>7.1</u>
<u>1:30</u>	<u>4</u>	<u>70.0</u>	<u>0.19</u>	<u>7.0</u>
<u>1:35</u>	<u>6</u>	<u>69.5</u>	<u>0.19</u>	<u>7.2</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Time: 1:45
 Volume Pumped: 6
 Sampler: P. G.

Sheen or inches of free product:
 Analyzed for:

WATER SAMPLING FORM

CLIENT: *Olympic*
 ADDRESS: *1435 Webster St*
 WELL # TESTED: *MW4*

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

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

TOTAL WELL DEPTH *20*
 - DEPTH TO WATER *8.26*
 = WATER COLUMN HEIGHT *11.44* x A = *1.94* 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 = *5.83* (3 well volume)

DATE: *2/5/01*
 TIME: *8:00*
 WATER LEVEL:

TIME:	GALS PUMPED	TEMP	COND.	PH
<i>8:30</i>	<i>1.9</i>	<i>15.8°C</i>	<i>319</i>	<i>7.06</i>
<i>8:35</i>	<i>3.8</i>	<i>15.8</i>	<i>321</i>	<i>7.05</i>
<i>8:45</i>	<i>5.7</i>	<i>16.0</i>	<i>282</i>	<i>7.08</i>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Time: *9:05*
 Volume Pumped: *5.7* gallons.
 Sampler: *D.G.*

Sheen or inches of free product:
 Analyzed for:

WATER SAMPLING FORM

CLIENT: *Olympian*
 ADDRESS: *1435 Webster St.*
 WELL # TESTED: *MWS*

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

WELL DIAMETER	A
<i>2"</i>	0.17
3"	0.36
4"	0.65

TOTAL WELL DEPTH *18.36*
 - DEPTH TO WATER *7.485*
 = WATER COLUMN HEIGHT *10.88* $\times A = 1.85$ 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).

$3 \times 5.54 =$ (3 well volume)

DATE: *3/22/01*
 TIME: *11.25*
 WATER LEVEL: *8.27*

TIME:	GALS PUMPED	TEMP	COND. ^{$\times 1000$}	PH
<i>9.25</i>	<i>1.8</i>	<i>62.9</i>	<i>0.45</i> ^{$\times 1000$}	<i>6.57</i>
<i>9.40</i>	<i>3.7</i>	<i>66.5</i>	<i>0.55</i>	<i>7.10</i>
<i>10.20</i>	<i>5.5</i>	<i>67.8</i>	<i>0.56</i>	<i>6.8</i>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Time: *11.20*
 Volume Pumped: *5.5*
 Sampler: *DC*

Sheen or inches of free product:
 Analyzed for: *Strong odor of gasoline*

WATER SAMPLING FORM

CLIENT: Olympian
 ADDRESS: 1435 Webster St, Alameda
 WELL # TESTED: MW 6

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

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

TOTAL WELL DEPTH 19.39
 - DEPTH TO WATER 8.64
 = WATER COLUMN HEIGHT 10.75 x A = 1.83 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 1.83 = 5.5 (3 well volume)

DATE: 3/22/01
 TIME: 11:45
 WATER LEVEL: 8.73

TIME:	GALS PUMPED	TEMP	COND. ^{x1000}	PH
<u>11.00</u>	<u>1.8</u>	<u>66.3</u>	<u>0.67</u>	<u>6.56</u>
<u>11.05</u>	<u>3.6</u>	<u>66.8</u>	<u>0.67</u>	<u>6.59</u>
<u>11.10</u>	<u>5.5</u>	<u>69.5</u>	<u>0.67</u>	<u>6.9</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Time: 11.45
 Volume Pumped: 5.5
 Sampler: D.G.

Sheen or inches of free product:
 Analyzed for:



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

Lab Number: 01-0404
Client: Technology Eng. Const.
Project: 1435 WEBSTER ST., ALAMEDA

Date Reported: 03/27/2001

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel Range Hydrocarbons by Method 8015M

Table with 6 columns: Analyte, Method, Result, Unit, Date Sampled, Date Analyzed. Contains three sample entries (MW1, MW2, MW3) and their respective chemical analysis results.

*Does not match diesel pattern**Confirmed by GC/MS



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

Lab Number: 01-0404
Client: Technology Eng. Const.
Project: 1435 WEBSTER ST., ALAMEDA

Date Reported: 03/27/2001

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel Range Hydrocarbons by Method 8015M

Table with 6 columns: Analyte, Method, Result, Unit, Date Sampled, Date Analyzed. Contains data for three samples (01-0404-03, 01-0404-04, 01-0404-05) and their respective chemical analyses.

*Does not match diesel pattern**Confirmed by GC/MS



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: 01-0404
Client: Technology Eng. Const.
Project: 1435 WEBSTER ST., ALAMEDA

Date Reported: 03/27/2001

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel Range Hydrocarbons by Method 8015M

Table with 7 columns: Analyte, Method, Reporting Limit, Unit, Blank, Avg MS/MSD Recovery, RPD. Rows include Gasoline, Benzene, Toluene, Ethylbenzene, Xylenes, MTBE, and Diesel.

ELAP Certificate NO:1753

Reviewed and Approved

Signature of John A. Murphy, Laboratory Director



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: 01-0483
Client: Technology Eng. Const.
Project: 1435 WEBSTER

Date Reported: 04/09/2001

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel Range Hydrocarbons by Method 8015M

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 01-0483-01	Client ID: MW4			04/05/2001	WATER
Gasoline	8015M	51	ug/L		04/05/2001
Benzene	8020	ND			
Ethylbenzene	8020	ND			
MTBE	8020	*6	ug/L		
Toluene	8020	0.5	ug/L		
Xylenes	8020	1	ug/L		
Diesel	8015M	ND			04/05/2001



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: 01-0483
Client: Technology Eng. Const.
Project: 1435 WEBSTER

Date Reported: 04/09/2001

Gasoline, BTEX and MTBE by Methods 8015M and 8020
Diesel Range Hydrocarbons by Method 8015M

Table with 7 columns: Analyte, Method, Reporting Limit, Unit, Blank, Avg MS/MSD Recovery, RPD. Rows include Gasoline, Benzene, Toluene, Ethylbenzene, Xylenes, MTBE, and Diesel.

ELAP Certificate NO:1753

Reviewed and Approved

Handwritten signature of John A. Murphy

John A. Murphy, Laboratory Director

Chain of Custody Accutite Environmental Engineering

01-0483

Client Accutite Environmental Engineering				Report To <u>David Gregory</u>				Turnaround			
Address 35 South Linden Avenue South San Francisco, CA 94080				Bill To: Accutite				ASAP	1 Day	2 Day	<u>3 Day</u>
Phone 650-952-5551				Billing Reference# <u>PO# 4936</u>				1 Week	2 Week	Others	
Project Name/Address <u>1435 Webster</u>						Analysis Required					
Sampler <u>David Gregory</u> Date: <u>4/5/01</u>											
Sample ID	Sample Matrix	#of Containers	Container Type	Sample Date/Time	TPH ₅ 8020	BTEX, MTBE 8020	TPH ₄ 8020				Remarks
MW4	Water	4 UGA 1 Amber		4/5/01, 9:00	X	X	X				Conc'n +ve MTBE with 8260
Relinquished by:		Date	Time	Received by:		Date	Time				
		<u>4/5/01</u>	<u>10:50</u>			<u>4/5/01</u>	<u>10:50</u>				
Relinquished by:		Date	Time	Received by:		Date	Time				
Relinquished by:		Date	Time	Received by:		Date	Time				