



Technology, Engineering & Construction, Inc.

ENVIRONMENTAL
PROTECTION

35 South Linden Avenue • South San Francisco, CA 94080-6407

Tel: (650) 952-5551 • Fax: (650) 952-7631 • Contractor's Lic. #762034

00 MAY 11 AM 9:07

May 4, 2000

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 SAMPLING AND ANALYSIS OF SIX MONITORING WELLS AT THE FORMER OLYMPIAN GASOLINE STATION, 1435 WEBSTER STREET IN ALAMEDA, CALIFORNIA

Dear Ms. Chu:

TEC Accutite is pleased to enclose the report for the quarterly sampling and analysis of six monitoring wells at former Olympian Gasoline Station, 1435 Webster Street in Alameda, California. For speedy review of the report, please refer to the conclusion and recommendation sections.

Thank you for your cooperation. If you have any questions, please call the undersigned at (650) 952-5551, Ext. 209.

Sincerely,
TEC Accutite

Sami Malaeb, P.E., R.E.A.
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, 3100 Cohasset Road, Chico, CA 95973



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QUARTERLY GROUNDWATER SAMPLING AND ANALYSIS

AT

**FORMER OLYMPIAN STATION
1435 WEBSTER STREET
IN
ALAMEDA, CALIFORNIA**

PREPARED BY

**TEC ACCUTITE
35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA, 94080**

MAY 4, 2000

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1.0 INTRODUCTION

TEC Accutite is contracted by Olympian to conduct quarterly sampling and analysis of six monitoring wells at its former site located at 1435 Webster Street in Alameda, California. The site location map is attached as Figure 1. The work performed followed Accutite's workplan dated July 12, 1999 and its addendum dated September 20, 1999.

2.0 BACKGROUND

The subject site used to operate as a gasoline station prior to 1989. In September 1989, the following underground storage tanks (USTs) were removed from the site (Figure 2):

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

The soil samples collected after removing the USTs showed up to 220 parts per million (ppm) of Total Petroleum Hydrocarbons as Gasoline (TPH-G), 430 ppm as Total Petroleum Hydrocarbons as Diesel (TPH-D), and 650 ppm of Total Recoverable Petroleum Hydrocarbons as Oil and Grease (TRPH).

In 1991, approximately 950 cubic yards of soil were removed from the former location of the USTs. Subsequently, this soil was bioremediated onsite and returned to the former excavation.

In January 1993, three monitoring wells were installed onsite (MW-1, MW-2, and MW-3). The groundwater samples collected to date from these wells showed fluctuating concentrations of TPH-G, BTEX, and TPH-D.

To determine the extent of the impact of petroleum hydrocarbons on the soil and groundwater, on February 11, 1999, Accutite advanced four borings (B1 through B4) and sampled soil and groundwater. The soil laboratory results showed non-detect to non-significant concentrations of TPH-G, BTEX, and MTBE. The groundwater analytical results from the groundwater samples, collected from the borings up to 6,000 ppb MTBE and 38,000 ppb benzene.

Based on noticeable concentrations of TPH-G, BTEX, and MTBE, Alameda County Environmental Health Services (ACEHS) suggested the installation of three additional wells on and offsite to assess the extent and the stability of the plume. The additional three wells were installed in December 1999. Below we detail the sampling of all six monitoring wells onsite for the first quarter of 2000.

3.0 GROUNDWATER SAMPLING

On March 16, 2000, after purging the wells (MW-1 through MW-5) ground water samples were obtained through disposable bailers, directly transferred into VOA laboratory cleaned glass vials and containers. Containers were labeled, placed on blue ice in an ice chest, and transported under chain of custody to North State Environmental Laboratory for analysis. Please see the well sampling forms in Appendix A. Please note that MW-6 was sampled on May 2, 2000 because it was not sampled by mistake on March 16, 2000.



4.0 ELEVATION DATA AND GROUNDWATER FLOW DIRECTION

The calculated ground water flow direction was to the southeast with a gradient of 0.004 ft/ft. Table 1 below summarizes the elevation data of five monitoring wells (Figure 2):

Table 1 Elevation Data

| Well Identification | Elevation of Casing from Datum (ft) | Depth to Groundwater Measured on 12/06/99 in ft | Ground Water Elevation in ft |
|---------------------|-------------------------------------|---|------------------------------|
| MW-1 | 19.53 | 6.93 | 12.60 |
| MW-2 | 19.80 | 6.88 | 12.92 |
| MW-3 | 19.79 | 6.48 | 13.31 |
| MW-4 | 19.30 | 6.86 | 12.44 |
| MW-5 | 18.99 | 6.28 | 12.71 |

5.0 LABORATORY ANALYSIS

The analytical results for the ground water samples from MW-1 through MW-6 are summarized in Table 2 below. A copy of the Laboratory report is included in Appendix B. See also Figure 3 for the depiction of the latest groundwater analytical results.

Table 2. Cumulative Groundwater Analytical Results

| Sample ID | Date Of Sampling | Depth to Water (ft) | TPH-D ⁽¹⁾ | TPH-G ⁽³⁾ | Benzene | Toluene | Ethyl Benzene | Xylenes | MTBE ⁽⁴⁾ | TRPH ⁽⁵⁾ |
|-----------|------------------|---------------------|-----------------------|----------------------|---------|---------|---------------|---------|---------------------|---------------------|
| | | | in ppb ⁽²⁾ | in ppb | in ppb | in ppb | in ppb | in ppb | in ppb | in ppb |
| MW-1 | 6/03/93 | N/A(7) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | 9/14/94 | 11.46 | <50 | 14,000 | 44 | 28 | 25 | 50 | NA (8) | 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 | 2700(9) | 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 |
| 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 |
| 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 |
| MW-5 | 12/06/99 | 10.17 | 2800 | 30,000 | 2,200 | 3,300 | 910 | 7000 | 670 | NA |
| | 03/16/00 | 6.28 | 1,100 | 3,500 | 1,100 | 260 | 210 | 630 | 260 | NA |
| MW-6 | 12/06/99 | 11.46 | 110 | <50 | 2 | 2 | 0.8 | 8 | 1 | NA |
| | 05/02/00 | 8.32 | <50 | <50 | 8.0 | 8 | 5 | 18 | <0.5 (9) | NA |

- (1) TPH-D = Total Petroleum Hydrocarbons as Diesel
- (2) ppb = part per billion or microgram per liter
- (3) TPH-G = Total Petroleum Hydrocarbons as Gasoline
- (4) MTBE = Methyl tertiary butyl ether
- (5) TRPH = Total Recoverable Petroleum Hydrocarbons as Oil and Grease
- (6) ppm = part per million or milligram per liter
- (7) Well was not accessible because of a parking car in its location
- (8) NA denotes not analyzed for the indicated compound
- (9) MTBE was confirmed using the GC/MS, EPA Method 8260



*could this be due to
dilation since
Gw was ~4' higher*

5.0 CONCLUSIONS

- There is a considerable decrease in the concentrations of TPH-D, TPH-G, BTEX, and MTBE from the previous quarter. Maximum MTBE in March 2000 was 2,700 in MW-1, while maximum MTBE in December 1999, in MW-1, was 11,000 ppb. Benzene decreased from 8,900 ppb in December 1999 to 2,400 ppb in March 2000.
- The calculated groundwater flow direction is toward the south to southeast with a gradient of 0.004ft/ft.

6.0 RECOMMENDATIONS

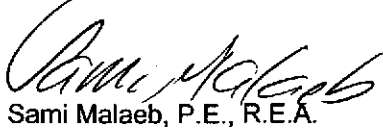
- To monitor the stability of the plume, Accutite recommends continuing the quarterly groundwater sampling and analysis of all six monitoring wells at this site.

8.0 LIMITATIONS

Accutite's 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 the opportunity to provide you with our services. If you have any questions, please call the undersigned at (650) 952-5551, EXT 209.

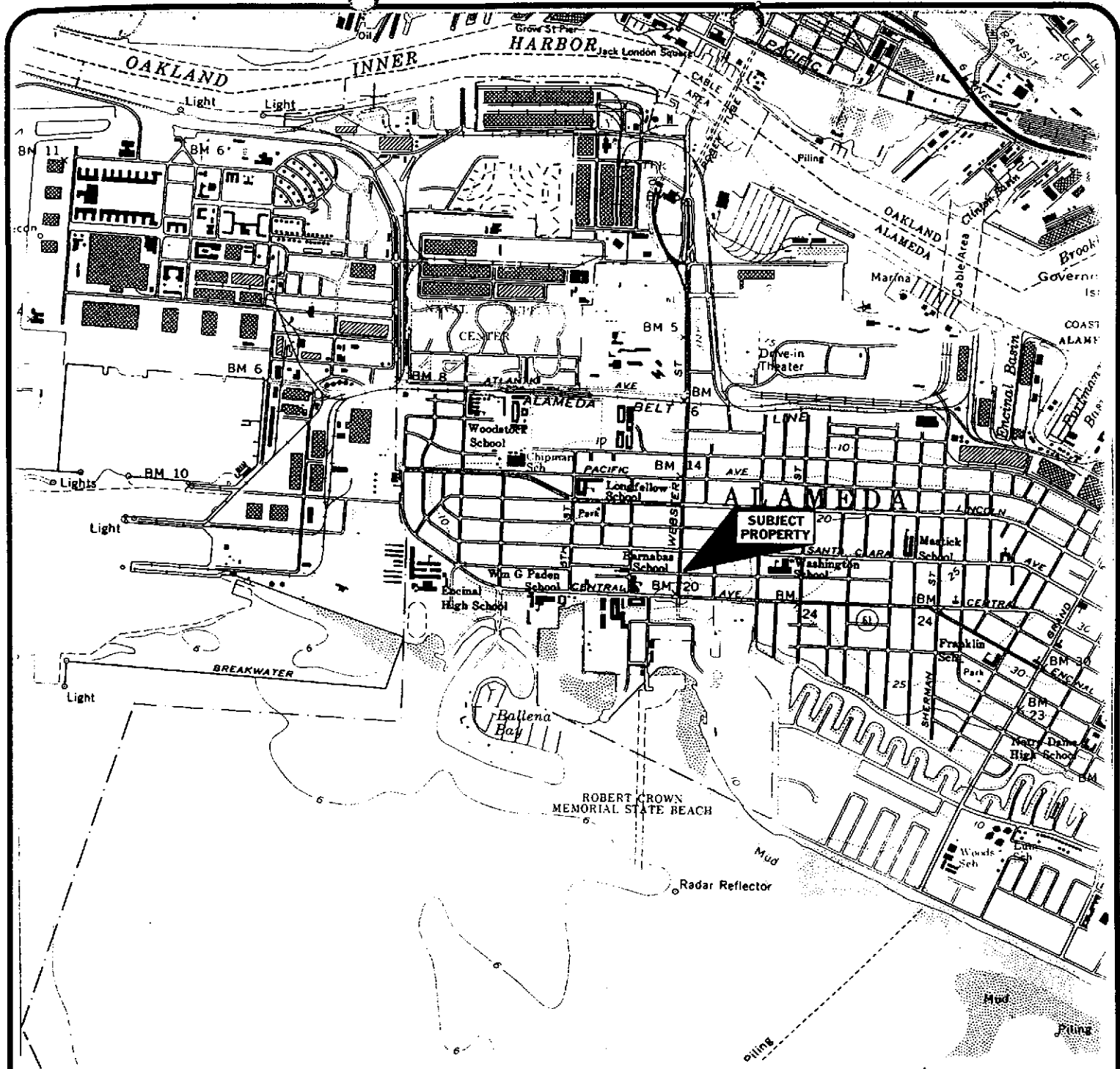
Sincerely,
TEC Accutite



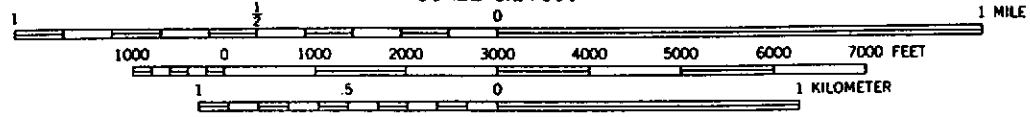
Sami Malaeb, P.E., R.E.A.
Project Manager

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, 3100 Cohasset Road, Chico, CA 95973

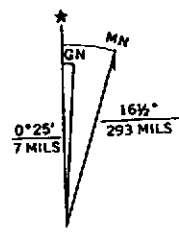




SCALE 1:24 000



CONTOUR INTERVAL 20 FEET



| | | |
|------------------------------|-----------------|----------------|
| REVISIONS | DATE 7/30/98 | PAGE 1 of 1 |
| SCALE: AS INDICATED ABOVE | | |
| LEGEND: | | |
| | | |

ACCUTITE ENVIRONMENTAL ENGINEERING

35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO, CA 94080
1435

FIGURE 1
SITE LOCATION

SITE:
1435 Webster Street Alameda, California

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

**PROPERTY
BOUNDARY**

FORMER
GAS ISLAND

MW-6

(12.71') MW-5

SIDEWALK

GROUNDWATER FLOW
DIRECTION MARCH 2008

HISTORICAL
GROUNDWATER FLOW

FORMER 500-GALLON
WASTE OIL UST

FORMER
GAS ISLAND

MW-1

(12.60')

MW-3

(13.31')

FORMER 10,000-GALLON
REG. GAS UST

FORMER 10,000-GALLON
REG. GAS UST

FORMER
GAS ISLAND

(12.92')
MW-2

FORMER 7,500-GALLON
DIESEL UST

WEBSTER STREET

Fire Hydrant

SIDEWALK

MW-4
TAYLOR AVENUE (12.44')

REVISIONS

DATE
05/02/00

PAGE
1 of 1

**FIGURE 2
LOCATION OF THE
MONITORING WELLS**

1435 Webster Street
Alameda, California

N

LEGEND:



MONITORING WELLS

NUMBERS BETWEEN
PARENTHESIS
DENOTE ELEVATION
OF GROUNDWATER

**TEC
ACCUTITE**

35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO, CA 94080

KEY:

SCALE:

ONE INCH = 20 FEET

MW-1, MW-2, AND MW-3 WERE
INSTALLED IN JANUARY 1993

MW-4, MW-5, AND MW-6 WERE INSTALLED IN
DECEMBER 1999



1435GW0502200

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

**PROPERTY
BOUNDARY**

**FORMER
GAS ISLAND**

MW-5 (WATER)
(03/16/00)
TPH-D 1,100 PPB
TPH-G 3,500 PPB
B 1,100 PPB
T 260 PPB
E 210 PPB
X 630 PPB
MTBE 260 PPB

MW-6 (WATER)
(05/02/00)
TPH-D ND
TPH-G ND
B 8.0 PPB
T 8.0 PPB
E 5.0 PPB
X 18 PPB
MTBE ND

MW-6

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

MW-1 (WATER)
(03/16/00)
TPH-D 700 PPB
TPH-G 5,100 PPB
B 2,400 PPB
T 100 PPB
E 280 PPB
X 460 PPB
MTBE 2,700 PPB

MW-1

MW-3

MW-3 (WATER)
(03/16/00)
TPH-D ND
TPH-G ND
B ND
T ND
E ND
X ND
MTBE 1.0 PPB

GROUNDWATER FLOW DIRECTION CALCULATED IN DECEMBER 1999

WEBSTER STREET

FORMER 7,500-GALLON
DIESEL UST

FORMER
GAS ISLAND

MW-2 (WATER)
(03/16/00)
TPH-D ND
TPH-G ND
B 1.0 PPB
T ND
E 0.5 PPB
X 1.0 PPB
MTBE 3.0 PPB

MW-2

SIDEWALK


Fire Hydrant

TPH-D = DIESEL
TPH-G = GASOLINE
B = BENZENE
T = TOLUENE
E = ETHYLBENZENE
X = XYLENES
MTBE = METHYL-T-BUTYL ETHER
TRPH = PETROLEUM OIL AND GREASE

TAYLOR AVENUE

MW-4 (WATER)
(03/16/00)
TPH-D 90 PPB
TPH-G ND
B 0.5 PPB
T 0.5 PPB
E ND
X 2.0 PPB
MTBE 34 PPB

MW-4

| | | |
|-----------|---|----------------|
| REVISIONS | DATE 05/04/00 | PAGE 1 of 1 |
| N A | LEGEND:  MONITORING WELLS | |

**TEC
ACCUTITE**
35 SOUTH LINDEN AVENUE
SOUTH SAN FRANCISCO, CA 94080

**FIGURE 3
DEPICTION
OF THE
ANALYTICAL RESULTS**
1435 Webster Street
Alameda, California

SCALE:
ONE INCH = 20 FEET
MW-1, MW-2, AND MW-3 WERE
INSTALLED IN JANUARY 1993

MW-4, MW-5, AND MW-6 WERE INSTALLED IN
DECEMBER 1999

APPENDIX A

WELL PURGING AND SAMPLING FORMS



WATER SAMPLING FORM

CLIENT: *Olympian*
 ADDRESS: *1435 Webster St. Alameda, CA*
 WELL # TESTED: *MW-1*

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 *22.74*
 - DEPTH TO WATER *6.93*
 = WATER COLUMN HEIGHT *15.81* x A = *2.687* 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).

$3 \times 2.687 = 8.06$ (3 well volume)

DATE: *03/16/00*

TIME:

WATER LEVEL:

| TIME: | GALS PUMPED | TEMP | COND. | PH |
|-------|-------------|-------------|-------------|-------------|
| | <i>3</i> | <i>19.0</i> | <i>65.2</i> | <i>8.17</i> |
| | <i>6</i> | <i>18.6</i> | <i>62.9</i> | <i>8.08</i> |
| | <i>9</i> | <i>18.2</i> | <i>53.4</i> | <i>7.91</i> |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |

Time:
 Volume Pumped:
 Sampler:

Sheen or inches of free product:
 Analyzed for:

WATER SAMPLING FORM

CLIENT: *Olympian*
 ADDRESS: *1433 Webster St., Alameda, CA*
 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 |
|---------------|------|
| 2" | 0.17 |
| 3" | 0.36 |
| 4" | 0.65 |

TOTAL WELL DEPTH *19.11*
 - DEPTH TO WATER *6.88*
 = WATER COLUMN HEIGHT *12.12* x A = *2.060* 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).

$3 \times 2.060 = 6.18$ (3 well volume)

DATE: *03/16/00*
 TIME:
 WATER LEVEL:

| TIME: | GALS PUMPED | TEMP | COND. | PH |
|-------|-------------|-------------|-------------|-------------|
| | <i>2</i> | <i>17.0</i> | <i>49.8</i> | <i>7.87</i> |
| | <i>4</i> | <i>16.6</i> | <i>49.8</i> | <i>7.85</i> |
| | <i>6</i> | <i>16.5</i> | <i>48.6</i> | <i>7.83</i> |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |

Time:
 Volume Pumped:
 Sampler:

Sheen or inches of free product:
 Analyzed for:

WATER SAMPLING FORM

CLIENT: *Olympian*
 ADDRESS: *1435 Webster St., Alameda, CA*
 WELL # TESTED: *MW-4*

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 *17.55*
 - DEPTH TO WATER *6.86*
 = WATER COLUMN HEIGHT $10.69 \times A = 1.817$ 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).

$3 \times 1.817 = 5.451$ (3 well volume)

DATE: *03/16/00*
 TIME:
 WATER LEVEL:

| TIME: | GALS PUMPED | TEMP | COND. | PH |
|-------|-------------|-------------|-------------|-------------|
| | <u>2</u> | <u>16.8</u> | <u>27.3</u> | <u>7.48</u> |
| | <u>4</u> | <u>16.8</u> | <u>25.5</u> | <u>7.44</u> |
| | <u>6</u> | <u>17.1</u> | <u>24.8</u> | <u>7.42</u> |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |

Time:
 Volume Pumped:
 Sampler:

Sheen or inches of free product:
 Analyzed for:

WATER SAMPLING FORM

CLIENT: *Olympian*
 ADDRESS: *1435 Webster St., Alameda, CA*
 WELL # TESTED: *MW-5*

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 *18.36*
 - DEPTH TO WATER *6.28*
 = WATER COLUMN HEIGHT *12.08* x A = *2.053* 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).

$3 \times 2.053 = 6.160$ (3 well volume)

DATE:
 TIME:
 WATER LEVEL:

| TIME: | GALS PUMPED | TEMP | COND. | PH |
|-------|-------------|-------------|-------------|-------------|
| | <i>2</i> | <i>17.8</i> | <i>23.4</i> | <i>7.40</i> |
| | <i>4</i> | <i>18.3</i> | <i>23.9</i> | <i>7.39</i> |
| | <i>6</i> | <i>18.4</i> | <i>25.2</i> | <i>7.44</i> |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ |

Time:
 Volume Pumped:
 Sampler:

Sheen or inches of free product:
 Analyzed for:

WATER SAMPLING FORM

CLIENT: *OLYMPIAN*
 ADDRESS: *1435 Webster St, Alameda, CA*
 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 *8.32*
 = WATER COLUMN HEIGHT *11.07* x A = *1.88* 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)

$3 \times 1.88 = 5.64$ (3 well volume)

DATE: *05/02/00*
 TIME:
 WATER LEVEL:

| TIME: | GALS PUMPED | TEMP | COND. | PH |
|-------|-------------|-------------|-------------|-------------|
| | <u>1</u> | <u>18.7</u> | <u>24.6</u> | <u>7.47</u> |
| | <u>2</u> | <u>18.3</u> | <u>24.0</u> | <u>7.47</u> |
| | <u>3</u> | <u>18.2</u> | <u>22.5</u> | <u>7.44</u> |
| | <u>4</u> | <u>18.6</u> | <u>21.8</u> | <u>7.41</u> |
| | <u>5</u> | <u>18.8</u> | <u>19.1</u> | <u>7.36</u> |
| | --- | --- | --- | --- |
| | --- | --- | --- | --- |
| | --- | --- | --- | --- |
| | --- | --- | --- | --- |
| | --- | --- | --- | --- |

Time: *2:47*
 Volume Pumped *5.64*
 Sampler: *maro*

Shoen or inches of free product *NO*
 Analyzed for:

APPENDIX B
LABORATORY RESULTS





North State Environmental Laboratory

CA ELAP#1753

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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

Lab Number: 00-0382
Client: Technology Eng. Const.
Project: 1435 Webster St./3627

Date Reported: 03/28/2000

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

| Analyte | Method | Result | Unit | Date Sampled | Date Analyzed |
|------------------------------------|--------|--------|------|--------------|---------------|
| Sample: 00-0382-01 Client ID: MW-1 | | | | 03/16/2000 | WATER |
| Gasoline | 8015M | 5100 | ug/L | | 03/24/2000 |
| Benzene | 8020 | 2400 | ug/L | | |
| Ethylbenzene | 8020 | 280 | ug/L | | |
| MTBE | 8020 | *2700 | ug/L | | |
| Toluene | 8020 | 100 | ug/L | | |
| Xylenes | 8020 | 460 | ug/L | | |
| Diesel | 8015M | **0.7 | mg/L | | 03/21/2000 |
| Sample: 00-0382-02 Client ID: MW-2 | | | | 03/16/2000 | WATER |
| Gasoline | 8015M | ND | | | 03/24/2000 |
| Benzene | 8020 | 1 | ug/L | | |
| Ethylbenzene | 8020 | 0.5 | ug/L | | |
| MTBE | 8020 | 3 | ug/L | | |
| Toluene | 8020 | ND | | | |
| Xylenes | 8020 | 1 | ug/L | | |
| Diesel | 8015M | ND | | | 03/21/2000 |
| Sample: 00-0382-03 Client ID: MW-3 | | | | 03/16/2000 | WATER |
| Gasoline | 8015M | ND | | | 03/24/2000 |
| Benzene | 8020 | ND | | | |
| Ethylbenzene | 8020 | ND | | | |
| MTBE | 8020 | 1 | ug/L | | |

*Confirmed by GC/MS.**Does not match typical diesel.



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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

Lab Number: 00-0382
 Client: Technology Eng. Const.
 Project: 1435 Webster St./3627

Date Reported: 03/28/2000

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

| Analyte | Method | Result | Unit | Date Sampled | Date Analyzed |
|--------------------|--------|-----------------|------|--------------|---------------|
| Sample: 00-0382-03 | | Client ID: MW-3 | | 03/16/2000 | WATER |
| Toluene | 8020 | ND | | | |
| Xylenes | 8020 | ND | | | |
| Diesel | 8015M | ND | | | 03/21/2000 |
| Sample: 00-0382-04 | | Client ID: MW-4 | | 03/16/2000 | WATER |
| Gasoline | 8015M | ND | | | 03/24/2000 |
| Benzene | 8020 | 0.5 | ug/L | | |
| Ethylbenzene | 8020 | ND | | | |
| MTBE | 8020 | 34 | ug/L | | |
| Toluene | 8020 | 0.5 | ug/L | | |
| Xylenes | 8020 | 2 | ug/L | | |
| Diesel | 8015M | 0.09 | mg/L | | 03/21/2000 |
| Sample: 00-0382-05 | | Client ID: MW-5 | | 03/16/2000 | WATER |
| Gasoline | 8015M | 3500 | ug/L | | 03/24/2000 |
| Benzene | 8020 | 1100 | ug/L | | |
| Ethylbenzene | 8020 | 210 | ug/L | | |
| MTBE | 8020 | 260 | ug/L | | |
| Toluene | 8020 | 260 | ug/L | | |
| Xylenes | 8020 | 630 | ug/L | | |
| Diesel | 8015M | **1.1 | mg/L | | 03/21/2000 |

*Confirmed by GC/MS.**Does not match typical diesel.



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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

Quality Control/Quality Assurance

Lab Number: 00-0382
Client: Technology Eng. Const.
Project: 1435 Webster St./3627

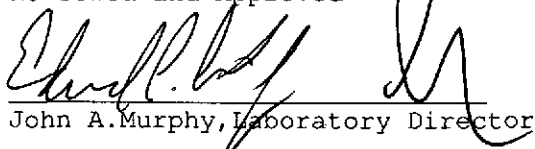
Date Reported: 03/28/2000

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

| Analyte | Method | Reporting Limit | Unit | Blank | Avg MS/MSD Recovery | RPD |
|--------------|--------|-----------------|------|-------|---------------------|-----|
| Diesel | 8015M | 0.05 | mg/L | ND | 90 | 2 |
| Gasoline | 8015M | 50 | ug/L | ND | 93 | 6 |
| Benzene | 8020 | 0.5 | ug/L | ND | 69 | 6 |
| Ethylbenzene | 8020 | 0.5 | ug/L | ND | 101 | 8 |
| Toluene | 8020 | 0.5 | ug/L | ND | 86 | 8 |
| Xylenes | 8020 | 1.0 | ug/L | ND | 101 | 8 |
| MTBE | 8020 | 0.5 | ug/L | ND | 86 | 14 |

ELAP Certificate NO:1753

Reviewed and Approved


John A. Murphy, Laboratory Director

Chain of Custody Accutite Environmental Engineering

00-0382
P.O. No. 3627

| Client: Accutite Environmental Engineering | | | | Report To: <i>Sami Matalab</i> | | | | Turnaround | | | | | | | |
|--|---------------|-----------------------|----------------|--------------------------------|------------------------|-------------------|--|---------------------------------|--|--------|-------|----------------------|--|-----------------------|--|
| Address: 35 South Linden Avenue South San Francisco, CA 94080 | | | | Bill To: Accutite <i>3627</i> | | | | ASAP | | 1 Day | 2 Day | 3 Day | | | |
| Phone: 650-952-5551 | | | | Billing Reference# | | | | 1 Week | | 2 Week | | Others | | | |
| Project Name/Address: <i>1435 Webster Street ALAMEDA, CA</i> | | | | Analysis Required | | | | | | | | | | | |
| Sampler: <i>Accutite</i> | | Date: <i>03/12/00</i> | | | | | | | | | | | | | |
| Sample ID | Sample Matrix | # of Containers | Container Type | Sample Date/Time | TPH-C TPH-D MIBK | TPH-D | | | | | | Remarks | | | |
| 1 MW-1 | Water | 3 | 40 ml VOA | | X | | | | | | | | | | |
| MW-1 | " | 1 | one 8 amber | | | X | | | | | | | | | |
| 2 MW-2 | " | 3 | 40 ml VOA | | X | | | | | | | | | | |
| MW-2 | " | 1 | one 8 amber | | | X | | | | | | | | | |
| 3 MW-3 | " | 3 | 40 ml VOA | | X | | | | | | | | | | |
| MW-3 | " | 1 | one 8 amber | | | X | | | | | | | | | |
| 4 MW-4 | " | 3 | 40 ml VOA | | X | | | | | | | | | | |
| MW-4 | " | 1 | 11 amber | | | X | | | | | | | | | |
| 5 MW-5 | " | 3 | 40 ml VOA | | X | | | | | | | | | | |
| MW-5 | " | 1 | one 8 amber | | | X | | | | | | | | | |
| Relinquished by: <i>Sami Matalab</i> | | | | Date: <i>3/17/00</i> | | Time: <i>8:40</i> | | Received by: <i>[Signature]</i> | | | | Date: <i>3/17/00</i> | | Time: <i>8:40 (A)</i> | |
| Relinquished by: | | | | Date: | | Time: | | Received by: | | | | Date: | | Time: | |
| Relinquished by: | | | | Date: | | Time: | | Received by: | | | | Date: | | Time: | |



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CA ELAP# 1753

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

Lab Number: 00-0625
Client: Technology Eng. Const.
Project: OLYMPIA, 1435 WEBSTER ST., ALAMEDA

Date Reported: 05/04/2000

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

| Analyte | Method | Result | Unit | Date Sampled | Date Analyzed |
|--------------------|--------|-----------------|------|--------------|---------------|
| Sample: 00-0625-01 | | Client ID: MW-6 | | 05/02/2000 | WATER |
| Gasoline | 8015M | ND | | | 05/03/2000 |
| Benzene | 8020 | 8 | ug/L | | |
| Ethylbenzene | 8020 | 5 | ug/L | | |
| MTBE | 8020 | *ND | | | |
| Toluene | 8020 | 8 | ug/L | | |
| Xylenes | 8020 | 18 | ug/L | | |
| Diesel | 8015M | ND | | | 05/03/2000 |

*Confirmed by GC/MS method 8260.



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CA ELAP#1753

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: 00-0625
Client: Technology Eng. Const.
Project: OLYMPIA, 1435 WEBSTER ST., ALAMEDA

Date Reported: 05/04/2000

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

| Analyte | Method | Reporting Limit | Unit | Blank | Avg MS/MSD Recovery | RPD |
|--------------|--------|-----------------|------|-------|---------------------|-----|
| Diesel | 8015M | 0.05 | mg/L | ND | 87 | 9 |
| Gasoline | 8015M | 50 | ug/L | ND | 75 | 3 |
| Benzene | 8020 | 0.5 | ug/L | ND | 74 | 2 |
| Ethylbenzene | 8020 | 0.5 | ug/L | ND | 92 | 2 |
| Toluene | 8020 | 0.5 | ug/L | ND | 81 | 2 |
| Xylenes | 8020 | 1.0 | ug/L | ND | 57 | 2 |
| MTBE | 8020 | 0.5 | ug/L | ND | 83 | 3 |

ELAP Certificate NO:1753

Reviewed and Approved

John A. Murphy, Laboratory Director

T0175
Chain of Custody Accutite Environmental Engineering

P.O. 3907 00-0625

| | | | | | | |
|--|---------------|--------------------------|----------------|--|-------|------------------|
| Client: Accutite Environmental Engineering | | Report To: SAMI MALOEB | | Turnaround: <input checked="" type="checkbox"/> 2 Day | | |
| Address: 35 South Linden Avenue South San Francisco, CA 94080 | | Bill To: Accutite | | ASAP <input type="checkbox"/> 1 Day <input checked="" type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day | | |
| Phone: 650-952-5551 | | Billing Reference#: 3907 | | 1 Week <input type="checkbox"/> 2 Week <input type="checkbox"/> Others <input type="checkbox"/> | | |
| Project Name/Address: OLYMPIAN 1435 Webster St., Alameda, CA | | | | Analysis Required | | |
| Sampler: Accutite | | Date: 05/02/00 | | Remarks: None 48 HR TAT | | |
| Sample ID | Sample Matrix | # of Containers | Container Type | | | Sample Date/Time |
| MW-6 | Water | 3 | 40 ml VOA | | | 05/02/00 |
| MW-6 | Water | 1 | 1 Amber | 05/02/00 | | |
| Relinquished by: SAMI MALOEB | | Date: | 05/02/00 | Time: | 15:42 | |
| Relinquished by: [Signature] | | Date: | 05/02/00 | Time: | 15:42 | |
| Relinquished by: | | Date: | | Time: | | |