

Alameda County  
MAY 09 2003  
Environmental Health

May 6, 2003

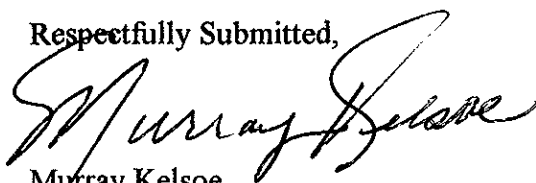
Mr. Scott O. Seery, CHMM  
Hazardous Materials Specialist  
Alameda County Health Care Services Agency  
Environmental Health Service, Environmental Protection  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

Re: **Well Sampling Report**  
Sunol Tree Gas Service Station  
3004 Andrade Road, Sunol, California 94586

Dear Mr. Seery:

This letter transmits to the Alameda County Health Care Services Agency (ACHCSA) the Well Sampling Report for activities completed to assess the extent of the petroleum release detected at the Sunol Tree Gas Service Station, 3004 Andrade Road in Sunol, California (site), prepared by my consultant the Clearwater Group.

Respectfully Submitted,



Murray Kelsoe  
Owner, Sunol Tree Gas Service Station  
3004 Andrade Road  
Sunol, CA 94586



May 6, 2003

Mr. Scott O. Seery, CHMM  
Hazardous Materials Specialist  
Alameda County Health Care Services Agency  
Environmental Health Service, Environmental Protection  
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Re: **Well Sampling Report**  
Sunol Tree Gas Service Station  
3004 Andrade Road, Sunol, California 94586

Dear Mr. Seery:

Clearwater Group, Inc. (Clearwater) on behalf of Mr. Murray Kelsoe, Sunol Tree Gas Service Station, is pleased to submit this report to the Alameda County Health Care Services Agency (ACHCSA) regarding the Well Sampling.

## **BACKGROUND**

A letter from Ms. Donna Drogos, ACHCSA, to Mr. Murray Kelsoe, dated March 20, 2003 directed Mr. Kelsoe to further the ongoing investigation near and at the Sunol Tree Gas Service Station by sampling the five wells in the apparent downgradient direction.

## **SITE DESCRIPTION**

The site contains a single one-story building used as a service station and mini-mart. It is located at 3004 Andrade Road, in the City of Sunol, County of Alameda, California. The site is bounded on the west by Andrade Road. A pasture lies west of Andrade Road. A golf driving range lies to the south. Adjacent land to the north and east is used for boarding horses, horse trailers and general outdoor storage. The northeast-southwest trending Interstate Highway 680 lies further northwest of the site by about 200 feet (Figure 1).

## **LARGE SCALE SITE PLAN**

Figure 2 shows the site orientation, and the wells near the subject property.

## SAMPLING

### Water Wells near Sunol Tree Gas Service Station

Ms. Drogos' letter identified five wells that appear to be in the downgradient direction of the site. The ACHCSA requested Mr. Kelsoe to take confirmation samples from the following wells: 4S/1E-20-G2, 4S/1E-20-A1, 4S/1E-20-B1, 4S/1E-20-A1, and 4S/1E-20-H2 (Figure 2).

#### 4S/1E-20-G2

This well is owned by Helen Hayes and Roy Tovani, located at the T-Bear Ranch at 3000 Andrade Road. It is inside a small barn structure 327 feet east of Andrade Road, and 36 feet south of the gravel road traveled to get to the residence which is 12 feet east of the well (Figure 2). Mr. Tovani reported that the weekend usage ranged between 730 to 1400 gallons, and weekday usage ranged between 235 to 400 gallons. The depth of the well is unknown, and the sample was collected at the faucet closest to the well.

#### 4S/1E-20-A1

This well is owned by Mort Calvert, located at 7587 Athenour Way near the Berkeley Ready Mix facility (doing business as The Sunset Riding Academy). It is inside a small wooden structure, 137 feet south of Athenour Way, and a distance of 388 feet to the east of Andrade Road (Figure 2). The pump on top of this well was too heavy to move during sampling, but the power to the well was operational and was turned on for sampling. The pump was left on for 1 to 2 minutes and the discharge water went from clear, colorless to red. The depth of the well is unknown.

#### 4S/1E-20-B1

This well is owned by Mort Calvert, located at 7645 Athenour Way near the Berkeley Ready Mix facility. It is inside a small red painted wooden structure, 50 feet east of 4S/1E-20-A1, and 135 feet south of Athenour Way, approximately 440 feet east of Andrade Road (Figure 2). This well was observed to be constructed of a 12-inch diameter steel casing; depth to water was 9.85 feet below ground surface (bgs). It was sampled with a disposable bailer. The depth of the well is unknown.

?  
approx 115'  
east on  
map

#### 4S/1E-20-A2

This well is owned by John Franco, located at the Country Drives Golf Center at 3220 Andrade Road. This well is outside of a white painted wooden structure, 388 feet east of Andrade Road, and 402 feet west of 4S/1E-20-H2, west of Quarry Road (Figure 2). The sample was collected at the spigot after the holding tank but before the distribution line. The depth of the well is unknown.

#### 4S/1E-20-H2

This well is owned by Mort Calvert, located at the Berkeley Ready Mix facility near Quarry Road. This well is free standing in the middle of a very low maintained field, approximately 20 feet west of a dirt road, approximately 800 feet east of Andrade Road (Figure 2). The

*The well described is not H2 as shown on map*

pump was operational and the pump was left on for 1 to 2 minutes before sampling. The discharge water remained clear. The well was observed to be constructed of a 12-inch diameter steel casing; the depth to water was 16.5 bgs. The depth of the well is unknown.

## **SAMPLE RESULTS**

Zone 7 Water Agency collected two water samples from wells 4S/1E-20-A2, and 4S/1E-20-G2 on March 3, 2003, and analyzed for U.S. EPA method 524.2 for drinking water standards at the Zone 7 Water Quality Laboratory. All constituents returned below reporting limits with the exception of MTBE in both wells. 4S/1E-20-A2 sample returned a concentration of MTBE at the reporting limit of 0.5 micrograms per liter (ug/L). Well 4S/1E-20-G2 returned a concentration of MTBE at 130 ug/L (Table 1).

Clearwater collected water samples on April 10, 2003 after obtaining permission from the property owners to come onto their property. Clearwater sent these samples to Kiff Analytical, a California State-certified laboratory, for analysis under chain-of-custody. The water samples were analyzed for Total Petroleum Hydrocarbons as gasoline, Methyl Tertiary Butyl Ether (MTBE), and Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX) by U.S. EPA Method 8260B per ACHSCA request

Four wells sampled below reporting limits or non-detected for constituents analyzed (Table 2). One sample, 4S/1E-20-G2, returned 120 ug/L of MTBE and 0.73 ug/L of Tertiary Amyl Methyl Ether (TAME).

## **RECOMMENDATION**

Clearwater recommends shutting down this well, and plumbing to Mr. Tovani's property with either a 4-inch or a 6-inch diameter polyvinyl chloride piping. This solution provides protection for human health and the environment, with the least cost, while the soil and water investigation is underway at the site.

Please call Mr. Brian Pierskalla at (510) 307-9943 if you have any questions.

## **ATTACHMENTS**

### **FIGURES**

1. **Site Location Map**
2. **Large Scale Site Plan**

### **TABLES**

1. **Zone 7 Water Agency Groundwater Sampling**
2. **Clearwater Group Groundwater Sampling**

### **APPENDIX**

- A. **Laboratory Results**



Cc: Mr. Murray Kelsoe, Owner, Sunol Tree Gas (2 copies), 3004 Andrade Road, Sunol, CA 94586  
Mr. Jeffrey Lawson, Silicon Valley Law Group, 152 North Third Street, Suite 900, San Jose, CA 95112  
Mr. Roy Tovani, T-Bear Ranch, 3000 Andrade Road, Sunol, CA 94586  
Mr. Mort Calvert, Berkeley Ready Mix, 7587 Athenour Way, Sunol, CA 94586  
Mr. John Franco, Country Drive Golf Center, 3220 Andrade Road, Sunol, CA 94586  
Ms. Betty Graham, SFRWQCB (2 copies), 1515 Clay Street, Suite 1400, Oakland, CA 94612  
Mr. Matt Katen, Zone 7 Water Agency, 5997 Parkside Drive, Pleasanton, CA 94588-5217  
Susan Torrence, Esq., Alameda County District Attorneys' Office, 7677 Oakport Suite 650, Oakland, CA 94621  
Mr. Scott Haggerty, Alameda County Board of Supervisors, 1221 Oak Street, Suite 536, Oakland, CA 94612  
Ms. Shari Knieriem, SWRCB UST Fund, P.O. Box 94421, Sacramento, CA 94244-2120



## Certification

This report was prepared under the supervision of a professional Registered Geologist in the State of California. All statements, conclusions and recommendations are based solely upon published results from previous consultants, field observations by Clearwater and laboratory analysis performed by a California State-certified laboratory related to the work performed by Clearwater.

Information and interpretation presented herein are for the sole use of the client and regulating agency. The information and interpretation contained in this document should not be relied upon by a third party.

The service performed by Clearwater has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

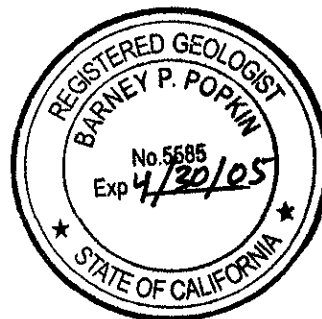
## CLEARWATER GROUP

A handwritten signature in cursive script that reads "Brian A. Pierskalla".

Brian A. Pierskalla  
Project Manager

A handwritten signature in cursive script that reads "Barney P. Popkin".

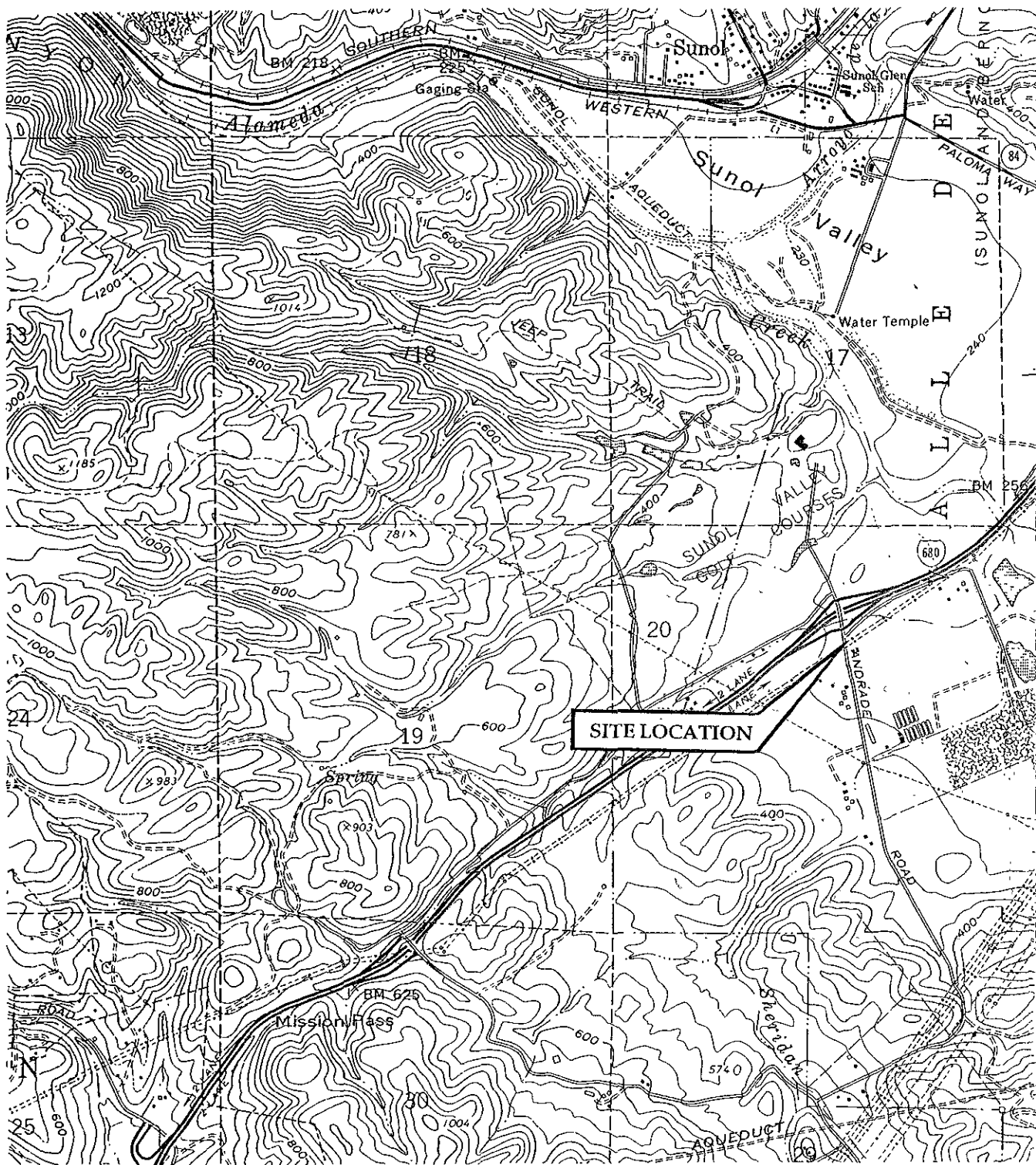
Barney P. Popkin, R.G., No. 5585  
Registered Geologist



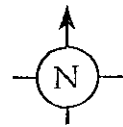
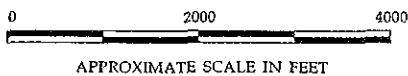


## **FIGURES**

1. **Site Location Map**
2. **Large Scale Site Plan**



SOURCE USGS 7.5 MINUTE TOPOGRAPHIC MAPS  
 NILES, CALIFORNIA, 1961, PHOTOREVISED 1980

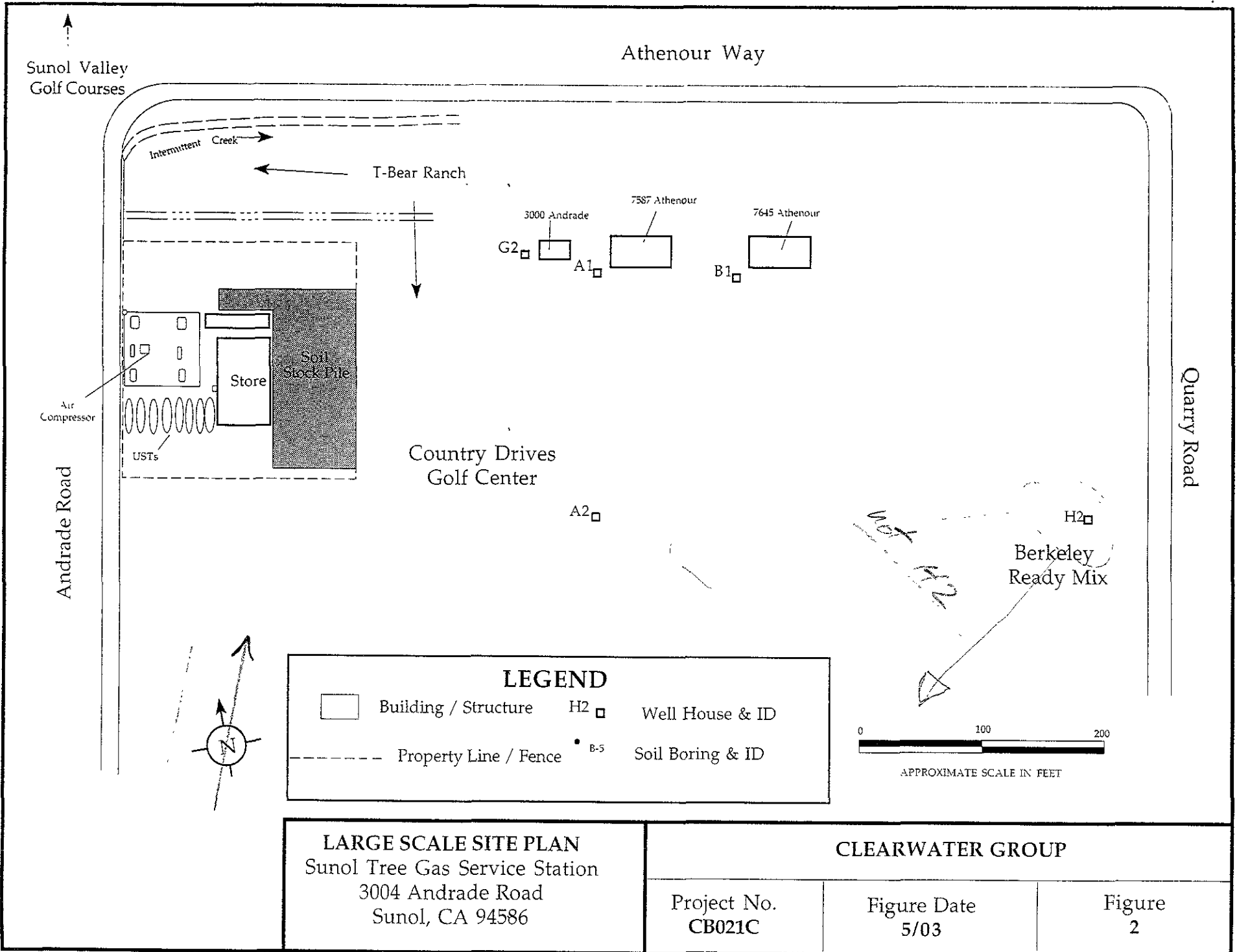


**SITE LOCATION MAP**  
 Sunol Tree Gas Service Station  
 3400 Andrade Road,  
 Sunol, California

**CLEARWATER GROUP, INC.**

|                       |                     |             |
|-----------------------|---------------------|-------------|
| Project No.<br>CB021C | Figure Date<br>5/03 | Figure<br>1 |
|-----------------------|---------------------|-------------|





**LEGEND**

|                       |                  |
|-----------------------|------------------|
| Building / Structure  | Well House & ID  |
| Property Line / Fence | Soil Boring & ID |

**LARGE SCALE SITE PLAN**  
 Sunol Tree Gas Service Station  
 3004 Andrade Road  
 Sunol, CA 94586

|                         |                     |             |
|-------------------------|---------------------|-------------|
| <b>CLEARWATER GROUP</b> |                     |             |
| Project No.<br>CB021C   | Figure Date<br>5/03 | Figure<br>2 |

5/2/03



## TABLES

1. Zone 7 Water Agency Groundwater Sampling
2. Clearwater Group Groundwater Sampling

**Table 1**  
**Zone 7 Water Agency Groundwater Sampling**  
**Sunol Tree Gas Service Station**  
**3004 Andrade Road, Sunol, CA**  
**Clearwater Project Number: CP021C**

| Sample I.D. | Sample Date | B<br>μg/L | T<br>μg/L | E<br>μg/L | X<br>μg/L | MTBE<br>μg/L | DIPE<br>μg/L | TAME<br>μg/L |
|-------------|-------------|-----------|-----------|-----------|-----------|--------------|--------------|--------------|
| 4S/1E-20-A2 | 3/3/03      | <0.50     | <0.50     | <0.50     | <0.50     | <b>0.50</b>  | <0.50        | <0.50        |
| 4S/1E-20-G2 | 3/3/03      | <0.50     | <0.50     | <0.50     | <0.50     | <b>130</b>   | <0.50        | <0.50        |

Notes: Samples were analyzed for U.S. EPA method 524.2

|        |                             |        |  |
|--------|-----------------------------|--------|--|
| B =    | Benzene                     | ETBE = | Ethyl tertiary butyl ether               |
| T =    | Toluene                     | TAME = | Tertiary amyl methyl ether               |
| E =    | Ethylbenzene                | TPHg = | Total petroleum hydrocarbons as gasoline |
| X =    | Total Xylenes               | μg/L = | Micrograms per liter                     |
| MTBE = | Methyl tertiary butyl ether | <XXX=  | Analytical laboratory detection limit    |
| DIPE = | Diisopropyl ether           |        |  |

Table 2  
 Clearwater Group Groundwater Sampling  
 Sunol Tree Gas Service Station  
 3004 Andrade Road, Sunol, CA  
 Clearwater Project Number: CP021C

| Sample I.D. | Sample Date | B<br>µg/L | T<br>µg/L | E<br>µg/L | X<br>µg/L | MTBE<br>µg/L | DIPE<br>µg/L | ETBE<br>µg/L | TAME<br>µg/L | Tertiary Butanol<br>µg/L | Ethanol<br>µg/L | TPHg<br>µg/L |
|-------------|-------------|-----------|-----------|-----------|-----------|--------------|--------------|--------------|--------------|--------------------------|-----------------|--------------|
| 4S/1E-20-G2 | 4/10/03     | <0.50     | <0.50     | <0.50     | <0.50     | <b>120</b>   | <0.50        | <0.50        | <b>0.73</b>  | <5.0                     | <5.0            | <50          |
| 4S/1E-20-A1 | 4/10/03     | <0.50     | <0.50     | <0.50     | <0.50     | <0.50        | <0.50        | <0.50        | <0.50        | <5.0                     | <5.0            | <50          |
| 4S/1E-20-B1 | 4/10/03     | <0.50     | <0.50     | <0.50     | <0.50     | <0.50        | <0.50        | <0.50        | <0.50        | <5.0                     | <5.0            | <50          |
| 4S/1E-20-H2 | 4/10/03     | <0.50     | <0.50     | <0.50     | <0.50     | <0.50        | <0.50        | <0.50        | <0.50        | <5.0                     | <5.0            | <50          |
| 4S/1E-20-A2 | 4/10/03     | <0.50     | <0.50     | <0.50     | <0.50     | <0.50        | <0.50        | <0.50        | <0.50        | <5.0                     | <5.0            | <50          |

Notes: Samples were analyzed for U.S. EPA method 8260B

B = Benzene  
 T = Toluene  
 E = Ethylbenzene  
 X = Total Xylenes  
 MTBE = Methyl tertiary butyl ether  
 DIPE = Diisopropyl ether

ETBE = Ethyl tertiary butyl ether  
 TAME = Tertiary amyl methyl ether  
 TPHg = Total petroleum hydrocarbons as gasoline  
 µg/L = Micrograms per liter  
 <XXX= Analytical laboratory detection limit

5/6/03



## **APPENDIX A**

### **Laboratory Results**

EO 2448

### Zone 7 Water Quality Laboratory

### MEMORANDUM

3/10/03

To: Colleen Winey

From: Gurpal Deol *[Signature]*

Subject: VOC Analysis

Two samples collected and submitted by you on 3/3/03 were analyzed by EPA method 524.2 on 3/4/03. All applicable quality control parameters were within laboratory control limits. Only analyte detected in both samples was MTBE. Attached reports list all the VOCs monitored on these samples. Due to high MTBE concentration, sample 4S/1E 20G2 was diluted and reanalyzed. Please advise if you have any comments or questions.

← WORSE SAMPLE FROM DOMESTIC WELL @ 3000 ANDREASE RD. T-BEAR RANCH

D. Deol  
03/21/03

|                   |                |         |                   |            |   |
|-------------------|----------------|---------|-------------------|------------|---|
| Post-It™ Fax Note | 7671           | Date    | 3-11-03           | # of pages | 3 |
| To                | Donna Dragos   | From    | Colleen Winey     |            |   |
| Co./Dept.         | ACEHS          | Co.     | Zone 7 Water      |            |   |
| Phone #           |                | Phone # | 925-689-4705 x258 |            |   |
| Fax #             | (510) 337-9335 | Fax #   |                   |            |   |

|                                     |                         |            |              |
|-------------------------------------|-------------------------|------------|--------------|
| Post-It™ brand fax transmittal memo | 7671                    | # of pages | 3            |
| To                                  | Brian P.                | From       | S. Seery     |
| Co.                                 | Clearwater              | Co.        | ACDEH        |
| Dept.                               |                         | Phone #    | 510-567-6783 |
| Fax #                               | <del>302</del> 232-2823 | Fax #      |              |

### ZONE 7 WATER QUALITY LABORATORY

Well Number: 4S/1E 20G2

Date Sampled: 03/03/2003

Lab Sample ID: 030150

Date Analyzed: 03/04/2003

EPA Method: 524.2

| Analyte                                  | Concentration |             | Analyte                          | Concentration |             |
|--|---------------|-------------|----------------------------------|---------------|-------------|
|  | Found<br>ug/L | MRL<br>ug/L |                                  | Found<br>ug/L | MRL<br>ug/L |
| Dichlorodifluoromethane                  | ND            | 0.5         | 1,3-Dichloropropane              | ND            | 0.5         |
| Chloromethane                            | ND            | 0.5         | Dibromochloromethane             | ND            | 0.5         |
| <b>Vinyl chloride</b>                    | <b>ND</b>     | <b>0.5</b>  | 1,2-Dibromoethane                | ND            | 0.5         |
| Bromomethane                             | ND            | 0.5         | <b>Tetrachloroethene</b>         | <b>ND</b>     | <b>0.5</b>  |
| Chloroethane                             | ND            | 0.5         | <b>Chlorobenzene</b>             | <b>ND</b>     | <b>0.5</b>  |
| <b>Trichlorofluoromethane</b>            | <b>ND</b>     | <b>0.5</b>  | 1,1,1,2-Tetrachloroethane        | ND            | 0.5         |
| <b>1,1-Dichloroethene</b>                | <b>ND</b>     | <b>0.5</b>  | <b>Ethylbenzene</b>              | <b>ND</b>     | <b>0.5</b>  |
| <b>Freon 113</b>                         | <b>ND</b>     | <b>0.5</b>  | <b>m &amp; p-Xylene</b>          | <b>ND</b>     | <b>0.5</b>  |
| <b>Methylene Chloride</b>                | <b>ND</b>     | <b>0.5</b>  | Bromoform                        | ND            | 0.5         |
| <b>trans-1,2-Dichloroethene</b>          | <b>ND</b>     | <b>0.5</b>  | <b>Styrene</b>                   | <b>ND</b>     | <b>0.5</b>  |
| <b>Methyl-tertiary-butylether (MTBE)</b> | <b>130</b>    | <b>0.5</b>  | <b>o-Xylene</b>                  | <b>ND</b>     | <b>0.5</b>  |
| 1,1-Dichloroethane                       | ND            | 0.5         | <b>1,1,2,2-Tetrachloroethane</b> | <b>ND</b>     | <b>0.5</b>  |
| Diisopropyl ether (DIPE)                 | ND            | 0.5         | 1,2,3-Trichloropropane           | ND            | 0.5         |
| <b>cis-1,2-Dichloroethene</b>            | <b>ND</b>     | <b>0.5</b>  | Isopropylbenzene                 | ND            | 0.5         |
| 2,2-Dichloropropane                      | ND            | 0.5         | Bromobenzene                     | ND            | 0.5         |
| Bromochloromethane                       | ND            | 0.5         | n-Propylbenzene                  | ND            | 0.5         |
| Chloroform                               | ND            | 0.5         | 2-Chlorotoluene                  | ND            | 0.5         |
| tert-Butyl ethyl ether                   | ND            | 0.5         | 4-Chlorotoluene                  | ND            | 0.5         |
| <b>1,1,1-Trichloroethane</b>             | <b>ND</b>     | <b>0.5</b>  | 1,3,5-Trimethylbenzene           | ND            | 0.5         |
| <b>1,2-Dichloroethane</b>                | <b>ND</b>     | <b>0.5</b>  | ter-Butylbenzene                 | ND            | 0.5         |
| 1,1-Dichloropropene                      | ND            | 0.5         | 1,2,4-Trimethylbenzene           | ND            | 0.6         |
| <b>Benzene</b>                           | <b>ND</b>     | <b>0.5</b>  | sec-Butylbenzene                 | ND            | 0.5         |
| <b>Carbon Tetrachloride</b>              | <b>ND</b>     | <b>0.5</b>  | 1,3-Dichlorobenzene              | ND            | 0.5         |
| tert-Amyl methyl ether (TAME)            | ND            | 0.5         | <b>1,4-Dichlorobenzene</b>       | <b>ND</b>     | <b>0.5</b>  |
| <b>1,2-Dichloropropane</b>               | <b>ND</b>     | <b>0.5</b>  | p-Isopropyltoluene               | ND            | 0.6         |
| <b>Trichloroethene</b>                   | <b>ND</b>     | <b>0.5</b>  | <b>1,2-Dichlorobenzene</b>       | <b>ND</b>     | <b>0.5</b>  |
| Dibromomethane                           | ND            | 0.5         | n-Butylbenzene                   | ND            | 0.5         |
| Bromodichloromethane                     | ND            | 0.5         | 1,2-Dibromo-3-Chloropropane      | ND            | 0.5         |
| <b>cis-1,3-Dichloropropene</b>           | <b>ND</b>     | <b>0.5</b>  | <b>1,2,4-Trichlorobenzene</b>    | <b>ND</b>     | <b>0.5</b>  |
| <b>trans-1,3-Dichloropropene</b>         | <b>ND</b>     | <b>0.5</b>  | Naphtalene                       | ND            | 0.5         |
| Toluene                                  | ND            | 0.5         | Hexachlorobutadiene              | ND            | 0.5         |
| <b>1,1,2-Trichloroethane</b>             | <b>ND</b>     | <b>0.5</b>  | 1,2,3-Trichlorobenzene           | ND            | 0.5         |

Regulated chemicals are boldfaced.

ND = Not detected at or above MRL

MRL = Minimum Reporting Level

Revised: 03/03/03

3200/3220 Auaroche  
- Golf Range

## ZONE 7 WATER QUALITY LABORATORY

Well Number: 4S/1E 20A2

Date Sampled: 03/03/2003

Lab Sample ID: 030151

Date Analyzed: 03/04/2003

EPA Method: 524.2

| Analyte                                  | Concentration |             | Analyte                          | Concentration |             |
|--|---------------|-------------|----------------------------------|---------------|-------------|
|  | Found<br>ug/L | MRL<br>ug/L |                                  | Found<br>ug/L | MRL<br>ug/L |
| Dichlorodifluoromethane                  | ND            | 0.5         | 1,3-Dichloropropane              | ND            | 0.5         |
| Chloromethane                            | ND            | 0.5         | Dibromochloromethane             | ND            | 0.5         |
| <b>Vinyl chloride</b>                    | ND            | 0.5         | 1,2-Dibromoethane                | ND            | 0.5         |
| Bromomethane                             | ND            | 0.5         | <b>Tetrachloroethene</b>         | ND            | 0.5         |
| Chloroethane                             | ND            | 0.5         | <b>Chlorobenzene</b>             | ND            | 0.5         |
| <b>Trichlorofluoromethane</b>            | ND            | 0.5         | 1,1,1,2-Tetrachloroethane        | ND            | 0.5         |
| <b>1,1-Dichloroethene</b>                | ND            | 0.5         | <b>Ethylbenzene</b>              | ND            | 0.5         |
| <b>Freon 113</b>                         | ND            | 0.5         | <b>m &amp; p-Xylene</b>          | ND            | 0.5         |
| <b>Methylene Chloride</b>                | ND            | 0.5         | Bromoform                        | ND            | 0.5         |
| <b>trans-1,2-Dichloroethene</b>          | ND            | 0.5         | <b>Styrene</b>                   | ND            | 0.5         |
| <b>Methyl-tertiary-butylether (MTBE)</b> | 0.5           | 0.5         | <b>o-Xylene</b>                  | ND            | 0.5         |
| 1,1-Dichloroethane                       | ND            | 0.5         | <b>1,1,2,2-Tetrachloroethane</b> | ND            | 0.5         |
| Diisopropyl ether (DIPE)                 | ND            | 0.5         | 1,2,3-Trichloropropane           | ND            | 0.5         |
| <b>cis-1,2-Dichloroethene</b>            | ND            | 0.5         | Isopropylbenzene                 | ND            | 0.5         |
| 2,2-Dichloropropane                      | ND            | 0.5         | Bromobenzene                     | ND            | 0.5         |
| Bromochloromethane                       | ND            | 0.5         | n-Propylbenzene                  | ND            | 0.5         |
| Chloroform                               | ND            | 0.5         | 2-Chlorotoluene                  | ND            | 0.5         |
| tert-Butyl ethyl ether                   | ND            | 0.5         | 4-Chlorotoluene                  | ND            | 0.5         |
| <b>1,1,1-Trichloroethane</b>             | ND            | 0.5         | 1,3,5-Trimethylbenzene           | ND            | 0.5         |
| <b>1,2-Dichloroethane</b>                | ND            | 0.5         | ter-Butylbenzene                 | ND            | 0.5         |
| 1,1-Dichloropropene                      | ND            | 0.5         | 1,2,4-Trimethylbenzene           | ND            | 0.5         |
| <b>Benzene</b>                           | ND            | 0.5         | sec-Butylbenzene                 | ND            | 0.5         |
| <b>Carbon Tetrachloride</b>              | ND            | 0.5         | 1,3-Dichlorobenzene              | ND            | 0.5         |
| tert-Amyl methyl ether (TAME)            | ND            | 0.5         | <b>1,4-Dichlorobenzene</b>       | ND            | 0.5         |
| <b>1,2-Dichloropropane</b>               | ND            | 0.5         | p-Isopropyltoluene               | ND            | 0.5         |
| <b>Trichloroethene</b>                   | ND            | 0.5         | <b>1,2-Dichlorobenzene</b>       | ND            | 0.5         |
| Dibromomethane                           | ND            | 0.5         | n-Butylbenzene                   | ND            | 0.5         |
| Bromodichloromethane                     | ND            | 0.5         | 1,2-Dibromo-3-Chloropropane      | ND            | 0.5         |
| <b>cis-1,3-Dichloropropene</b>           | ND            | 0.5         | <b>1,2,4-Trichlorobenzene</b>    | ND            | 0.5         |
| <b>trans-1,3-Dichloropropene</b>         | ND            | 0.5         | Naphtalene                       | ND            | 0.5         |
| Toluene                                  | ND            | 0.5         | Hexachlorobutadiene              | ND            | 0.5         |
| <b>1,1,2-Trichloroethane</b>             | ND            | 0.5         | 1,2,3-Trichlorobenzene           | ND            | 0.5         |

Regulated chemicals are boldfaced.

ND = Not detected at or above MRL

MRL = Minimum Reporting Level

Revised: 03/03/03





Report Number : 32677

Date : 4/11/2003

Brian Pierskalla  
Clearwater Group  
229 Tewksbury Ave  
Point Richmond, CA 94801

Subject : 5 Water Samples  
Project Name : SUNOL-DOMESTIC WELL SURVEY  
Project Number : CB021C  
P.O. Number : 8687

Dear Mr. Pierskalla,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,



Joel Kiff



Report Number : 32677

Date : 4/11/2003

Project Name : **SUNOL-DOMESTIC WELL SURVEY**

Project Number : **CB021C**

Sample : **4S/1E-20-G2**

Matrix : Water

Lab Number : 32677-01

Sample Date :4/10/2003

| Parameter                            | Measured Value | Method Reporting Limit | Units      | Analysis Method | Date Analyzed |
|--------------------------------------|----------------|------------------------|------------|-----------------|---------------|
| <b>Benzene</b>                       | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/10/2003     |
| <b>Toluene</b>                       | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/10/2003     |
| <b>Ethylbenzene</b>                  | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/10/2003     |
| <b>Total Xylenes</b>                 | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/10/2003     |
| <b>Methyl-t-butyl ether (MTBE)</b>   | 120            | 0.50                   | ug/L       | EPA 8260B       | 4/10/2003     |
| <b>Diisopropyl ether (DIPE)</b>      | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/10/2003     |
| <b>Ethyl-t-butyl ether (ETBE)</b>    | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/10/2003     |
| <b>Tert-amyl methyl ether (TAME)</b> | 0.73           | 0.50                   | ug/L       | EPA 8260B       | 4/10/2003     |
| <b>Tert-Butanol</b>                  | < 5.0          | 5.0                    | ug/L       | EPA 8260B       | 4/10/2003     |
| <b>Ethanol</b>                       | < 5.0          | 5.0                    | ug/L       | EPA 8260B       | 4/10/2003     |
| <b>TPH as Gasoline</b>               | < 50           | 50                     | ug/L       | EPA 8260B       | 4/10/2003     |
| Toluene - d8 (Surr)                  | 101            |                        | % Recovery | EPA 8260B       | 4/10/2003     |
| 4-Bromofluorobenzene (Surr)          | 99.9           |                        | % Recovery | EPA 8260B       | 4/10/2003     |

Approved By:  Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



Report Number : 32677

Date : 4/11/2003

Project Name : **SUNOL-DOMESTIC WELL SURVEY**

Project Number : **CB021C**

Sample : **4S/1E-20-A1**

Matrix : Water

Lab Number : 32677-02

Sample Date :4/10/2003

| Parameter                            | Measured Value   | Method Reporting Limit | Units      | Analysis Method | Date Analyzed |
|--------------------------------------|------------------|------------------------|------------|-----------------|---------------|
| <b>Benzene</b>                       | <b>&lt; 0.50</b> | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Toluene</b>                       | <b>&lt; 0.50</b> | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Ethylbenzene</b>                  | <b>&lt; 0.50</b> | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Total Xylenes</b>                 | <b>&lt; 0.50</b> | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Methyl-t-butyl ether (MTBE)</b>   | <b>&lt; 0.50</b> | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Diisopropyl ether (DIPE)</b>      | <b>&lt; 0.50</b> | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Ethyl-t-butyl ether (ETBE)</b>    | <b>&lt; 0.50</b> | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Tert-amyl methyl ether (TAME)</b> | <b>&lt; 0.50</b> | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Tert-Butanol</b>                  | <b>&lt; 5.0</b>  | 5.0                    | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Ethanol</b>                       | <b>&lt; 5.0</b>  | 5.0                    | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>TPH as Gasoline</b>               | <b>&lt; 50</b>   | 50                     | ug/L       | EPA 8260B       | 4/11/2003     |
| Toluene - d8 (Surr)                  | 101              |                        | % Recovery | EPA 8260B       | 4/11/2003     |
| 4-Bromofluorobenzene (Surr)          | 100              |                        | % Recovery | EPA 8260B       | 4/11/2003     |

Approved By:  Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



Report Number : 32677

Date : 4/11/2003

Project Name : **SUNOL-DOMESTIC WELL SURVEY**

Project Number : **CB021C**

Sample : **4S/1E-20-B1**

Matrix : Water

Lab Number : 32677-03

Sample Date :4/10/2003

| Parameter                            | Measured Value | Method Reporting Limit | Units      | Analysis Method | Date Analyzed |
|--------------------------------------|----------------|------------------------|------------|-----------------|---------------|
| <b>Benzene</b>                       | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Toluene</b>                       | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Ethylbenzene</b>                  | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Total Xylenes</b>                 | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Methyl-t-butyl ether (MTBE)</b>   | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Diisopropyl ether (DIPE)</b>      | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Ethyl-t-butyl ether (ETBE)</b>    | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Tert-amyl methyl ether (TAME)</b> | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Tert-Butanol</b>                  | < 5.0          | 5.0                    | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Ethanol</b>                       | < 5.0          | 5.0                    | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>TPH as Gasoline</b>               | < 50           | 50                     | ug/L       | EPA 8260B       | 4/11/2003     |
| Toluene - d8 (Surr)                  | 101            |                        | % Recovery | EPA 8260B       | 4/11/2003     |
| 4-Bromofluorobenzene (Surr)          | 100            |                        | % Recovery | EPA 8260B       | 4/11/2003     |

Approved By:  Joel Kiff



Report Number : 32677

Date : 4/11/2003

Project Name : **SUNOL-DOMESTIC WELL SURVEY**

Project Number : **CB021C**

Sample : **4S/1E-20-H2**

Matrix : Water

Lab Number : 32677-04

Sample Date :4/10/2003

| Parameter                            | Measured Value | Method Reporting Limit | Units      | Analysis Method | Date Analyzed |
|--------------------------------------|----------------|------------------------|------------|-----------------|---------------|
| <b>Benzene</b>                       | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Toluene</b>                       | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Ethylbenzene</b>                  | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Total Xylenes</b>                 | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Methyl-t-butyl ether (MTBE)</b>   | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Diisopropyl ether (DIPE)</b>      | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Ethyl-t-butyl ether (ETBE)</b>    | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Tert-amyl methyl ether (TAME)</b> | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Tert-Butanol</b>                  | < 5.0          | 5.0                    | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Ethanol</b>                       | < 5.0          | 5.0                    | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>TPH as Gasoline</b>               | < 50           | 50                     | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Toluene - d8 (Surr)</b>           | 100            |                        | % Recovery | EPA 8260B       | 4/11/2003     |
| <b>4-Bromofluorobenzene (Surr)</b>   | 101            |                        | % Recovery | EPA 8260B       | 4/11/2003     |

Approved By:  Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800



Report Number : 32677

Date : 4/11/2003

Project Name : **SUNOL-DOMESTIC WELL SURVEY**

Project Number : **CB021C**

Sample : **4S/1E-20-A2**

Matrix : Water

Lab Number : 32677-05

Sample Date :4/10/2003

| Parameter                            | Measured Value | Method Reporting Limit | Units      | Analysis Method | Date Analyzed |
|--------------------------------------|----------------|------------------------|------------|-----------------|---------------|
| <b>Benzene</b>                       | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Toluene</b>                       | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Ethylbenzene</b>                  | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Total Xylenes</b>                 | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Methyl-t-butyl ether (MTBE)</b>   | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Diisopropyl ether (DIPE)</b>      | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Ethyl-t-butyl ether (ETBE)</b>    | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Tert-amyl methyl ether (TAME)</b> | < 0.50         | 0.50                   | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Tert-Butanol</b>                  | < 5.0          | 5.0                    | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>Ethanol</b>                       | < 5.0          | 5.0                    | ug/L       | EPA 8260B       | 4/11/2003     |
| <b>TPH as Gasoline</b>               | < 50           | 50                     | ug/L       | EPA 8260B       | 4/11/2003     |
| Toluene - d8 (Surr)                  | 101            |                        | % Recovery | EPA 8260B       | 4/11/2003     |
| 4-Bromofluorobenzene (Surr)          | 99.4           |                        | % Recovery | EPA 8260B       | 4/11/2003     |

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Report Number : 32677

Date : 4/11/2003

**QC Report : Method Blank Data**

Project Name : **SUNOL-DOMESTIC WELL SURVEY**

Project Number : **CB021C**

| <u>Parameter</u>              | <u>Measured Value</u> | <u>Method Reporting Limit</u> | <u>Units</u> | <u>Analysis Method</u> | <u>Date Analyzed</u> |
|-------------------------------|-----------------------|-------------------------------|--------------|------------------------|----------------------|
| Benzene                       | < 0.50                | 0.50                          | ug/L         | EPA 8260B              | 4/10/2003            |
| Toluene                       | < 0.50                | 0.50                          | ug/L         | EPA 8260B              | 4/10/2003            |
| Ethylbenzene                  | < 0.50                | 0.50                          | ug/L         | EPA 8260B              | 4/10/2003            |
| Total Xylenes                 | < 0.50                | 0.50                          | ug/L         | EPA 8260B              | 4/10/2003            |
| Methyl-t-butyl ether (MTBE)   | < 0.50                | 0.50                          | ug/L         | EPA 8260B              | 4/10/2003            |
| Diisopropyl ether (DIPE)      | < 0.50                | 0.50                          | ug/L         | EPA 8260B              | 4/10/2003            |
| Ethyl-t-butyl ether (ETBE)    | < 0.50                | 0.50                          | ug/L         | EPA 8260B              | 4/10/2003            |
| Tert-amyl methyl ether (TAME) | < 0.50                | 0.50                          | ug/L         | EPA 8260B              | 4/10/2003            |
| Tert-Butanol                  | < 5.0                 | 5.0                           | ug/L         | EPA 8260B              | 4/10/2003            |
| Ethanol                       | < 5.0                 | 5.0                           | ug/L         | EPA 8260B              | 4/10/2003            |
| TPH as Gasoline               | < 50                  | 50                            | ug/L         | EPA 8260B              | 4/10/2003            |
| Toluene - d8 (Surr)           | 102                   |                               | %            | EPA 8260B              | 4/10/2003            |
| 4-Bromofluorobenzene (Surr)   | 98.2                  |                               | %            | EPA 8260B              | 4/10/2003            |

| <u>Parameter</u> | <u>Measured Value</u> | <u>Method Reporting Limit</u> | <u>Units</u> | <u>Analysis Method</u> | <u>Date Analyzed</u> |
|------------------|-----------------------|-------------------------------|--------------|------------------------|----------------------|
|------------------|-----------------------|-------------------------------|--------------|------------------------|----------------------|

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Approved By:  \_\_\_\_\_  
Joel Kiff

Report Number : 32677

Date : 4/11/2003

**QC Report : Matrix Spike/ Matrix Spike Duplicate**

Project Name : **SUNOL-DOMESTIC WELL**

Project Number : **CB021C**

| Parameter            | Spiked Sample | Sample Value | Spike Level | Spike Dup. Level | Spiked Sample Value | Duplicate Spiked Sample Value | Units | Analysis Method | Date Analyzed | Spiked Sample Percent Recov. | Duplicate Spiked Sample Percent Recov. | Relative Percent Diff. | Spiked Sample Percent Recov. Limit | Relative Percent Diff. Limit |
|----------------------|---------------|--------------|-------------|------------------|---------------------|-------------------------------|-------|-----------------|---------------|------------------------------|--|------------------------|------------------------------------|------------------------------|
| Benzene              | 32648-02      | 34           | 40.0        | 40.0             | 74.2                | 71.1                          | ug/L  | EPA 8260B       | 4/10/03       | 101                          | 93.6                                   | 7.98                   | 70-130                             | 25                           |
| Toluene              | 32648-02      | 12           | 40.0        | 40.0             | 52.8                | 51.0                          | ug/L  | EPA 8260B       | 4/10/03       | 102                          | 97.0                                   | 4.58                   | 70-130                             | 25                           |
| Tert-Butanol         | 32648-02      | <5.0         | 200         | 200              | 221                 | 216                           | ug/L  | EPA 8260B       | 4/10/03       | 110                          | 108                                    | 2.53                   | 70-130                             | 25                           |
| Methyl-t-Butyl Ether | 32648-02      | <0.50        | 40.0        | 40.0             | 48.0                | 45.6                          | ug/L  | EPA 8260B       | 4/10/03       | 120                          | 114                                    | 4.98                   | 70-130                             | 25                           |

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Approved By:  Joel Kiff



Report Number : 32677

Date : 4/11/2003

**QC Report : Laboratory Control Sample (LCS)**

Project Name : **SUNOL-DOMESTIC WELL**

Project Number : **CB021C**

| Parameter            | Spike Level | Units | Analysis Method | Date Analyzed | LCS Percent Recov. | LCS Percent Recov. Limit |
|----------------------|-------------|-------|-----------------|---------------|--------------------|--------------------------|
| Benzene              | 40.0        | ug/L  | EPA 8260B       | 4/10/03       | 96.7               | 70-130                   |
| Toluene              | 40.0        | ug/L  | EPA 8260B       | 4/10/03       | 96.5               | 70-130                   |
| Tert-Butanol         | 200         | ug/L  | EPA 8260B       | 4/10/03       | 103                | 70-130                   |
| Methyl-t-Butyl Ether | 40.0        | ug/L  | EPA 8260B       | 4/10/03       | 110                | 70-130                   |

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Approved By:  Joel Kiff

