BSK & ASSOCIATES

GEOTECHNICAL CONSULTANTS, INC.

BSK JOB NO. P93156.3

JULY 1994

8/11/94 - Check screen interval - May be ready for closure

# REPORT
# THIRD QUARTERLY
# GROUNDWATER MONITORING
# D.R.F.A. FIRE STATION NO. 1
# 7494 DONOHUE DRIVE
# DUBLIN, CALIFORNIA

BSK & Associates

BSK & Associates
1181 Quarry Lane
Building 300
Pleasanton, CA 94566
(510) 462-4000
(510) 462-6283 FAX

July 26, 1994

BSK Job No.P93156.3

Dougherty Regional Fire Authority
c/o Aztec Consultants
Construction Managers
2110 Omega Road, Suite B
San Ramon, CA 94587

Attention: Mr. Glenn D. Miller, P.E.
Construction Manager

Subject: Report
Third Quarterly Groundwater Monitoring
Dougherty Regional Fire Authority - Station No. 1
7494 Donohue Drive
Dublin, California

As requested and authorized, BSK & Associates has prepared this report describing the third quarterly sampling and analysis of three shallow groundwater monitoring wells, MW-1 through MW-3, at the Dougherty Regional Fire Authority (DRFA) Fire Station No. 1, at 7494 Donohue Drive in Dublin, California (Site). The wells were installed in general accordance with the BSK Proposal/Work Plan of May 10, 1993 (Proposal No. P93129.3), which was accepted by the Alameda County Department of Environmental Health (ACDEH).

BSK appreciates this opportunity to continue to be of service to the Dougherty Regional Fire Authority. If there are questions or comments regarding this report, please contact us.

Respectfully submitted,
**BSK & Associates**

Tim W. Berger, C.E.G. 1828,
Project Geologist

Alex Y. Eskandari, C.E. 38101
Project Manager

AYE\TWB:ndp
(ENV\P93156Q.394)
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BSK & Associates

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# THIRD QUARTERLY
# GROUNDWATER MONITORING
# D.R.F.A. FIRE STATION NO. 1
# 7494 DONOHUE DRIVE
# DUBLIN, CALIFORNIA

## INTRODUCTION

### General

This report has been prepared to document the third quarterly monitoring of three shallow groundwater monitoring wells installed at the Site in September 1993. The Site Location is shown on Figure 1, Vicinity Map. A Site layout, together with locations of groundwater monitoring wells, is shown on Figure 2, Site Plan.

### Background

Three underground storage tanks (UST) containing gasoline and diesel were in use at the Site in the 1960's. The tank group was located behind the former truck garage, in the northwestern portion of the Site. The largest tank was 4000 gallons in capacity and was used to store gasoline. The two smaller tanks were each 550 gallons in capacity; one tank stored Diesel and the other stored Gasoline.

At the time of tank removal in 1989, soil in close proximity to the tanks was observed to be contaminated with petroleum products. The contaminated soil was removed, aerated on-site under a permit from the Bay Area Air Quality Management District, and returned to the excavation with the approval of the Alameda County Department of Environmental Health (ACDEH).

As part of the Site preparation for the construction of the new D.R.F.A. Station No. 1, hydrocarbon contaminated soil was removed from the subsurface to the depth of first encountered groundwater. The contaminated soil resulted from leakage of the underground fuel storage tanks at the station.

Specification 5.4 of the Soil Remediation and Groundwater Monitoring Plan prepared by Remediation Services for the contaminated soil removal recommends, as a confirmation of the remedial effort, the installation of three shallow groundwater monitoring wells, and monitoring of those wells to assess the impact of the soil remediation activities at the Site. ACDEH has requested the monitoring wells be monitored quarterly for a period of one year.

## PURPOSE AND SCOPE

### Purpose

Groundwater monitoring facilities were installed at the Site in order to assess the impact to shallow groundwater of release of UST contents to subsurface, if any. Quarterly monitoring of the wells of one year is to be performed to meet the assessment objective.

## Scope

In order to meet the monitoring objective, the following tasks were performed:

1. Purging and Sampling of groundwater from the monitoring wells for the contaminants of concern;

2. Analytical testing of the collected water samples by a California-certified analytical laboratory;

3. Assessment of the information obtained;

4. Preparation of a formal report presenting the observations, services performed, conclusions and recommendations based on our assessment of the data obtained.

Each task is described in detail in the following text.

### TASK 1 - Water Sampling

#### Water Samples

Fire Station monitoring wells were sampled by BSK personnel on July 7, 1994. Measurement of water level, and observation for immiscible product was performed using an electric sounder and clear point-source bailer prior to purging. The water level was recorded to the nearest 1/100th of a foot. During the purge, the physical parameters: pH, temperature and conductivity were monitored and recorded at regular intervals on a Well Field Log to assess the influx of fresh formation water; the Well Field Logs are presented in Figures 3 through 5. Water samples from Site wells were obtained after purging each well of three to four casing volumes, and allowing eighty percent recovery. Water samples for analytical testing were obtained via electric submersible pump, and transferred to the appropriate sample container, field-filtered and with preservative added as needed. The samples were labeled and refrigerated on-site using water-ice or blue ice, to 4°C.

### TASK 2 - Analytical Testing

Analytical testing of water samples obtained from the Site was performed by the BSK State-certified analytical laboratory.

With the exception of the elimination of Total Lead analysis, the analyses performed for each contaminant type are those specified by the Tri-Regional Water Board Staff Recommendations of August 10, 1992, and as proposed and accepted by our Proposal PR93129.3 of May 10, 1993. The elimination of Total Lead was authorized by the ACDEH in their letter of February 3, 1994 to the D.R.F.A.. The analyses performed this quarter at each well were:

TPHg by GCFID-5030
TPHd by GCFID 3550
BTEX by Method 602

The Chemical Test Data Sheets and the Project Chain-of-Custody documents are shown in Appendix A, Figures A-1 through A-4.

The results of the chemical analyses of groundwater samples for the well installation sampling, previous quarterly sampling events and this quarter are summarized in the following two Tables.

## TABLE 1

### BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES

Action Levels and analytical results are presented in Parts Per Billion (ppb)

| | CONSTITUENTS | | | |
|---|---|---|---|---|
| **Sample Location (Action Level)** | **Benzene (1)[1]** | **Toluene (100)[2]** | **Ethylbenzene (680)[1]** | **Xylenes (1750)[1]** |
| **July 7, 1994 (Third Quarterly Monitoring)** | | | | |
| **MW-1** | **ND** | **0.6** | **ND** | **0.4** |
| **MW-2** | **ND** | **0.4** | **ND** | **0.3** |
| **MW-3** | **ND** | **0.4** | **ND** | **ND** |
| April 8, 1994 (Second Quarterly Monitoring) | | | | |
| MW-1 | 0.4 | 0.4 | ND | 1.6 |
| MW-2 | ND | 0.3 | ND | 1.2 |
| MW-3 | 0.8 | 0.7 | ND | 2.2 |
| January 5, 1994 (First Quarterly Monitoring) | | | | |
| MW-1 | ND | ND | ND | ND |
| MW-2 | ND | ND | ND | ND |
| MW-3 | ND | ND | ND | ND |
| October 6, 1993 (Initial Well Installation Sampling) | | | | |
| MW-1 | ND | ND | ND | ND |
| MW-2 | ND | ND | ND | ND |
| MW-3 | ND | ND | ND | ND |

ND - None Detected
1 - California Department Of Health Services Drinking Water Standard, Revised 10/23/91
2 - California DOHS Action Level, 7/1/92

## TABLE 2

### TOTAL PETROLEUM HYDROCARBONS (TPH) AS GASOLINE AND DIESEL, AND TOTAL LEAD

Action Levels and analytical results are presented in Parts Per Billion (ppb)

| | CONSTITUENTS | | |
|---|---|---|---|
| **Sample Location (Action Level)** | **TPH Gasoline (NA)** | **TPH Diesel $(100)_1$** | **Total Lead (50)** |
| **July 7, 1994 (Third Quarterly Monitoring)** | | | |
| **MW-1** | **ND** | **ND** | **--** |
| **MW-2** | **ND** | **ND** | **--** |
| **MW-3** | **ND** | **ND** | **--** |
| April 8, 1994 (Second Quarterly Monitoring) | | | |
| MW-1 | ND | ND | ND |
| MW-2 | ND | ND | ND |
| MW-3 | ND | ND | ND |
| January 5, 1994 (First Quarterly Monitoring) | | | |
| MW-1 | ND | ND | ND |
| MW-2 | ND | ND | ND |
| MW-3 | ND | ND | ND |
| October 6, 1993 (Initial Well Installation Sampling) | | | |
| MW-1 | ND | ND | ND |
| MW-2 | ND | 61* | ND |
| MW-3 | ND | 58* | ND |

NA - Not Available
ND - None Detected
-- - Not Tested
1 - 1980 US EPA 10-Day Suggested No Adverse Response Level (SNARL)
* - Sample contains higher molecular weight hydrocarbons than normally associated with Diesel (see Chemical Test Data Sheet, Monitoring Facilities Installation Report, October 31, 1993, Figures A-18 and A-21).

## TASKS 3 & 4 - Analysis and Reporting

### Regional Hydrology

According to DWR Bulletin No. 118-2, "Evaluation of Groundwater Resources: Livermore and Sunol Valleys," the project site is located within the Dublin sub-basin of the Livermore Valley Groundwater Basin. There are two primary aquifers within the basin: the uppermost aquifer is semi- to un-confined, and occurs at a depth of 12 to 15 feet; the lower aquifer is confined, and is encountered at depths greater than 50 to 80 feet. The groundwater gradient in the upper aquifer is 0.4 percent (as determined in Spring 1994, ACFC Zone 7). The flow direction of the upper aquifer is generally southeast, as measured in the Spring of 1994 and the Fall of 1990 (ACFC Zone 7); the flow direction of the lower aquifer is reportedly similar to that of the upper. Mean annual precipitation in the Site vicinity, as measured from 1888 to 1977, was approximately 24 inches.

### Site Hydrology

The Site is paved in concrete. Perimeter areas are planted with shrubbery. The front of the Station contains planters of shrubbery and small lawn areas. Irrigation is automated drip and local spray. A concrete-lined regional drainage canal is located along the north property boundary, and is connected to stormdrain runoff from the western portion of the Site; the eastern portion drains to Donohue Drive, which also likely drains to the aforementioned drainage canal.

Groundwater at the Site was encountered in the well installation borings at an approximate depth of 12 feet in silty-clay. Water levels in the installed wells rose to approximately 8.5-feet from surface. On July 7, 1994 flow direction was found by three-point solution to be to the east, with a gradient of 0.8%, which is similar to previously determined flow and gradient measurements. The third quarter sampling groundwater flow direction and gradient are depicted in Figure 6, "Groundwater Flow Direction and Gradient - 07/07/94." In comparison with field measurements made April 8, 1994, measurements made on July 7 indicate groundwater elevations have fallen 0.06 to 0.09 feet; pH is slightly more acidic, and conductivity appears to have increased.

Contamination of groundwater by petroleum hydrocarbons was not observed in Wells MW-1, MW-2 and MW-3 during purging and sampling.

## CONCLUSIONS

### Conclusions

Concentrations of TPHd or TPHg range hydrocarbons were not detected in water samples collected from Site wells on July 7, 1994. Trace concentrations of toluene were detected in all three wells, xylenes in two wells. The concentrations detected are less than primary drinking water quality maximum contaminant levels. The appearance of trace concentrations of toluene and xylene in the water may be related to a seasonal increase in the groundwater surface elevation encountering remnants of hydrocarbons in soil at the Site.

As stated in the ACDEH letter of February 3, 1994 to the D.R.F.A., the project site will be evaluated for case closure after ACDEH review of this and the April 1994 quarterly monitoring reports.

## REPORT DISTRIBUTION

A copy of this report should be forwarded to the Alameda County Department of Environmental Health (ACDEH) for their review. An extra copy of the report has been provided for this purpose. The ACDEH may in turn forward a copy of the report to the Regional Water Quality Control Board.

Alameda County Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621
Attention: Eva Chew

## LIMITATIONS

*This groundwater monitoring well installation report has been prepared for the exclusive use of Dougherty Regional Fire Authority (DRFA). Unauthorized use of or reliance on the information contained in this report by others, unless given express written consent by BSK & Associates, is strictly prohibited.*

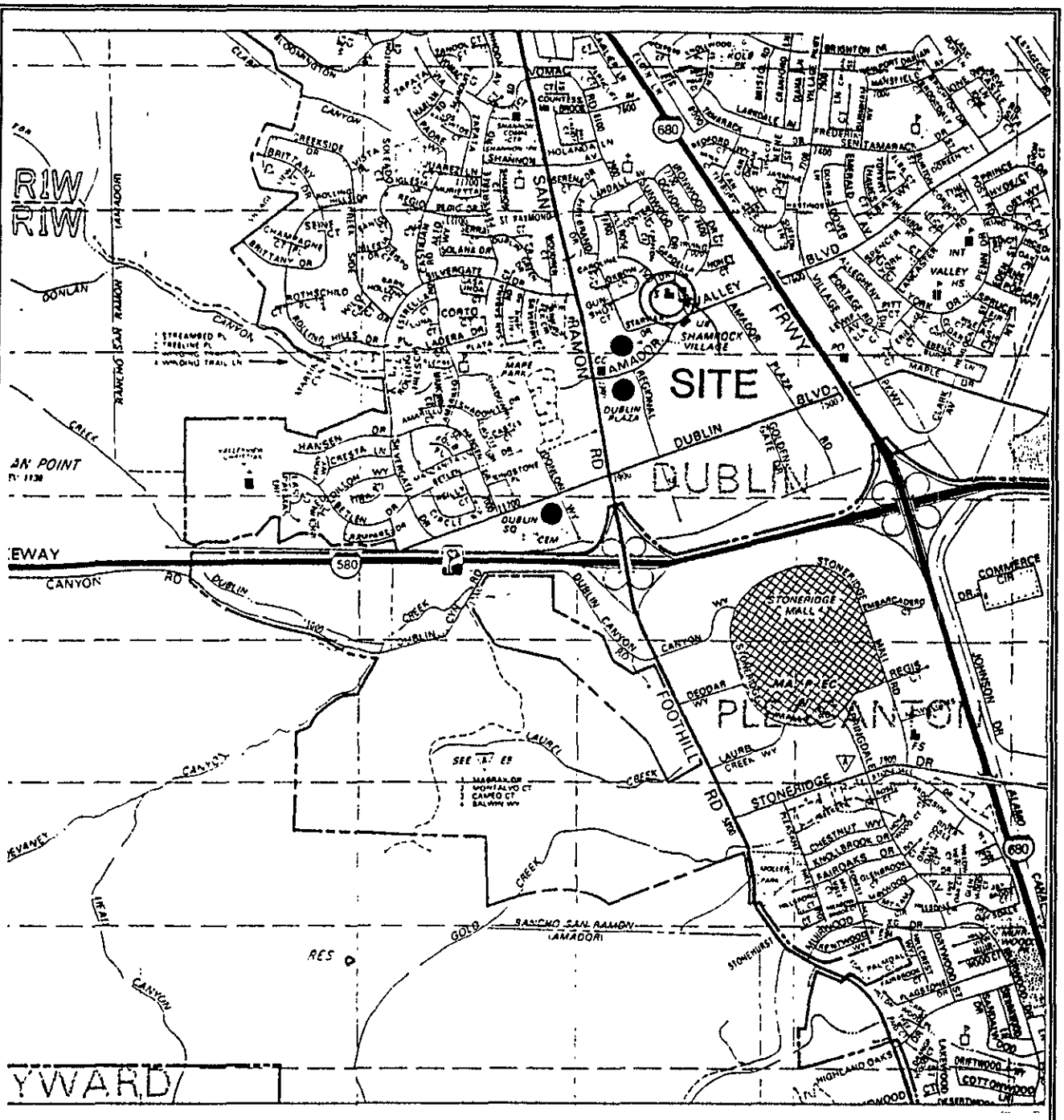
The findings and conclusions presented in this report are based on field observations, and on data obtained from the sources listed in this report. This report has been prepared in accordance with generally accepted methodologies and standards of practice for the area. No other warranty, either expressed or implied, is made as to the findings or conclusions included in this report.

The findings of this report are valid as of the present. The passage of time, natural processes or human intervention on the property or adjacent properties, and changes in the regulations can cause changed conditions which can invalidate the findings and conclusions in this report.

This report is neither certification nor guarantee that the property is free of, or contains hazardous substance contamination, other than that mentioned in the report.

Respectfully submitted,

**BSK & Associates**

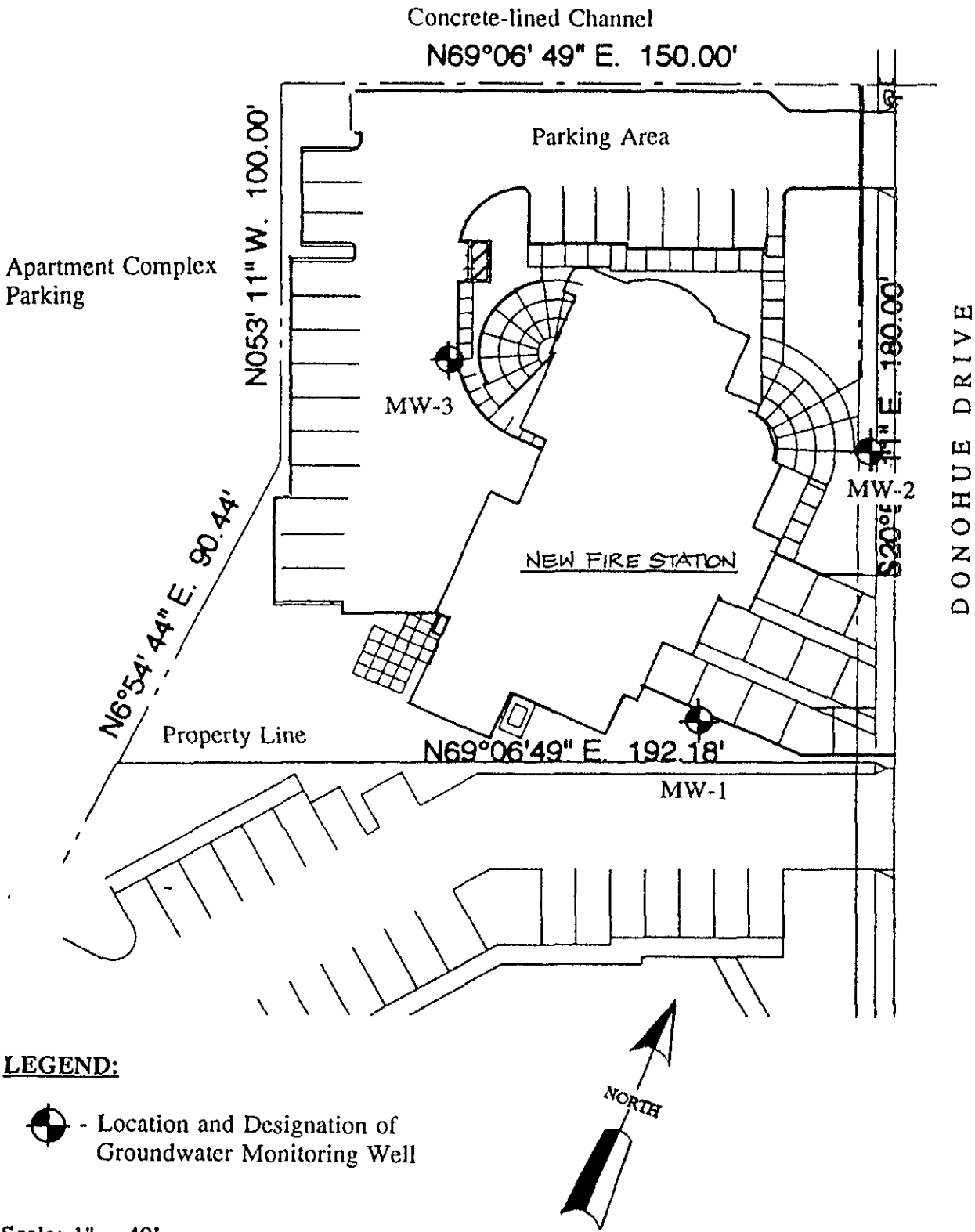



Source: Thomas Guide, 1992, Alameda and Contra Costa Counties

Scale: 1" = 2200'

NORTH

| | | |
|---|---|---|
| GROUNDWATER MONITORING<br>FIRE STATION NO. 1<br>7494 DONOHUE DRIVE<br>DUBLIN, CALIFORNIA | **VICINITY MAP**<br>Job No. P93156.3<br>July 1994<br>FIGURE: 1 | **BSK**<br>& ASSOCIATES |




**LEGEND:**

- Location and Designation of Groundwater Monitoring Well

Scale: 1" = 40'

| | | |
|---|---|---|
| GROUNDWATER MONITORING<br>STATION NO. 1<br>7494 DONOHUE DRIVE<br>DUBLIN, CALIFORNIA | **SITE PLAN**<br>Job No. P93156.3<br>July 1994<br>FIGURE: 2 | **BSK**<br>& ASSOCIATES |

**BSK Job No.:** P93156.3
**Date:** July 1994
**Figure No.:** 3

# WELL FIELD LOG

**Well Observation:** x **Date:** 07/07/94
**Sample Collection:** x **Date:** 07/07/94

**Project Name:** DRFA MFI
**Location:** 7494 Donohue Drive, Dublin, CA
**Personnel:** FRG
**Weather:** Clear, ±57° F., Breezy

## WELL INFORMATION:

| | | | |
|---|---|---|---|
| **Well Number** | MW-1 | **Date Purged** | 07/07/94 |
| **Depth to Water - feet(TOC)** | 8.78 | **Purge Method** | Electric submersible pump |
| **Well Depth (feet)** | 25 | | |
| **Water Volume (gallons)** | 2.6 | **Purge Begin** | 09:08 |
| **Reference Elevation - feet(TOC)** | 346.61 | **Purge End** | 09:14 |
| **Groundwater Elevation (feet)** | 337.83 | **Purge Rate** | 1.5 GPM |
| **Measurement Technique** | Solinst Electric Well Sounder | | |

## IMMISCIBLE LAYERS:

**Top:** None observed, no odor
**Bottom:** None observed, no odor
**Detection Method:** Visual
**Collection Method:** Clear point-source bailer

## WELL DEVELOPMENT/PURGE DATA:

| TIME | VOLUME REMOVED (gallons) | ELECTRICAL CONDUCTIVITY (Ec/Range) | pH | TEMP. (°F) | COLOR/COMMENTS |
|---|---|---|---|---|---|
| 09:10 | 3.0 | 2440 | 6.03 | 67.0 | Cloudy |
| 09:12 | 6.0 | 2300 | 6.10 | 66.0 | " |
| 09:14 | 9.0 | 2300 | 6.10 | 66.0 | " |
| 09:20 | Depth to water (feet): 8.9 | | | | |

## SAMPLE COLLECTION DATA:

**Sampling Equipment:** Electric submersible pump

| TIME | ANALYSIS | AMOUNT/CONTAINER USED | SAMPLE INTERVAL |
|---|---|---|---|
| 09:25 | TPHg, BTEX | 2-40 ml glass VOC w/HCl | 13' |
| " | TPHd | 2-40 ml glass w/$H_2SO_4$ | " |

**Field Observations:** None

**BSK Job No.:** P93156.3
**Date:** July 1994
**Figure No.:** 4

# WELL FIELD LOG

**Well Observation:** x **Date:** 07/07/94
**Sample Collection:** x **Date:** 07/07/94

**Project Name:** DRFA MFI
**Location:** 7494 Donohue Drive, Dublin, CA
**Personnel:** FRG
**Weather:** Clear, ±60° F., Breezy

## WELL INFORMATION:

| | | | |
|---|---|---|---|
| **Well Number** | MW-2 | **Date Purged** | 07/07/94 |
| **Depth to Water - feet(TOC)** | 8.67 | **Purge Method** | Electric submersible pump |
| **Well Depth (feet)** | 25 | | |
| **Water Volume (gallons)** | 2.60 | **Purge Begin** | 10:23 |
| **Reference Elevation - feet(TOC)** | 346.40 | **Purge End** | 10:34 |
| **Groundwater Elevation (feet)** | 337.73 | **Purge Rate** | .82 GPM |
| **Measurement Technique** | Solinst Electric Well Sounder | | |

## IMMISCIBLE LAYERS:

**Top:** None Observed, no odor
**Bottom:** None Observed, no odor
**Detection Method:** Visual
**Collection Method:** Clear point-source bailer

## WELL DEVELOPMENT/PURGE DATA:

| TIME | VOLUME REMOVED (gallons) | ELECTRICAL CONDUCTIVITY (Ec/Range) | pH | TEMP. (°F) | COLOR/COMMENTS |
|---|---|---|---|---|---|
| 10:26 | 3.0 | 2720 | 6.11 | 70 | Cloudy |
| 10:30 | 6.0 | 2670 | 6.99 | 69 | Clearing |
| 10:34 | 9.0 | 2660 | 7.04 | 69 | Clear |
| 10:35 | Depth to water (feet): 9.00 | | | | |

## SAMPLE COLLECTION DATA:

**Sampling Equipment:** Electric submersible pump

| TIME | ANALYSIS | AMOUNT/CONTAINER USED | SAMPLE INTERVAL |
|---|---|---|---|
| 10:40 | TPHg, BTEX | 2-40 ml glass VOC w/HCl | 12-13' |
| " | TPHd | 2-40 ml glass w/$H_2SO_4$ | " |

**Field Observations:** None

BSK Job No.: P93156.3
Date: July 1994
Figure No.: 5

# WELL FIELD LOG

**Well Observation:** x **Date:** 07/07/94
**Sample Collection:** x **Date:** 07/07/94

**Project Name:** DRFA MFI
**Location:** 7494 Donohue Drive, Dublin, CA
**Personnel:** FRG
**Weather:** Clear, ±75° F., Breezy

## WELL INFORMATION:

| | | | |
|---|---|---|---|
| **Well Number** | MW-3 | **Date Purged** | 07/07/94 |
| **Depth to Water - feet(TOC)** | 8.53 | **Purge Method** | Electric submersible pump |
| **Well Depth (feet)** | 24 | | |
| **Water Volume (gallons)** | 2.5 | **Purge Begin** | 11:11 |
| **Reference Elevation - feet(TOC)** | 347.16 | **Purge End** | 11:19 |
| **Groundwater Elevation (feet)** | 338.63 | **Purge Rate** | 0.94 GPM |
| **Measurement Technique** | Solinst Electric Well Sounder | | |

## IMMISCIBLE LAYERS:

**Top:** None observed, no odor
**Bottom:** None observed, no odor
**Detection Method:** Visual
**Collection Method:** Clear point-source bailer

## WELL DEVELOPMENT/PURGE DATA:

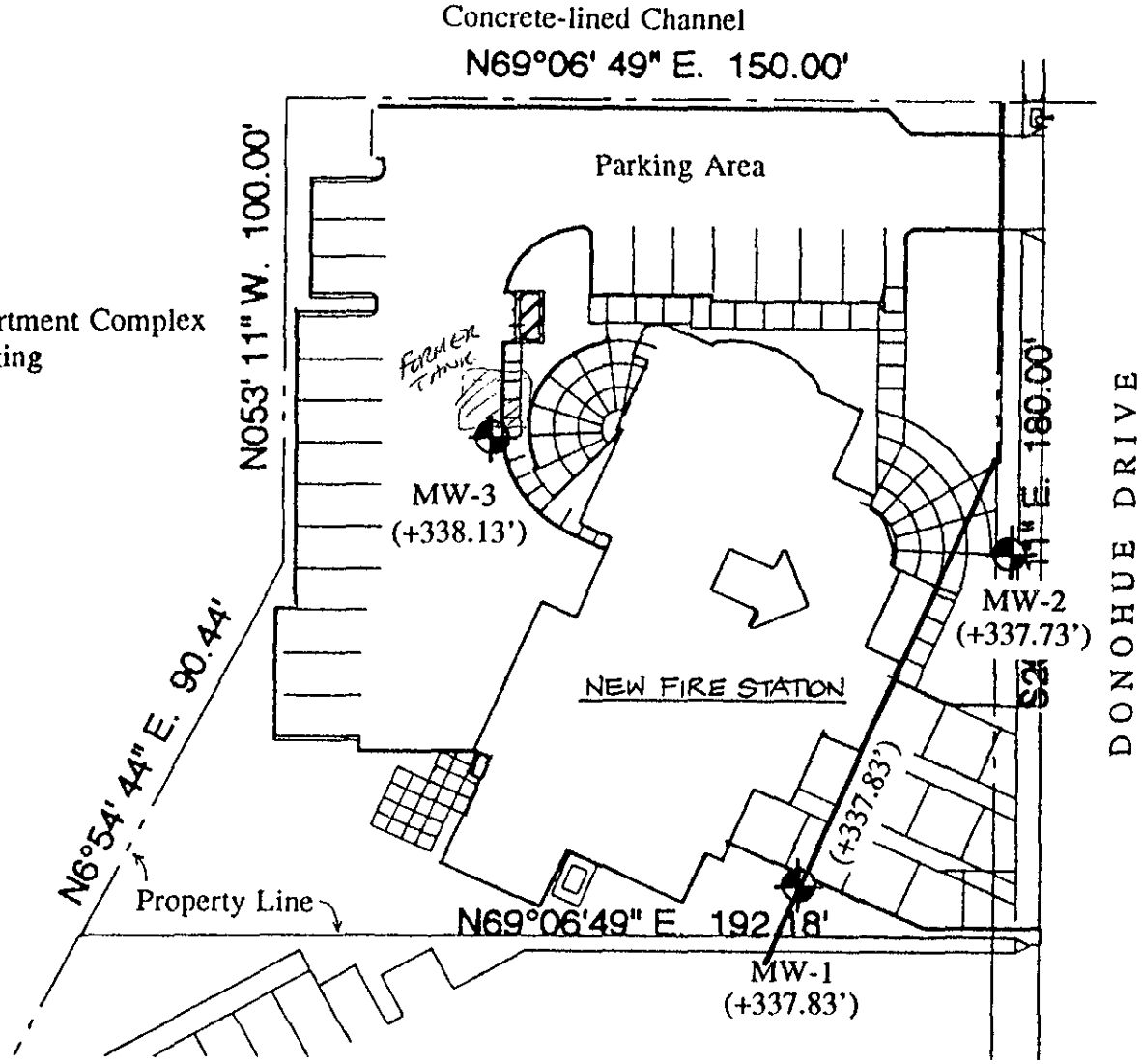
| TIME | VOLUME REMOVED (gallons) | ELECTRICAL CONDUCTIVITY (Ec/Range) | pH | TEMP. (°F) | COLOR/COMMENTS |
|---|---|---|---|---|---|
| 11:13 | 2.5 | 2830 | 7.37 | 70 | Cloudy |
| 11:16 | 5.0 | 2790 | 7.35 | 70 | Cloudy |
| 11:19 | 7.5 | 2780 | -- | 70 | Clear |
| 11:25 | Depth to water (feet): 8.65 | | | | |

## SAMPLE COLLECTION DATA:

**Sampling Equipment:** Electric submersible pump

| TIME | ANALYSIS | AMOUNT/CONTAINER USED | SAMPLE INTERVAL |
|---|---|---|---|
| 11:30 | TPHg, BTEX | 2-40 ml glass VOC w/HCl | 15' |
| " | TPHd | 2-40 ml glass w/$H_2SO_4$ | " |

**Field Observations:** None




**LEGEND:**

Scale: 1" = 40'

- Location and Designation of Groundwater Monitoring Well
- Line of Equal Potentiometric Surface Elevation (07/07/94)
- Groundwater Flow Direction

NORTH

0.8% - Gradient (07/07/94)

| | | |
|---|---|---|
| GROUNDWATER FLOW DIRECTION AND GRADIENT - 07/07/94 | Job No. P93156.3<br>July 1994<br>FIGURE: 6 | BSK & ASSOCIATES |

## APPENDIX "A"

## CHEMICAL TEST DATA SHEETS

## CHAIN-OF-CUSTODY RECORD

BSK & Associates

FIGURE: A-1

ANALYTICAL BSK LABORATORIES
1414 Stanislaus Street
Fresno, California 93706
Telephone (209) 497-2889
FAX (209) 485-6935
1-800-877-8310

BSK-Pleasanton
DRFA MFI

Date Sampled : 07/07/94
Time Sampled : 0925
Date Received : 07/08/94
Report Issue Date: 07/22/94

Case Number : Ch942000
Lab ID Number : 2000-1
Project Number : P93156.3
Sample Description: MW-1

Sample Type: LIQUID

## Analyses for BTEX by EPA Method 8020 and TPH(G) by EPA Method 8015 Prepared by Method 5030

Results Reported in Micrograms per Liter (ug/L)

Date of Analysis : 07/12/94

| Compound | Results | DLR |
|---|---|---|
| Benzene ..... | ND | 0.3 |
| Toluene ..... | 0.6 | 0.3 |
| Ethylbenzene ..... | ND | 0.3 |
| Total Xylene Isomers ..... | 0.4 | 0.3 |
| Total Petroleum Hydrocarbons (G) | ND | 50 |

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

**NOTE:**
**Hydrocarbons in the gasoline boiling point range are reported, in accordance with the method, as gasoline.**

## Analyses for TPH (Total Petroleum Hydrocarbons) as Diesel by Method DHS GC/FID.

Results Reported in Micrograms per Liter (µg/L)

Date of Analysis : 07/13/94

| Analyte | Results | DLR |
|---|---|---|
| Total Petroleum Hydrocarbons (D) | ND | 50 |

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

**NOTE:**
**Hydrocarbons in the diesel boiling point range are reported, in accordance with the method, as diesel.**

LEGEND:
DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences may result in higher detection limits.

ND: None Detected

Cynthia Pigman, QA/QC Supervisor

Jeffrey Creager, Organics Manager

R920213 BTL.T

FIGURE: A-2

ANALYTICAL BSK LABORATORIES
1414 Stanislaus Street
Fresno, California 93706
Telephone (209) 497-2889
FAX (209) 485-6935
1-800-877-8310

BSK-Pleasanton
DRFA MFI

Date Sampled : 07/07/94
Time Sampled : 1040
Date Received : 07/08/94
Report Issue Date: 07/22/94

Case Number : Ch942000
Lab ID Number : 2000-2
Project Number : P93156.3
Sample Description: MW-2

Sample Type: LIQUID

## Analyses for BTEX by EPA Method 8020 and TPH(G) by EPA Method 8015 Prepared by Method 5030

Results Reported in Micrograms per Liter (ug/L)

Date of Analysis : 07/12/94

| Compound | Results | DLR |
|---|---|---|
| Benzene ..... | ND | 0.3 |
| Toluene ..... | 0.4 | 0.3 |
| Ethylbenzene ..... | ND | 0.3 |
| Total Xylene Isomers ..... | 0.3 | 0.3 |
| Total Petroleum Hydrocarbons (G) | ND | 50 |

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

**NOTE:**
**Hydrocarbons in the gasoline boiling point range are reported, in accordance with the method, as gasoline.**

## Analyses for TPH (Total Petroleum Hydrocarbons) as Diesel by Method DHS GC/FID.

Results Reported in Micrograms per Liter (µg/L)

Date of Analysis : 07/13/94

| Analyte | Results | DLR |
|---|---|---|
| Total Petroleum Hydrocarbons (D) | ND | 50 |

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

**NOTE:**
**Hydrocarbons in the diesel boiling point range are reported, in accordance with the method, as diesel.**

LEGEND:
DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences may result in higher detection limits.

ND: None Detected

Cynthia Pigman, QA/QC Supervisor

Jeffrey Creager, Organics Manager

R920213 BTL.T

FIGURE: A-3

ANALYTICAL BSK LABORATORIES
1414 Stanislaus Street
Fresno, California 93706
Telephone (209) 497-2889
FAX (209) 485-6935
1-800-877-8310

BSK-Pleasanton
DRFA MFI

Date Sampled : 07/07/94
Time Sampled : 1130
Date Received : 07/08/94
Report Issue Date: 07/22/94

Case Number : Ch942000
Lab ID Number : 2000-3
Project Number : P93156.3
Sample Description: MW-3

Sample Type: LIQUID

## Analyses for BTEX by EPA Method 8020 and TPH(G) by EPA Method 8015 Prepared by Method 5030

Results Reported in Micrograms per Liter (ug/L)

Date of Analysis : 07/12/94

| Compound | Results | DLR |
|---|---|---|
| Benzene ..... | ND | 0.3 |
| Toluene ..... | 0.4 | 0.3 |
| Ethylbenzene ..... | ND | 0.3 |
| Total Xylene Isomers ..... | ND | 0.3 |
| Total Petroleum Hydrocarbons (G) | ND | 50 |

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

**NOTE:**
**Hydrocarbons in the gasoline boiling point range are reported, in accordance with the method, as gasoline.**

## Analyses for TPH (Total Petroleum Hydrocarbons) as Diesel by Method DHS GC/FID.

Results Reported in Micrograms per Liter (µg/L)

Date of Analysis : 07/13/94

| Analyte | Results | DLR |
|---|---|---|
| Total Petroleum Hydrocarbons (D) | ND | 50 |

Sample DLR = DLR x DLR Multiplier, DLR Multiplier = 1

**NOTE:**
**Hydrocarbons in the diesel boiling point range are reported, in accordance with the method, as diesel.**

LEGEND:
DLR: Detection Limit for the Purposes of Reporting.
Exceptional sample conditions or matrix interferences may result in higher detection limits.

ND: None Detected

Cynthia Pigman, QA/QC Supervisor

Jeffrey Creager, Organics Manager

ANALYTICAL
BSK
LABORATORIES
Environmental Services

1414 Stanislaus Street
Fresno, CA 93706
(209) 485-8310
(800) 877-8310
(209) 485-6935 FAX

# Analyses Request / Chain of Custody

BSK Log Number: 2000

Analytical Due Date: 7-19-94

Shaded areas for LAB use only

Requested Analyses

| | | |
|---|---|---|
| Client Name: PRFA MFI c/o BSK | Report Attention: Tim Berger | Phone #: (510) 462-4000 |
| Address: 1181 Quarry Ln #300 | Project, Quote or PO #: P93 156.3 | FAX #: (510) 462-0283 |
| City, State, Zip: Pleasanton CA | Copy to: | System #: |

| LAB use only Sample # | Type | # Cont | Date Sampled | Time Sampled | Sampled by: FRG Sample Description/Location | Comment or Station Code | TPH G | BTXE | TPH D |
|---|---|---|---|---|---|---|---|---|---|
| -1 | W | 4 | 7/7/94 | 9:25 | MW-1 | | X | X | X |
| -2 | W | 4 | 7/7/94 | 10:40 | MW-2 | | X | X | X |
| -3 | W | 4 | 7/7/94 | 11:30 | MW-3 | | X | X | X |

Matrix Type: L - Liquid S - Solid G - Gas
Type of Hazards Associated with Samples:

Additional Services:
Rush Priority: [ ] - 2 Day [ ] - 5 Day
[ ] - Formal Chain of Custody [ ] - QC Data package

Additional Services Authorized by: _____ (Signature)

Payment Received with Delivery
Date: _____ Amount: $ _____
Check # _____ Initials _____
Reciept # _____

| | Signature | Print Name | Company | Date | Time |
|---|---|---|---|---|---|
| Requested / Relinquished by: | Tom R. Dyer | F. Robert Greguras | BSK | 7/8/94 | 9:00 |
| Received / Relinquished by: | | | | | |
| Received / Relinquished by: | | | | | |
| Received / Relinquished by: | | | | | |
| Received for Laboratory by: | Cecil Harris | C. Harris | BSK Lab | 7-8-94 | 1535 |

FIGURE: A-4

**AZTEC CONSULTANTS**
**Professional Construction Management**
2110 Omega Road Suite B
SAN RAMON, CALIFORNIA 94583

**(510) 837-1050 FAX (510) 837-1652**

# LETTER OF TRANSMITTAL

| DATE 8/4/94 | JOB NO. |
|---|---|
| ATTENTION ALCO - Eva Chu | |
| RE: HAZMAT | |

TO Alameda County Health Agency
Division of Hazardous Mat'ls
80 Swan Way Rm 200
Oakland, Ca. 94621

94 AUG -8 PM 4:30

Dougherty Regional Fire Authority
Monitoring Wells
Quarterly Sampling

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications

☐ Copy of letter ☐ Change order ☐ _____

| COPIES | DATE | NO. | DESCRIPTION |
|---|---|---|---|
| 2 | 7/26/94 | | BSK Qtrly Monitoring Report. |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval

☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution

☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints

☐ For review and comment ☐ _____

☐ FOR BIDS DUE _____ 19 _____ ☐ PRINTS RETURNED AFTER LOAN TO US

Eva,

REMARKS Per previous correspondence this will be the final monitoring of these wells subject to your review AND recommendations.

It has been a pleasure working with you on this project. Please feel free to contact myself or DRFA's Chief Dickman if there and any open issues.

COPY TO file / DRFA w/o attach.

SIGNED: D. Myl



*If enclosures are not as noted, kindly notify us at once.*