



**ALISTO ENGINEERING GROUP**

September 10, 2001

SEP 13 2001

Ms. Eva Chu  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Room 250  
Alameda, California 94502-6577

10-210-14-002

Subject: Groundwater Monitoring and Sampling Report  
Xtra Oil Company Service Station (dba Shell)  
1701 Park Street  
Alameda, California

Dear Ms. Chu:

On Behalf of Xtra Oil Company, Alisto Engineering Group is pleased to submit this groundwater monitoring and sampling report for the Xtra Oil Company service station (dba Shell), 1701 Park Street, Alameda, California.

Please call if you have questions or comments.

Sincerely,

ALISTO ENGINEERING GROUP

Brady Nagle  
Project Manager

Enclosure

cc: Mr. Keith Simas, Xtra Oil Company (with enclosure)  
Ms. Ade Fagorala, California Regional Water Quality Control Board, San Francisco Bay  
Region (with enclosure)

**GROUNDWATER MONITORING AND SAMPLING REPORT**

**Xtra Oil Company Service Station (dba Shell)  
1701 Park Street  
Alameda, California**

**Project No. 10-210-14-002**

**Prepared for:**

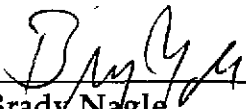
**Xtra Oil Company  
2307 Pacific Avenue  
Alameda, California**

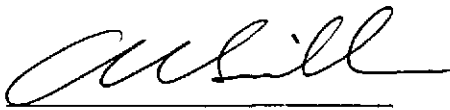
**SEP 13 2001**

**Prepared by:**

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**July 24, 2001**

  
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Project Manager**

  
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**Al Sevilla, P.E.  
Principal**



# GROUNDWATER MONITORING AND SAMPLING REPORT

Xtra Oil Company Service Station (dba Shell)  
1701 Park Street  
Alameda, California

Project No. 10-210-14-002

July 24, 2001

## INTRODUCTION

This report presents the results and findings of the June 27, 2001 groundwater monitoring and sampling conducted by Alisto Engineering Group at the Xtra Oil Company service station (dba Shell), 1701 Park Street, Alameda, California. A site vicinity map is shown on Figure 1.

## FIELD PROCEDURES

Field activities were performed in accordance with the procedures and guidelines of the Alameda County Health Care Services Agency (ACHCSA) and the California Regional Water Quality Control Board, San Francisco Bay Region.

Before purging and sampling, the groundwater level in each well was measured from a permanent mark on top of the casing to the nearest 0.01 foot using an electronic sounder. The depth to groundwater and top of casing elevation data were used to calculate the groundwater elevation in each well in reference to mean sea level. The survey data and groundwater elevation measurements collected to date are presented in Table 1.

Before sample collection, each well was purged of 3 casing volumes while recording field readings of pH, temperature and electrical conductivity. Groundwater samples were collected for laboratory analysis by lowering a bottom-fill, disposable bailer to just below the water level in each well. The samples were transferred from the bailer into laboratory-supplied containers. The water sampling field survey forms are presented in Appendix A.

## SAMPLING AND ANALYTICAL RESULTS

The results of monitoring and laboratory analysis of the groundwater samples for this and previous events are summarized in Table 1. The potentiometric groundwater elevations as interpreted from the results of this monitoring event are shown on Figure 2. The results of laboratory analysis are shown on Figure 3. The laboratory report and chain of custody record are presented in Appendix B.



## FINDINGS

The findings of the June 27, 2001 groundwater monitoring and sampling event are as follows:

- A hydrocarbon sheen was observed on the groundwater sample collected from Monitoring Wells MW-1 and MW-2. Free product or sheen was not observed in Monitoring Wells MW-3 and MW-4.
- Groundwater elevation data indicates a gradient of approximately 0.002 foot per foot in southeasterly to southwesterly directions across the site.
- Analysis of the samples detected dissolved-phase petroleum hydrocarbons in Monitoring Wells MW-1, MW-2, and MW-4 at concentrations of up to 80000 micrograms per liter (ug/l) total petroleum hydrocarbons as gasoline in Well MW-1 and up to 5400 ug/l benzene in Well MW-2.
- Total petroleum hydrocarbons as diesel was detected in samples from Wells MW-1, MW-2, and MW-4 at concentrations ranging from 2100 to 10000 ug/l.
- Methyl tert-butyl ether (MTBE) was detected in the sample collected from Wells MW-2 and MW-4 at a concentration of 6800 ug/l and 2100 ug/l, respectively.
- Dissolved-phase petroleum hydrocarbons, including MTBE, were not detected in the sample collected from Well MW-3.



TABLE 1 - SUMMARY OF GROUNDWATER SAMPLING  
XTRA OIL COMPANY SERVICE STATION  
1701 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-210

| WELL ID  | DATE OF MONITORING/<br>SAMPLING | CASING ELEVATION (Feet) | DEPTH TO WATER (a) (Feet) | PRODUCT THICKNESS (Feet) | GROUNDWATER ELEVATION (b) (Feet) | TPH-G (ug/l) | TPH-D (ug/l) | B (ug/l) | T (ug/l) | E (ug/l) | X (ug/l) | MTBE (ug/l) | OTHER SVOCs (ug/l) | NAPHTHALENE (ug/l) | BENZO-PYRENE (ug/l) | DO (ppm) | LAB     |
|----------|---------------------------------|-------------------------|---------------------------|--------------------------|----------------------------------|--------------|--------------|----------|----------|----------|----------|-------------|--------------------|--------------------|---------------------|----------|---------|
| MW-1     | 11/04/94                        | 19.60                   | 8.8                       | ---                      | 10.96                            | 60000        | 6400         | 13000    | 4900     | 1300     | 5500     | ---         | ---                | ---                | ---                 | ---      | MCC     |
| QC-1 (c) | 11/04/94                        | ---                     | ---                       | ---                      | ---                              | 54000        | ---          | 12000    | 4500     | 1200     | 5200     | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 01/11/95                        | 19.60                   | 6.10                      | ---                      | 13.50                            | ---          | ---          | ---      | ---      | ---      | ---      | ---         | ---                | ---                | ---                 | ---      | ---     |
| MW-1     | 02/24/95                        | 19.60                   | 6.57                      | ---                      | 13.03                            | 58000        | 4400         | 13000    | 7000     | 1400     | 5100     | ---         | ---                | ---                | ---                 | ---      | MCC     |
| QC-1 (c) | 02/24/95                        | ---                     | ---                       | ---                      | ---                              | 43000        | ---          | 8900     | 4600     | 970      | 3300     | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 05/25/95                        | 19.60                   | 6.54                      | ---                      | 13.06                            | 53000        | 4700         | 11000    | 5700     | 1200     | 4000     | ---         | ---                | ---                | ---                 | 4.3      | MCC     |
| QC-1 (c) | 05/25/95                        | ---                     | ---                       | ---                      | ---                              | 48000        | ---          | 11000    | 5300     | 1200     | 3800     | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 08/30/95                        | 19.60                   | 8.15                      | ---                      | 11.45                            | 14000        | 3700         | 5000     | 1100     | 3900     | 103      | ---         | ---                | ---                | ---                 | 2.8      | MCC     |
| QC-1 (c) | 08/30/95                        | ---                     | ---                       | ---                      | ---                              | 57000        | ---          | 17000    | 7000     | 1500     | 5200     | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 11/16/95                        | 19.60                   | 8.79                      | ---                      | 10.81                            | 100000       | 5900         | 22000    | 17000    | 2100     | 8500     | ---         | ---                | ---                | ---                 | ---      | MCC     |
| QC-1 (c) | 11/16/95                        | ---                     | ---                       | ---                      | ---                              | 95000        | ---          | 20000    | 15000    | 1800     | 7800     | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 03/20/96                        | 19.60                   | 6.45                      | ---                      | 13.15                            | 46000        | 3300         | 10000    | 6200     | 1100     | 3200     | ---         | ---                | ---                | ---                 | ---      | MCC     |
| QC-1 (c) | 03/20/96                        | ---                     | ---                       | ---                      | ---                              | 42000        | ---          | 9800     | 5800     | 970      | 3000     | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 06/13/96                        | 19.60                   | 7.14                      | ---                      | 12.46                            | 44000        | 5400         | 9500     | 5500     | 1100     | 4000     | 19000       | ---                | ---                | ---                 | ---      | MCC     |
| QC-1 (c) | 06/13/96                        | ---                     | ---                       | ---                      | ---                              | 48000        | ---          | 9300     | 5600     | 1000     | 3800     | 17000       | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 09/23/96                        | 19.60                   | 7.56                      | ---                      | 12.04                            | 76000        | 14000        | 14000    | 11000    | 1600     | 7100     | 17000       | ---                | ---                | ---                 | 6.1      | MCC     |
| MW-1     | 12/19/96                        | 19.60                   | 7.08                      | ---                      | 12.52                            | 46000        | ---          | 12000    | 5500     | 1200     | 4100     | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 05/09/97                        | 19.60                   | 7.39                      | ---                      | 12.21                            | 80000        | 7500         | 14000    | 12000    | 1700     | 7600     | 14000       | ND                 | 280                | ND<2                | 2.7      | MCC/CHR |
| MW-1     | 09/11/97                        | 19.60                   | 7.50                      | ---                      | 12.10                            | 100000       | 7700         | 19000    | 19000    | 2400     | 11000    | ND<2100     | ---                | ---                | ---                 | 7.2      | MCC     |
| MW-1     | 12/15/97                        | 19.60                   | 7.81                      | ---                      | 11.99                            | 45000        | 3500         | 11000    | 5300     | 1500     | 5200     | 13000       | ---                | ---                | ---                 | 6.8      | MCC     |
| QC-1 (c) | 12/15/97                        | ---                     | ---                       | ---                      | ---                              | 45000        | ---          | 11000    | 5400     | 1400     | 5100     | 14000       | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 03/11/98                        | 19.60                   | 5.35                      | ---                      | 14.25                            | 40000        | 3800         | 5900     | 3900     | 1300     | 4900     | 8700        | ---                | ---                | ---                 | 8        | MCC     |
| QC-1 (c) | 03/11/98                        | ---                     | ---                       | ---                      | ---                              | 43000        | ---          | 7200     | 5000     | 1400     | 5300     | 14000       | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 06/23/98                        | 19.60                   | 8.63                      | ---                      | 12.97                            | 44000        | 3700         | 5900     | 6200     | 1800     | 6200     | 870         | ---                | ---                | ---                 | 6.2      | MCC     |
| QC-1 (c) | 06/23/98                        | ---                     | ---                       | ---                      | ---                              | 47000        | ---          | 6000     | 6400     | 1800     | 6300     | 1000        | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 12/01/98                        | 19.60                   | 6.48                      | ---                      | 13.12                            | 57000        | ---          | 7400     | 12000    | 2100     | 8200     | 7200        | ---                | ---                | ---                 | 2.4      | MCC     |
| QC-1 (c) | 12/01/98                        | ---                     | ---                       | ---                      | ---                              | 57000        | ---          | 6800     | 11000    | 1900     | 7500     | 8300        | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 03/30/99                        | 19.60                   | 5.74                      | ---                      | 13.86                            | 67000        | 6500         | 5700     | 9400     | 2500     | 9400     | 3200        | ---                | ---                | ---                 | 2.1      | MCC     |
| QC-1 (c) | 03/30/99                        | ---                     | ---                       | ---                      | ---                              | 64000        | 6400         | 5500     | 9000     | 2400     | 9100     | 3100        | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 08/16/99                        | 19.60                   | 7.02                      | ---                      | 12.58                            | 63000        | ---          | 3800     | 9100     | 2800     | 11000    | ND<1700     | ---                | ---                | ---                 | 1.3      | MCC     |
| QC-1 (c) | 08/16/99                        | ---                     | ---                       | ---                      | ---                              | 64000        | ---          | 3700     | 8800     | 2800     | 11000    | ND<1400     | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 12/31/99                        | 19.6                    | 7.45                      | ---                      | 12.15                            | 62000        | 5100         | 2900     | 9400     | 2700     | 11000    | ND<100      | ---                | ---                | ---                 | 8.3      | MCC     |
| QC-1 (c) | 12/31/99                        | ---                     | ---                       | ---                      | ---                              | 67000        | 4900         | 2900     | 9700     | 2800     | 12000    | ND<100      | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 03/31/00                        | 19.6                    | 5.85                      | ---                      | 13.75                            | 48000        | 490          | 3200     | 5500     | 2000     | 6700     | 520         | ---                | ---                | ---                 | 7.9      | MCC     |
| QC-1 (c) | 03/31/00                        | ---                     | ---                       | ---                      | ---                              | 54000        | 3300         | 3500     | 6000     | 2300     | 7300     | 730         | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 07/14/00                        | 19.6                    | 7.00                      | ---                      | 12.60                            | 76000        | 5700         | 5800     | 14000    | 2300     | 9500     | ND<200      | ---                | ---                | ---                 | 3.2      | MCC     |
| QC-1 (c) | 07/14/00                        | ---                     | ---                       | ---                      | ---                              | 72000        | ---          | 4900     | 14000    | 2100     | 9200     | ND<200      | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 10/04/00                        | 19.6                    | 7.60                      | ---                      | 12.00                            | 65000        | 2900         | 3800     | 11000    | 2400     | 8200     | ND<100      | ---                | ---                | ---                 | 1.4      | MCC     |
| QC-1 (c) | 10/04/00                        | ---                     | ---                       | ---                      | ---                              | 68000        | ---          | 3900     | 13000    | 2400     | 9300     | ND<100      | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 12/21/00                        | 19.6                    | 6.91                      | ---                      | 12.69                            | 74000        | 2500         | 3800     | 17000    | 3400     | 15000    | ND<200      | ---                | ---                | ---                 | 1.3      | MCC     |
| QC-1 (c) | 12/21/00                        | ---                     | ---                       | ---                      | ---                              | 69000        | ---          | 2700     | 12000    | 2400     | 11000    | ND<550      | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 04/13/01                        | 19.6                    | 6.06                      | ---                      | 13.54                            | 55000        | 2400         | 2900     | 7800     | 2400     | 9400     | ND<900      | ---                | ---                | ---                 | 0.8      | MCC     |
| QC-1 (c) | 04/13/01                        | ---                     | ---                       | ---                      | ---                              | 51000        | ---          | 2300     | 6100     | 2000     | 7900     | ND<350      | ---                | ---                | ---                 | ---      | MCC     |
| MW-1     | 06/27/01                        | 19.6                    | 6.54                      | ---                      | 13.06                            | 80000        | 3600         | 2800     | 13000    | 2300     | 10000    | ND<250      | ---                | ---                | ---                 | 1.1      | MCC     |
| QC-1 (c) | 06/27/01                        | ---                     | ---                       | ---                      | ---                              | 76000        | ---          | 3100     | 13000    | 2300     | 10000    | ND<250      | ---                | ---                | ---                 | ---      | MCC     |
| MW-2     | 11/04/94                        | 20.31                   | 9.12                      | 0.16                     | 11.31                            | ---          | ---          | ---      | ---      | ---      | ---      | ---         | ---                | ---                | ---                 | ---      | ---     |
| MW-2     | 01/11/95                        | 20.31                   | 6.75                      | ---                      | 13.56                            | ---          | ---          | ---      | ---      | ---      | ---      | ---         | ---                | ---                | ---                 | ---      | ---     |
| MW-2     | 02/24/95                        | 20.31                   | 7.11                      | 0.18                     | 13.34                            | ---          | ---          | ---      | ---      | ---      | ---      | ---         | ---                | ---                | ---                 | ---      | ---     |
| MW-2     | 05/25/95                        | 20.31                   | 7.01                      | 0.01                     | 13.31                            | ---          | ---          | ---      | ---      | ---      | ---      | ---         | ---                | ---                | ---                 | ---      | ---     |
| MW-2     | 08/30/95                        | 20.31                   | 8.58                      | 0.12                     | 11.82                            | ---          | ---          | ---      | ---      | ---      | ---      | ---         | ---                | ---                | ---                 | ---      | ---     |
| MW-2     | 11/16/95                        | 20.31                   | 9.07                      | 0.01                     | 11.25                            | ---          | ---          | ---      | ---      | ---      | ---      | ---         | ---                | ---                | ---                 | ---      | ---     |
| MW-2     | 03/20/96                        | 20.31                   | 6.79                      | 0.01                     | 13.53                            | ---          | ---          | ---      | ---      | ---      | ---      | ---         | ---                | ---                | ---                 | ---      | ---     |
| MW-2     | 06/13/96                        | 20.31                   | 7.41                      | 0.01                     | 12.91                            | ---          | ---          | ---      | ---      | ---      | ---      | ---         | ---                | ---                | ---                 | ---      | ---     |
| MW-2     | 09/23/96                        | 20.31                   | 7.83                      | 0.01                     | 12.49                            | 30000        | 19000        | 4600     | 180      | 1500     | 4100     | 2600        | ---                | ---                | ---                 | 5.5      | MCC     |
| QC-1 (c) | 09/23/96                        | ---                     | ---                       | ---                      | ---                              | 33000        | ---          | 4700     | 170      | 1600     | 3900     | 2400        | ---                | ---                | ---                 | ---      | MCC     |

TABLE 1 - SUMMARY OF GROUNDWATER SAMPLING  
XTRA OIL COMPANY SERVICE STATION  
1701 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-210

| WELL ID  | DATE OF MONITORING/<br>SAMPLING | CASING ELEVATION (Feet) | DEPTH TO WATER (a) (Feet) | PRODUCT THICKNESS (Feet) | GROUNDWATER ELEVATION (b) (Feet) | TPH-G (ug/l) | TPH-D (ug/l) | B (ug/l) | T (ug/l) | E (ug/l) | X (ug/l) | MTBE (ug/l) | OTHER SVOCs (ug/l) | NAPHTHALENE (ug/l) | BENZO-PYRENE (ug/l) | DO (ppm) | LAB     |
|----------|---------------------------------|-------------------------|---------------------------|--------------------------|----------------------------------|--------------|--------------|----------|----------|----------|----------|-------------|--------------------|--------------------|---------------------|----------|---------|
| MW-2     | 12/19/96                        | 20.31                   | 7.37                      | 0.01                     | 12.95                            | 29000        | ---          | 1800     | 240      | 1400     | 5400     | ---         | (d)                | 420                | ND<10               | ---      | MCC     |
| QC-1 (c) | 12/19/96                        | ---                     | ---                       | ---                      | ---                              | 29000        | ---          | 580      | 210      | 1300     | 5100     | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-2     | 05/09/97                        | 20.31                   | 8.11                      | 0.21                     | 14.36                            | 34000        | 6700000      | 4600     | 260      | 1500     | 4300     | 1800        | ---                | ---                | ---                 | 3.7      | MCC     |
| MW-2     | 09/11/97                        | 20.31                   | 7.70                      | 0.03                     | 12.63                            | 44000        | 1200000      | 3900     | 250      | 2400     | 7400     | ND<610      | ---                | ---                | ---                 | 6.5      | MCC     |
| QC-1 (c) | 09/11/97                        | ---                     | ---                       | ---                      | ---                              | 47000        | 1100000      | 4000     | 420      | 2700     | 8300     | 920         | ---                | ---                | ---                 | ---      | MCC     |
| MW-2     | 12/15/97                        | 20.31                   | 7.87                      | 0.03                     | 12.46                            | 32000        | 68000        | 4800     | 130      | 2200     | 5400     | ND<470      | ---                | ---                | ---                 | 6        | MCC     |
| MW-2     | 03/11/98                        | 20.31                   | 5.61                      | 0.18                     | 14.84                            | 44000        | 3800         | 5200     | 220      | 2000     | 5000     | 1100        | ---                | ---                | ---                 | 6.2      | MCC     |
| MW-2     | 06/23/98                        | 20.31                   | 6.74                      | 0.02                     | 13.59                            | 75000        | 570000       | 5900     | 390      | 3100     | 8300     | 8400        | ---                | ---                | ---                 | 6.3      | MCC     |
| MW-2     | 12/01/98                        | 20.31                   | 7.30                      | ---                      | 13.01                            | 36000        | ---          | 3800     | 73       | 1500     | 3900     | 2000        | ---                | ---                | ---                 | 1.9      | MCC     |
| MW-2     | 03/30/99                        | 20.31                   | 6.51                      | 0.13                     | 13.90                            | 23000        | 23000        | 5000     | 100      | 610      | 870      | 21000       | ---                | ---                | ---                 | 1.7      | MCC     |
| MW-2     | 08/18/99                        | 20.31                   | 8.04                      | 0.21                     | 12.43                            | 30000        | ---          | 5200     | 67       | 1100     | 1800     | 6000        | ---                | ---                | ---                 | 2.8      | MCC     |
| MW-2     | 12/31/99                        | 20.31                   | 8.20                      | 0.01                     | 12.12                            | 43000        | 340000       | 7600     | 97       | 1400     | 2500     | 4300        | ---                | ---                | ---                 | 9.0      | MCC     |
| MW-2     | 03/31/00                        | 20.31                   | 6.29                      | 0.01                     | 14.03                            | 28000        | 200000       | 4000     | 58       | 1100     | 1500     | 13000       | ---                | ---                | ---                 | 8.1      | MCC     |
| MW-2     | 07/14/00                        | 20.31                   | 8.02                      | ---                      | 12.29                            | 35000        | 170000       | 5000     | 78       | 1100     | 2500     | 4900        | ---                | ---                | ---                 | 3.9      | MCC     |
| MW-2     | 10/04/00                        | 20.31                   | 8.62                      | ---                      | 11.69                            | 22000        | 67000        | 4700     | 97       | 1300     | 1000     | 1900        | ---                | ---                | ---                 | 1.8      | MCC     |
| MW-2     | 12/21/00                        | 20.31                   | 7.70                      | ---                      | 12.61                            | 23000        | 16000        | 7500     | 85       | 770      | 490      | 8600        | ---                | 220                | ND<10               | 0.8      | MCC     |
| MW-2     | 04/13/01                        | 20.31                   | 7.05                      | ---                      | 13.26                            | 25000        | 21000        | 6400     | 79       | 790      | 670      | 8300        | ---                | ---                | ---                 | 1.1      | MCC     |
| MW-2     | 06/27/01                        | 20.31                   | 7.50                      | ---                      | 12.81                            | 34000        | 10000        | 5400     | 100      | 520      | 370      | 6800        | ---                | ---                | ---                 | 0.7      | MCC     |
| MW-3     | 11/04/94                        | 20.57                   | 8.92                      | ---                      | 11.65                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-3     | 01/11/95                        | 20.57                   | 5.67                      | ---                      | 14.90                            | ---          | ---          | ---      | ---      | ---      | ---      | ---         | ---                | ---                | ---                 | ---      | ---     |
| MW-3     | 02/24/95                        | 20.57                   | 6.11                      | ---                      | 14.46                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-3     | 05/25/95                        | 20.57                   | 6.24                      | ---                      | 14.33                            | 91           | ND<50        | 28.0     | 12.0     | 2.1      | 6.5      | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-3     | 08/30/95                        | 20.57                   | 8.27                      | ---                      | 12.30                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ---         | ---                | ---                | ---                 | 4.6      | MCC     |
| MW-3     | 11/16/95                        | 20.57                   | 8.82                      | ---                      | 11.75                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-3     | 03/20/96                        | 20.57                   | 5.44                      | ---                      | 15.13                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-3     | 06/13/96                        | 20.57                   | 6.17                      | ---                      | 14.40                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | ---      | MCC     |
| MW-3     | 09/23/96                        | 20.57                   | 6.57                      | ---                      | 14.00                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 4.9      | MCC     |
| MW-3     | 12/19/96                        | 20.57                   | 6.59                      | ---                      | 13.98                            | ND<50        | ---          | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ---         | ---                | ---                | ---                 | ---      | MCC     |
| MW-3     | 05/09/97                        | 20.57                   | 7.00                      | ---                      | 13.57                            | ND<50        | 59           | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 3.3      | MCC     |
| MW-3     | 09/11/97                        | 20.57                   | 6.92                      | ---                      | 13.65                            | ND<50        | 82           | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 7        | MCC     |
| MW-3     | 12/15/97                        | 20.57                   | 7.03                      | ---                      | 13.54                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 6.5      | MCC     |
| MW-3     | 03/11/98                        | 20.57                   | 4.71                      | ---                      | 15.86                            | ND<50        | ND<50        | ND<0.5   | 1.8      | 0.8      | 3.1      | ND<5.0      | ---                | ---                | ---                 | 8.1      | MCC     |
| MW-3     | 06/23/98                        | 20.57                   | 6.33                      | ---                      | 14.24                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 5.7      | MCC     |
| MW-3     | 12/01/98                        | 20.57                   | 6.74                      | ---                      | 13.83                            | ND<50        | ---          | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 4        | MCC     |
| MW-3     | 03/30/99                        | 20.57                   | 5.68                      | ---                      | 14.89                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 4.6      | MCC     |
| MW-3     | 08/18/99                        | 20.57                   | 7.67                      | ---                      | 12.90                            | ND<50        | ---          | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 2.7      | MCC     |
| MW-3     | 12/31/99                        | 20.57                   | 8.07                      | ---                      | 12.50                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 9.0      | MCC     |
| MW-3     | 03/31/00                        | 20.57                   | 5.59                      | ---                      | 14.98                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 2.8      | MCC     |
| MW-3     | 07/14/00                        | 20.57                   | 7.64                      | ---                      | 12.93                            | 88           | ND<50        | 0.89     | 1.7      | 2.1      | 9.5      | ND<5.0      | ---                | ---                | ---                 | 2.1      | MCC     |
| MW-3     | 10/04/00                        | 20.57                   | 8.34                      | ---                      | 12.23                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 2.0      | MCC     |
| MW-3     | 12/21/00                        | 20.57                   | 7.00                      | ---                      | 13.57                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 1.4      | MCC     |
| MW-3     | 04/13/01                        | 20.57                   | 6.38                      | ---                      | 14.19                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 1.3      | MCC     |
| MW-3     | 06/27/01                        | 20.57                   | 7.37                      | ---                      | 13.20                            | ND<50        | ND<50        | ND<0.5   | ND<0.5   | ND<0.5   | ND<0.5   | ND<5.0      | ---                | ---                | ---                 | 1.9      | MCC     |
| MW-4     | 05/09/97                        | 19.69                   | 7.17                      | ---                      | 12.52                            | 31000        | 15000        | 540      | 1300     | 1000     | 4500     | 1900        | ND                 | 2.1                | ND<2                | 3.1      | MCC/CHR |
| MW-4     | 09/11/97                        | 19.69                   | 7.71                      | ---                      | 11.98                            | 40000        | 6500         | 2000     | 3100     | 1700     | 7700     | 3400        | ---                | ---                | ---                 | 6.4      | MCC     |
| MW-4     | 12/15/97                        | 19.69                   | 7.87                      | ---                      | 11.82                            | 14000        | 2100         | 910      | 690      | 390      | 2700     | 1700        | ---                | ---                | ---                 | 6        | MCC     |
| MW-4     | 03/11/98                        | 19.69                   | 3.51                      | ---                      | 16.18                            | 2800         | 780          | 68       | 94       | 72       | 430      | 140         | ---                | ---                | ---                 | 5.5      | MCC     |
| MW-4     | 06/23/98                        | 19.69                   | 5.21                      | ---                      | 14.48                            | 15000        | 2800         | 240      | 630      | 720      | 2700     | 370         | ---                | ---                | ---                 | 5.4      | MCC     |
| MW-4     | 12/01/98                        | 19.69                   | 6.45                      | ---                      | 13.24                            | 21000        | ---          | 580      | 1000     | 530      | 3600     | 1700        | ---                | ---                | ---                 | 4.4      | MCC     |
| MW-4     | 03/30/99                        | 19.69                   | 5.41                      | ---                      | 14.28                            | 41000        | 3600         | 3100     | 3400     | 1700     | 6700     | 5700        | ---                | ---                | ---                 | 4.6      | MCC     |
| MW-4     | 08/18/99                        | 19.69                   | 7.35                      | ---                      | 12.34                            | 24000        | ---          | 4600     | 940      | 1200     | 2700     | 9700        | ---                | ---                | ---                 | 3.4      | MCC     |
| MW-4     | 12/31/99                        | 19.69                   | 7.71                      | ---                      | 11.98                            | 14000        | 2000         | 510      | 630      | 600      | 3100     | 3500        | ---                | ---                | ---                 | 10.1     | MCC     |
| MW-4     | 03/31/00                        | 19.69                   | 5.22                      | ---                      | 14.47                            | 14000        | 1400         | 470      | 480      | 580      | 2200     | 2000        | ---                | ---                | ---                 | 6.8      | MCC     |
| MW-4     | 07/14/00                        | 19.69                   | 7.31                      | ---                      | 12.38                            | 37000        | 4300         | 770      | 1500     | 1800     | 7200     | 1700        | ---                | ---                | ---                 | 3.3      | MCC     |

TABLE 1 - SUMMARY OF GROUNDWATER SAMPLING  
XTRA OIL COMPANY SERVICE STATION  
1701 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-210

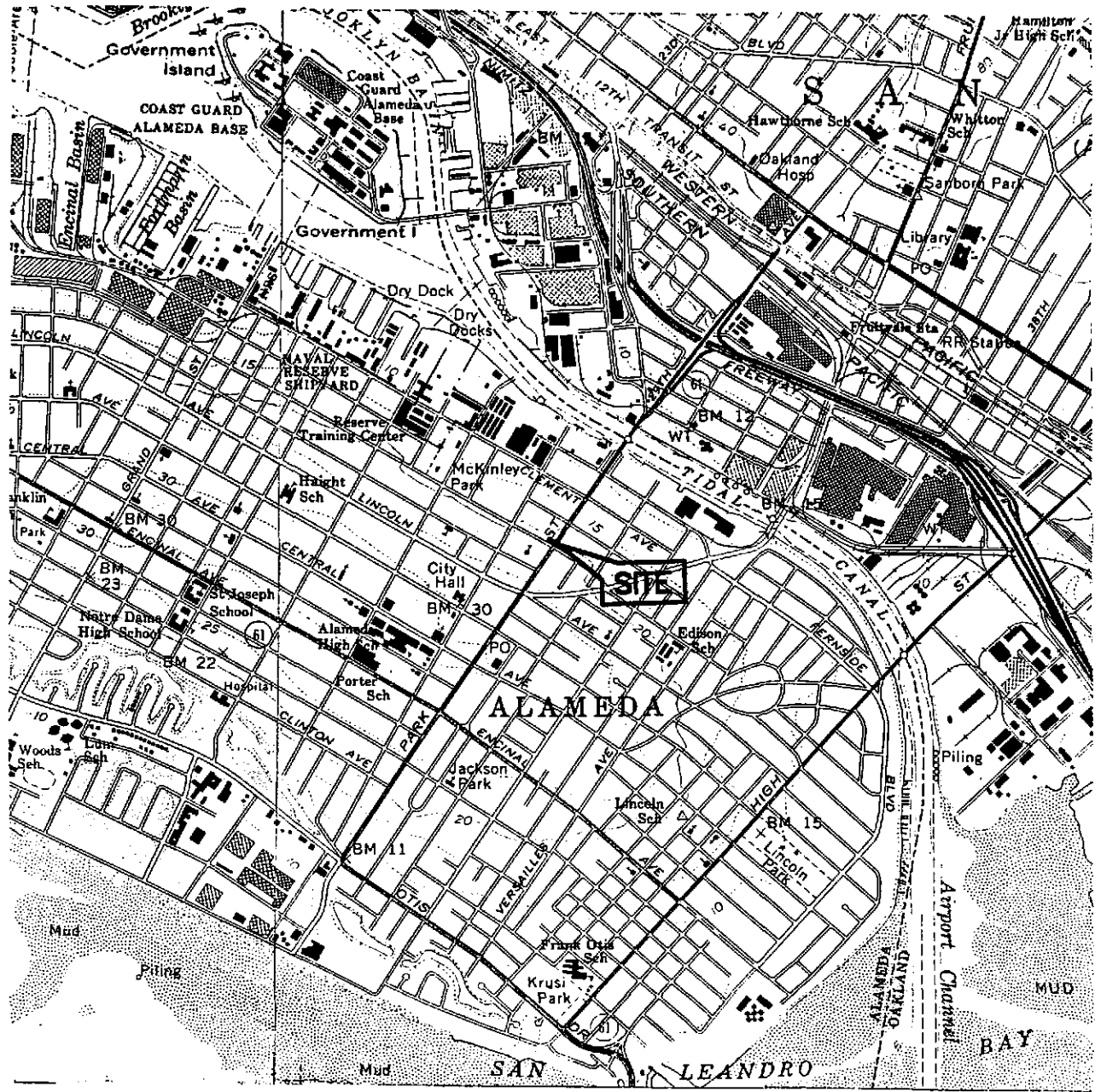
| WELL ID  | DATE OF MONITORING/<br>SAMPLING | CASING ELEVATION<br>(Feet) | DEPTH TO WATER<br>(a)<br>(Feet) | PRODUCT THICKNESS<br>(Feet) | GROUNDWATER ELEVATION<br>(b)<br>(Feet) | TPH-G<br>(ug/l) | TPH-D<br>(ug/l) | B<br>(ug/l) | T<br>(ug/l) | E<br>(ug/l) | X<br>(ug/l) | MTBE<br>(ug/l) | OTHER SVOCs<br>(ug/l) | NAPHTHALENE<br>(ug/l) | BENZO-PYRENE<br>(ug/l) | DO<br>(ppm) | LAB |
|----------|---------------------------------|----------------------------|---------------------------------|-----------------------------|--|-----------------|-----------------|-------------|-------------|-------------|-------------|----------------|-----------------------|-----------------------|------------------------|-------------|-----|
| MW-4     | 10/04/00                        | 19.69                      | 7.11                            | ---                         | 12.58                                  | 47000           | 3200            | 870         | 2000        | 2600        | 9800        | ND<1500        | ---                   | ---                   | ---                    | 1.7         | MCC |
| MW-4     | 12/21/00                        | 19.69                      | 6.86                            | ---                         | 12.83                                  | 13000           | 1800            | 370         | 410         | 480         | 2300        | 1500           | ---                   | 88                    | ND<10                  | 0.6         | MCC |
| MW-4     | 04/13/01                        | 19.69                      | 6.02                            | ---                         | 13.67                                  | 27000           | 2800            | 710         | 640         | 620         | 2900        | 2300           | ---                   | ---                   | ---                    | 1.0         | MCC |
| MW-4     | 06/27/01                        | 19.69                      | 6.72                            | ---                         | 12.97                                  | 23000           | 2100            | 510         | 1100        | 1100        | 4300        | 1400           | ---                   | ---                   | ---                    | 1.0         | MCC |
| QC-2 (e) | 11/04/94                        | ---                        | ---                             | ---                         | ---                                    | ND<50           | ---             | ND<0.5      | ND<0.5      | ND<0.5      | ND<0.5      | ---            | ---                   | ---                   | ---                    | ---         | MCC |
| QC-2 (e) | 02/24/95                        | ---                        | ---                             | ---                         | ---                                    | ND<50           | ---             | ND<0.5      | ND<0.5      | ND<0.5      | ND<0.5      | ---            | ---                   | ---                   | ---                    | ---         | MCC |
| QC-2 (e) | 05/25/95                        | ---                        | ---                             | ---                         | ---                                    | ND<50           | ---             | ND<0.5      | ND<0.5      | ND<0.5      | ND<0.5      | ---            | ---                   | ---                   | ---                    | ---         | MCC |
| QC-2 (e) | 08/30/95                        | ---                        | ---                             | ---                         | ---                                    | ND<50           | ---             | ND<0.5      | ND<0.5      | ND<0.5      | ND<0.5      | ---            | ---                   | ---                   | ---                    | ---         | MCC |
| QC-2 (e) | 11/16/95                        | ---                        | ---                             | ---                         | ---                                    | ND<50           | ---             | ND<0.5      | ND<0.5      | ND<0.5      | ND<0.5      | ---            | ---                   | ---                   | ---                    | ---         | MCC |
| QC-2 (e) | 03/20/96                        | ---                        | ---                             | ---                         | ---                                    | ND<50           | ---             | ND<0.5      | ND<0.5      | ND<0.5      | ND<0.5      | ---            | ---                   | ---                   | ---                    | ---         | MCC |
| QC-2 (e) | 06/13/96                        | ---                        | ---                             | ---                         | ---                                    | ND<50           | ---             | ND<0.5      | ND<0.5      | ND<0.5      | ND<0.5      | ---            | ---                   | ---                   | ---                    | ---         | MCC |

ABBREVIATIONS:

TPH-G Total petroleum hydrocarbons as gasoline using EPA Methods 5030/8015  
 TPH-D Total petroleum hydrocarbons as diesel using EPA Methods 3510/8015  
 B Benzene using EPA Methods 5030/8020  
 T Toluene using EPA Methods 5030/8020  
 E Ethylbenzene using EPA Methods 5030/8020  
 X Total xylenes using EPA Methods 5030/8020  
 MTBE Methyl tert butyl ether using EPA Methods 5030/8020  
 SVOCs Semivolatile organic compounds using EPA Method 8270  
 DO Dissolved oxygen  
 ug/l Micrograms per liter  
 ppm Parts per million  
 --- Not analyzed/applicable/measurable  
 ND Not detected above reported detection limit  
 MCC McCampbell Analytical, Inc.  
 CHR Chromalab, Inc.

NOTES:

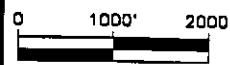
- (a) Top of casing surveyed relative to mean sea level.
- (b) Groundwater elevations expressed in feet above mean sea level, and adjusted assuming a specific gravity of 0.75 for free product.
- (c) Blind duplicate.
- (d) Other SVOCs detected at concentrations of 200 ug/l 2-methylnaphthalene and 14 ug/l phenanthrene.
- (e) Travel blank.



SOURCE:  
 USGS MAP, OAKLAND WEST AND EAST QUADRANGLE,  
 7.5 MINUTE SERIES, 1959.  
 PHOTOREVISED 1980.



QUADRANGLE LOCATION



**FIGURE 1**  
**SITE VICINITY MAP**

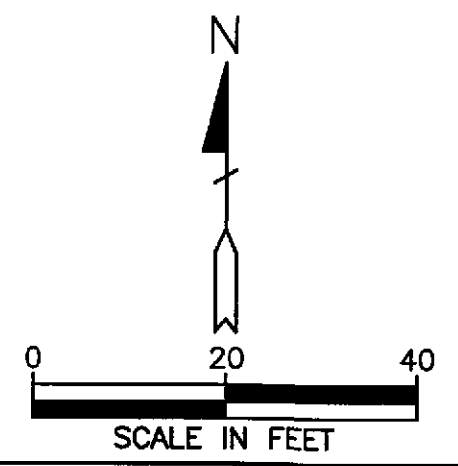
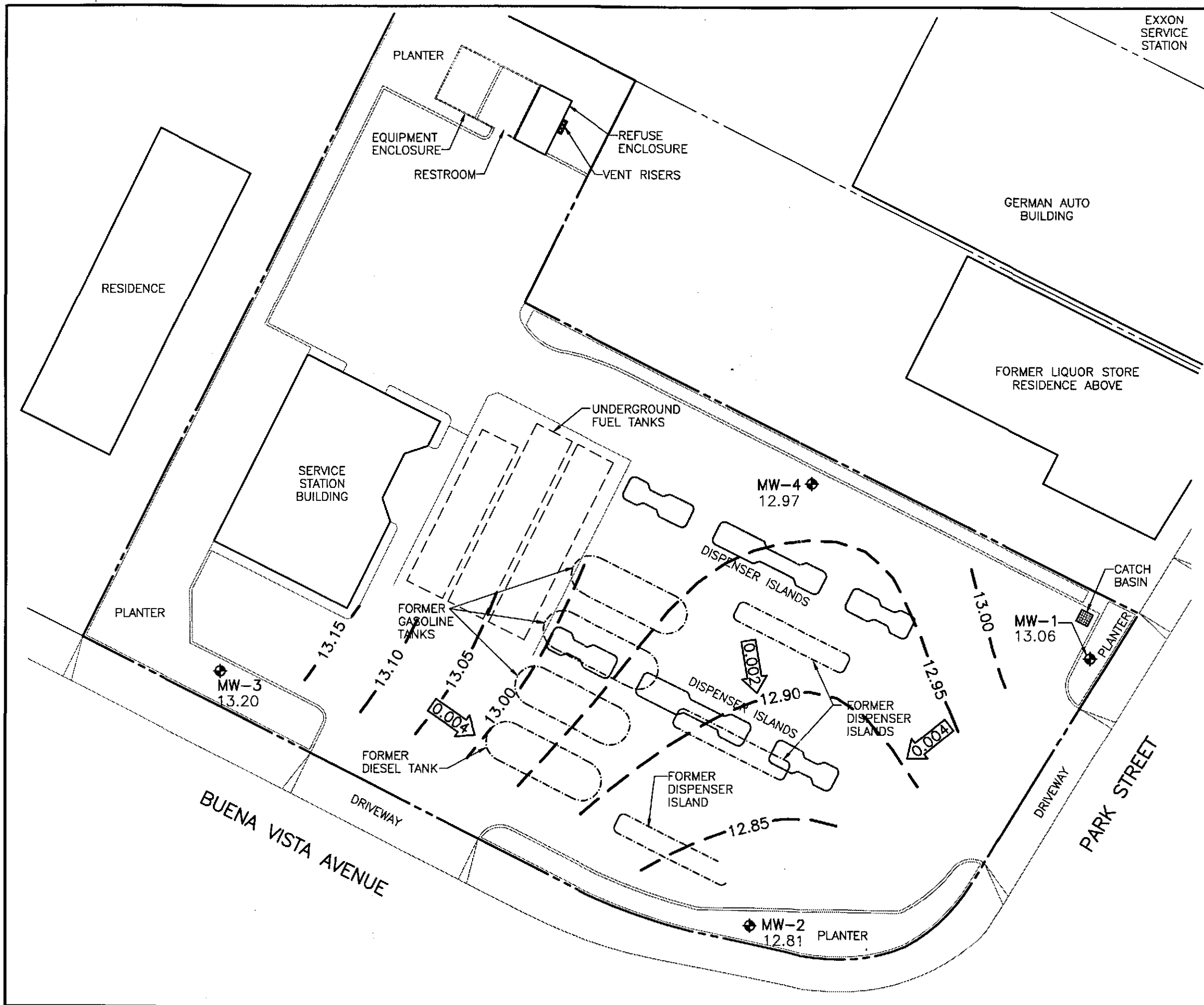
XTRA OIL COMPANY SERVICE STATION  
 1701 PARK STREET  
 ALAMEDA, CALIFORNIA

PROJECT NO. 10-210



**ALISTO ENGINEERING GROUP**  
 WALNUT CREEK, CALIFORNIA

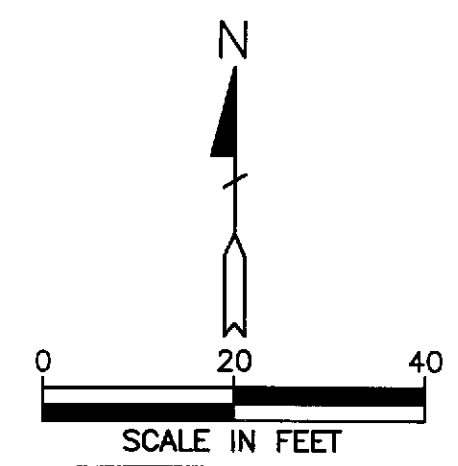
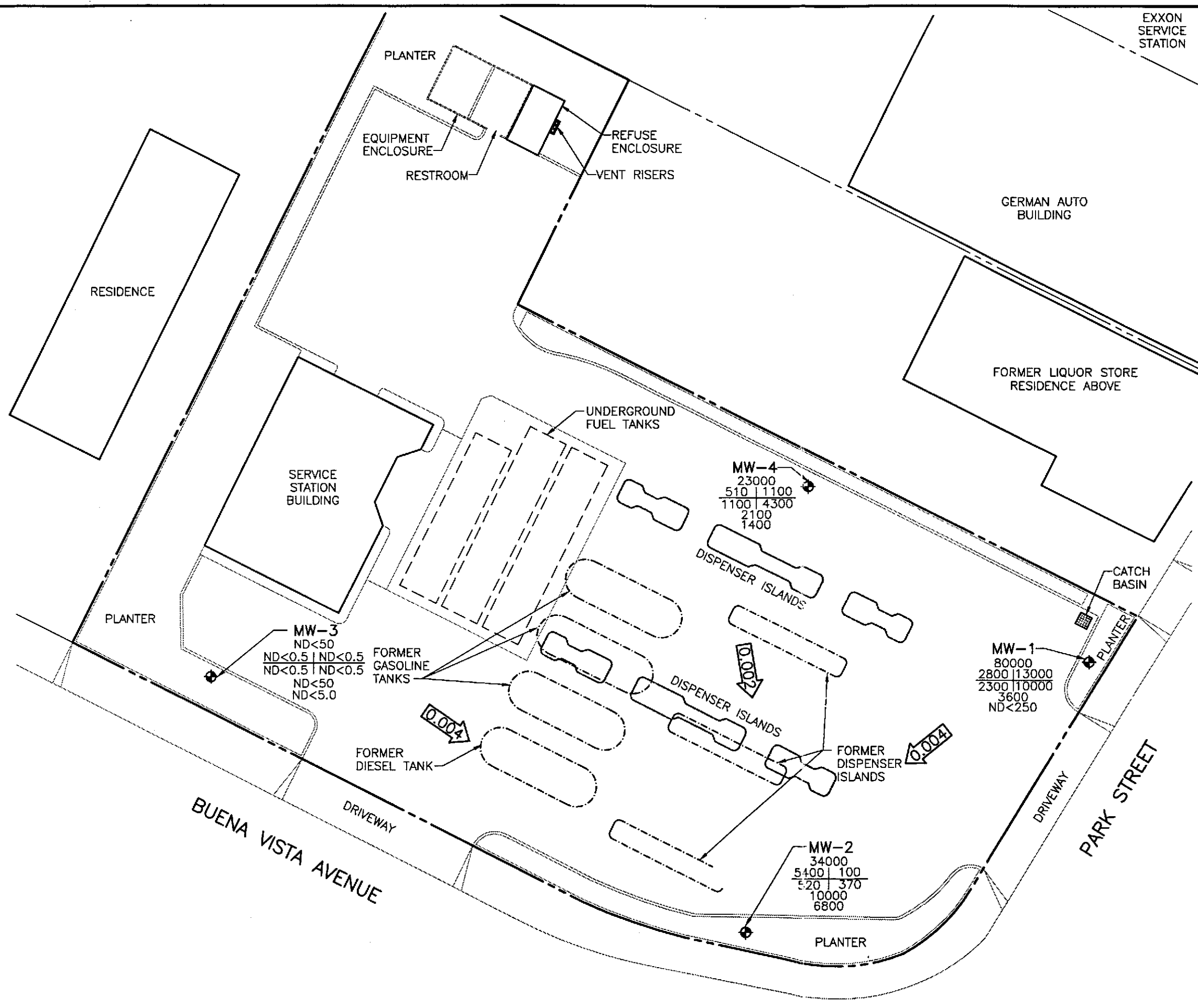




- LEGEND**
- ◆ GROUNDWATER MONITORING WELL
  - 13.06 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
  - - - 12.85 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL-0.05 FOOT)
  - ←0.004→ CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

**NOTE:**  
 Potentiometric groundwater elevation contours were generated with Quicksurf using the Kriging method with a piece-wise variogram on a triangulated grid surface.

**FIGURE 2**  
**POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP**  
 JUNE 27, 2001  
 XTRA OIL COMPANY SERVICE STATION  
 1701 PARK STREET  
 ALAMEDA, CALIFORNIA  
 PROJECT NO. 10-210



- LEGEND**
- ◆ GROUNDWATER MONITORING WELL
  - TPH-G CONCENTRATION OF CONSTITUENTS IN MICROGRAMS PER LITER
  - B
  - T
  - E
  - X
  - TPH-D
  - MTBE
  - ND
  - ←0.004
- TPH-G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
 B BENZENE  
 T TOLUENE  
 E ETHYLBENZENE  
 X TOTAL XYLENES  
 TPH-D TOTAL PETROLEUM HYDROCARBONS AS DIESEL  
 MTBE METHYL TERT BUTYL ETHER  
 ND NOT DETECTED ABOVE REPORTED DETECTION LIMIT  
 ←0.004 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

**FIGURE 3**  
**CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER**  
 JUNE 27, 2001  
 XTRA OIL COMPANY SERVICE STATION  
 1701 PARK STREET  
 ALAMEDA, CALIFORNIA  
 PROJECT NO. 10-210



10210E-12a.DWG 07-19-01 GME 1-20

**APPENDIX A**  
**WATER SAMPLING FIELD SURVEY FORMS**

# ALISTO

ENGINEERING GROUP

## Field Report / Sampling Data Sheet

3732 MT. DIABLO BOULEVARD, SUITE 270  
LAFAYETTE CA 94598 (925) 962-6970 FAX 962-6971

Project No. 10-210-14-002

Address 1701 Park Street

Contract No. n/a

Station No. XTRA

Date: 6-27-01

Day: M T W T H F

City: Alameda

Sampler: DITB

### DEPTH TO GROUNDWATER SUMMARY

| WELL ID | SAMPLE ID    | WELL DIAM | TOTAL DEPTH | DEPTH TO WATER | PRODUCT THICKNESS | TIME MONITORED | COMMENTS:                           |
|---------|--------------|-----------|-------------|----------------|-------------------|----------------|-------------------------------------|
| 3 MW-1  | MW-1<br>QC-1 | 2"        | 20.00       | 6.54           | slight stain      | 1154           | near air hose/water (DUP. GBTX MBP) |
| 4 MW-2  | MW2          | 2"        | 20.00       | 7.50           | stain             | 1157           | planter in lease area               |
| 1 MW-3  | MW3          | 2"        | 20.00       | 7.37           | NONE              | 1146           | near bus loading                    |
| 2 MW-4  | MW4          | 2"        | 20.17       | 6.72           | NONE              | 1150           | near fence.                         |

### FIELD INSTRUMENT CALIBRATION DATA

pH METER AQV 4.00  7.00  10.00  TEMPERATURE COMPENSATED Y N TIME 1150 WEATHER overcast  
 D.O. METER \_\_\_\_\_ ZERO d.O. SOLUTION NO BAROMETRIC PRESSURE \_\_\_\_\_ TEMP \_\_\_\_\_  
 CONDUCTIVITY METER  10,000 Y at TURBIDITY METER NONE 5.0 NTU \_\_\_\_\_ OTHER \_\_\_\_\_  
 LEAK DETECTOR: \_\_\_\_\_ ALARM MODE \_\_\_\_\_ NON ALARM MODE C

| Well ID  | Depth to Wat | Diam | Cap/Loc | Product Di | Iridescend | Gal. | Time | Temp | pH   | E.C.         | D.O.           |  |
|--|--------------|------|---------|------------|------------|------|------|------|------|--------------|----------------|--|
| MW-3   | 7.37         | 2"   | ck/dk   | NO         | Y (N)      | 2    | 1200 | 20.4 | 6.49 | 318<br>µs/cm | 1.59           | <input type="checkbox"/> EPA 601 _____                     |
| Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge= PurgeVol.  |              |      |         |            |            | 4    | 1210 | 20.3 | 6.37 | 301<br>µs/cm | 1.80           | <input checked="" type="checkbox"/> TPH-G/BTEX <u>MTSP</u> |
| $19.4 - 7.37 = 12$ 50 6 gals.  |              |      |         |            |            | 6    | 1213 | 20.0 | 6.38 | 303<br>µs/cm | 1.91           | <input checked="" type="checkbox"/> TPH Diesel _____       |
| Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input checked="" type="checkbox"/> Disp. Bailer(s) <input type="checkbox"/> Sys Port |              |      |         |            |            |      |      |      |      |              |                | <input type="checkbox"/> TOG 5520 _____                    |
| Comments:  |              |      |         |            |            |      |      |      |      |              | TIME/SAMPLE ID |  |
|  |              |      |         |            |            |      |      |      |      |              | MW-3 / 1213    |  |

# ALISTO

## Field Report / Sampling Data Sheet

ENGINEERING GROUP

Project No. 10-210-14-002

Date: 6-27-01

Address 1701 Park Street

Day: M T W T H F

3732 MT. DIABLO BOULEVARD, SUITE 270  
LAFAYETTE CA 94598 (925) 962-6970 FAX 962-6971

Contract No.  
Station No. XTRA

City: Alameda  
Sampler: *[Signature]*

| Well ID                    | epth to Wat | Diam | Cap/Locl | Product Dt | Iridescend | Gal. | Time | Temp *F | pH   | E.C. | D.O. |
|----------------------------|-------------|------|----------|------------|------------|------|------|---------|------|------|------|
| MW-4                       | 6.72        | 2"   | dr/dr    | None       | Y (N)      | 2    | 1227 | 19.5    | 6.64 | .418 | 2.11 |
| Total Depth - Water Level= |             |      |          |            |            | 3    | 1231 | 19.5    | 6.55 | .416 | 1.05 |
| x Well Vol. Factor=        |             |      |          |            |            | 4    | 1240 | 19.4    | 6.56 | .412 | 1.03 |
| x#vol. to Purge=           |             |      |          |            |            |      |      |         |      |      |      |
| Purge Vol.                 |             |      |          |            |            |      |      |         |      |      |      |

20-6 = 14 SO 7 gal

Purge Method: OSurface Pump ODisp. Tube OWinch ODisp. Bailer(s) OSys Port

Comments:

- EPA 601
  - TPH-G/BTEX *MTBE*
  - TPH Diesel
  - TOG 5520
- TIME/SAMPLE ID**  
MW-4 / 1240

| Well ID                    | epth to Wat | Diam | Cap/Locl | Product Dt | Iridescend | Gal. | Time | Temp *F | pH   | E.C. | D.O. |
|----------------------------|-------------|------|----------|------------|------------|------|------|---------|------|------|------|
| MW-1                       | 6.54        | 2"   | dr/No    | Slight     | (Y) N      | 1    | 1249 | 22.2    | 6.55 | .547 | 1.11 |
| Total Depth - Water Level= |             |      |          |            |            | 3    |      | 22.1    | 6.58 | .542 | 1.91 |
| x Well Vol. Factor=        |             |      |          |            |            | 5    | 1300 | 22.0    | 6.59 | .555 | 1.07 |
| x#vol. to Purge=           |             |      |          |            |            |      |      |         |      |      |      |
| Purge Vol.                 |             |      |          |            |            |      |      |         |      |      |      |

20-7 = 13 7 gal

Purge Method: OSurface Pump ODisp. Tube OWinch ODisp. Bailer(s) OSys Port

Comments: DUPLICATE QC-1 FOR TPH/BTEX/MTBE @ 1305

- EPA 601
  - TPH-G/BTEX *MTBE*
  - TPH Diesel
  - TOG 5520
- TIME/SAMPLE ID**  
MW-1 / 1300

| Well ID                    | epth to Wat | Diam | Cap/Locl | Product Dt | Iridescend | Gal. | Time | Temp *F | pH   | E.C. | D.O. |
|----------------------------|-------------|------|----------|------------|------------|------|------|---------|------|------|------|
| MW-2                       | 7.50        | 2"   | dr/dr    | slimy      | (Y) N      | 1    | 1304 | 21.6    | 6.64 | .960 | 1.44 |
| Total Depth - Water Level= |             |      |          |            |            | 3    |      | 21.5    | 6.61 | .874 | 0.81 |
| x Well Vol. Factor=        |             |      |          |            |            | 5    | 1317 | 21.3    | 6.63 | .877 | 0.69 |
| x#vol. to Purge=           |             |      |          |            |            |      |      |         |      |      |      |
| Purge Vol.                 |             |      |          |            |            |      |      |         |      |      |      |

20-7.5 = 12.5 6 gal

Purge Method: OSurface Pump ODisp. Tube OWinch ODisp. Bailer(s) OSys Port

Comments: PVI PPRS

- EPA 601
  - TPH-G/BTEX *MTBE*
  - TPH Diesel
  - TOG 5520
- TIME/SAMPLE ID**  
MW-2 / 1317

**LABORATORY REPORT AND CHAIN OF CUSTODY RECORD**

**APPENDIX B**



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
<http://www.mccampbell.com> E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)

|  |  |                          |
|--|--|--------------------------|
| Alisto Engineering Group<br>3732 Mt. Diablo Blvd. Ste 270<br>Lafayette, CA 94549 | Client Project ID: #10-210-14-002;<br>Groundwater Sampling | Date Sampled: 06/27/01   |
|  |  | Date Received: 07/09/01  |
|  | Client Contact: Brady Nagle                                | Date Extracted: 07/09/01 |
|  | Client P.O:  | Date Analyzed: 07/09/01  |

07/16/2001

Dear Brady:

Enclosed are:

- 1). the results of 5 samples from your #10-210-14-002; Groundwater Sampling project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly

Edward Hamilton, Lab Director



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
<http://www.mccampbell.com> E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)

|  |  |                                |
|--|--|--------------------------------|
| Alisto Engineering Group<br>3732 Mt. Diablo Blvd. Ste 270<br>Lafayette, CA 94549 | Client Project ID: #10-210-14-002;<br>Groundwater Sampling | Date Sampled: 06/27/01         |
|  | Client Contact: Brady Nagle                                | Date Received: 07/09/01        |
|  | Client P.O:  | Date Extracted: 07/09-07/10/01 |
|  |  | Date Analyzed: 07/09-07/10/01  |

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*, with Methyl tert-Butyl Ether\* & BTEX\***


EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

| Lab ID   | Client ID | Matrix | TPH(g) <sup>+</sup> | MTBE   | Benzene | Toluene | Ethyl-benzene | Xylenes | % Recovery Surrogate |
|--|-----------|--------|---------------------|--------|---------|---------|---------------|---------|----------------------|
| 72023  | MW-1      | W      | 80,000,a            | ND<250 | 2800    | 13,000  | 2300          | 10,000  | 99                   |
| 72024  | MW-2      | W      | 34,000,a,h          | 6800   | 5400    | 100     | 520           | 370     | 106                  |
| 72025  | MW-3      | W      | ND                  | ND     | ND      | ND      | ND            | ND      | 105                  |
| 72026  | MW-4      | W      | 23,000,a            | 1400   | 510     | 1100    | 1100          | 4300    | 93                   |
| 72027  | QC-1      | W      | 76,000,a            | ND<250 | 3100    | 13,000  | 2300          | 10,000  | 102                  |
|  |           |        |                     |        |         |         |               |         |                      |
|  |           |        |                     |        |         |         |               |         |                      |
|  |           |        |                     |        |         |         |               |         |                      |
|  |           |        |                     |        |         |         |               |         |                      |
|  |           |        |                     |        |         |         |               |         |                      |
|  |           |        |                     |        |         |         |               |         |                      |
|  |           |        |                     |        |         |         |               |         |                      |
|  |           |        |                     |        |         |         |               |         |                      |
|  |           |        |                     |        |         |         |               |         |                      |
|  |           |        |                     |        |         |         |               |         |                      |
|  |           |        |                     |        |         |         |               |         |                      |
|  |           |        |                     |        |         |         |               |         |                      |
| Reporting Limit unless otherwise stated; ND means not detected above the reporting limit | W         |        | 50 ug/L             | 5.0    | 0.5     | 0.5     | 0.5           | 0.5     |                      |
|  | S         |        | 1.0 mg/kg           | 0.05   | 0.005   | 0.005   | 0.005         | 0.005   |                      |

\* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

# cluttered chromatogram; sample peak coelutes with surrogate peak

\*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

 Edward Hamilton, Lab Director





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|  |  |                          |
|--|--|--------------------------|
| Alisto Engineering Group<br>3732 Mt. Diablo Blvd. Ste 270<br>Lafayette, CA 94549 | Client Project ID: #10-210-14-002;<br>Groundwater Sampling | Date Sampled: 06/27/01   |
|  | Client Contact: Brady Nagle                                | Date Received: 07/09/01  |
|  | Client P.O:  | Date Extracted: 07/09/01 |
|  |  | Date Analyzed: 07/09/01  |

**Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel \***


EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

| Lab ID   | Client ID | Matrix | TPH(d) <sup>†</sup> | % Recovery Surrogate |
|--|-----------|--------|---------------------|----------------------|
| 72023  | MW-1      | W      | 3600,d              | 97                   |
| 72024  | MW-2      | W      | 10,000,a,d,h        | 100                  |
| 72025  | MW-3      | W      | ND                  | 99                   |
| 72026  | MW-4      | W      | 2100,d              | 99                   |
|  |           |        |                     |                      |
|  |           |        |                     |                      |
|  |           |        |                     |                      |
|  |           |        |                     |                      |
|  |           |        |                     |                      |
|  |           |        |                     |                      |
|  |           |        |                     |                      |
|  |           |        |                     |                      |
|  |           |        |                     |                      |
|  |           |        |                     |                      |
|  |           |        |                     |                      |
| Reporting Limit unless otherwise stated; ND means not detected above the reporting limit | W         |        | 50 ug/L             |                      |
|  | S         |        | 1.0 mg/kg           |                      |

\* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

<sup>†</sup> cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

<sup>††</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

 Edward Hamilton, Lab Director



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## QC REPORT

### EPA 8015m + 8020

Date: 07/08/01-07/09/01

Matrix: Water

| Compound | Concentration: ug/L |    |     | %Recovery     |    | RPD |
|----------|---------------------|----|-----|---------------|----|-----|
|          | Sample              | MS | MSD | Amount Spiked | MS |     |

SampleID: 70201

Extraction: EPA 5030

Instrument: GC-7

|              |    |       |       |        |     |     |      |
|--------------|----|-------|-------|--------|-----|-----|------|
| Surrogate1   | ND | 89.0  | 104.0 | 100.00 | 89  | 104 | 15.5 |
| Xylenes      | ND | 33.0  | 35.5  | 30.00  | 110 | 118 | 7.3  |
| Ethylbenzene | ND | 10.1  | 11.3  | 10.00  | 101 | 113 | 11.2 |
| Toluene      | ND | 9.4   | 11.0  | 10.00  | 94  | 110 | 15.7 |
| Benzene      | ND | 8.1   | 9.7   | 10.00  | 81  | 97  | 18.0 |
| MTBE         | ND | 9.5   | 10.6  | 10.00  | 95  | 106 | 10.9 |
| TPH (gas)    | ND | 114.4 | 109.1 | 100.00 | 114 | 109 | 4.8  |

SampleID: 70201

Extraction: EPA 3510

Instrument: GC-11 B

|              |    |        |        |         |     |     |     |
|--------------|----|--------|--------|---------|-----|-----|-----|
| Surrogate1   | ND | 105.0  | 101.0  | 100.00  | 105 | 101 | 3.9 |
| TPH (diesel) | ND | 8075.0 | 7725.0 | 7500.00 | 108 | 103 | 4.4 |





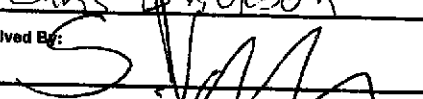
$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2 \cdot 100$$

RPD means Relative Percent Deviation

26700 ZAEG SA

ALISTO ENGINEERING GROUP  
CHAIN OF CUSTODY

| Project Information:   |         |      |   |       | Report To:   |   |   | Samples Submitted To:  |  |  |                               |  |  |
|--|---------|------|---|-------|--|---|---|--|--|--|-------------------------------|--|--|
| Project No: 10-210-14-002<br>Project Title: Groundwater Sampling<br>Location: Xtra Oil Station<br>1701 Park Avenue, Alameda  |         |      |   |       | Consultant: Alisto Engineering Group<br>Address: 3732 Mt. Diablo Boulevard, Suite 270<br>Lafayette, CA 94549<br>Contact: Brady Nagle<br>Phone: (925) 962-6970<br>Fax: (925) 962-6971 |   |   | Laboratory: McCampbell Analytical<br>Address: 110 Second Avenue, Suite D7<br>Pacheco, California<br>Contact: Ed Hamilton<br>Phone: 925.798.1620<br>Fax: 925.798.1622 |  |  |                               |  |  |
| Sampler's Name: DAN BIRCO<br>(print)<br>Sampler's Signature:    |         |      |   |       | Bill To:<br>Consultant: Xtra Oil Company<br>Address: 2307 Pacific Avenue<br>Oakland, CA 94501  |   |   | Date Results Required:<br><br>Date Report Required:  |  |  |                               |  |  |
| TURN AROUND TIME<br>RUSH <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 5 Day <input type="checkbox"/> Standard (10-14 days) <input checked="" type="checkbox"/> |         |      |   |       | ANALYSIS<br>TPH-Gasoline (EPA 8015) <input type="checkbox"/> BTEX/MTBE (EPA 8020) <input type="checkbox"/> TPH-Diesel (EPA 8015) <input type="checkbox"/>                            |   |   | 72023<br>72024<br>72025<br>72026<br>72027  |  |  |                               |  |  |
| Sample ID.      Date      # Containers      Matrix   |         |      |   |       |  |   |   | COMMENTS<br>Container / VOA<br>Preservative/ Hcl   |  |  |                               |  |  |
| + MW-1   | 6/27/01 | 1300 | 4 | Water | X  | X | X |  |  |  |                               |  |  |
| + MW-2   | ↓       | 1317 | 4 | Water | X  | X | X |  |  |  |                               |  |  |
| + MW-3   | ↓       | 1213 | 4 | Water | X  | X | X |  |  |  |                               |  |  |
| + MW-4   | ↓       | 1240 | 4 | Water | X  | X | X |  |  |  |                               |  |  |
| + QC-1   | ↓       | 1305 | 3 | Water | X  | X |   |  |  |  |                               |  |  |
|  |         |      |   |       |  |   |   | PRESERVATION APPROPRIATE CONTAINERS <input checked="" type="checkbox"/>  |  |  |                               |  |  |
|  |         |      |   |       |  |   |   | GOOD CONDITION HEAD SPACE ABSENT <input checked="" type="checkbox"/>   |  |  |                               |  |  |
| Relinquished By:    |         |      |   |       | Date: 6/27/01      Time: 1400  |   |   | Received By:   |  |  | Date: 6/27/01      Time: 1400 |  |  |
| Relinquished By:    |         |      |   |       | Date: 7/9/01      Time: 1520   |   |   | Received By: Chris Erickson  |  |  | Date: 7/09/01      Time: 1520 |  |  |
| Relinquished By: Chris Erickson  |         |      |   |       | Date: 7/9      Time: 4:03  |   |   | Received By:   |  |  | Date: 7/9      Time:          |  |  |
| SPECIAL INSTRUCTIONS:<br>Bill Xtra Oil directly for the analytical costs.  |         |      |   |       |  |   |   |  |  |  |                               |  |  |