GeoStrategies Inc.

8-1-94. 3 Q's ND - only metals detected in GW. But may be backgd for site.

# LETTER REPORT
# QUARTERLY GROUNDWATER MONITORING
# SECOND QUARTER 1994

at

Shamrock Ford
7499 Dublin Boulevard
Dublin, California

613001-5

Prepared for

Shamrock Ford
7499 Dublin Boulevard
Dublin, California 94568

Prepared by

GeoStrategies Inc.
6747 Sierra Court
Dublin, California 94568

Barbara Sieminski
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Stephen J. Carter
Stephen J. Carter
Senior Project Geologist R.G. #5577

REGISTERED GEOLOGIST
STEPHEN J. CARTER
No. 5577
STATE OF CALIFORNIA

July 18, 1994

GeoStrategies Inc.

July 18, 1994

Mr. Craig Caldwell
Shamrock Ford
7499 Dublin Boulevard
Dublin, California 94568

Subject: Quarterly Groundwater Monitoring Report - Second Quarter 1994 for Shamrock Ford Site, 7499 Dublin Boulevard, Dublin, California.

Mr. Caldwell:

As requested by Shamrock Ford, GeoStrategies Inc. (GSI) has prepared this letter report summarizing the results of the second quarter 1994 groundwater monitoring at the above-referenced site. The objectives of this quarterly groundwater monitoring are to evaluate changes in the groundwater levels and changes in concentrations of petroleum hydrocarbons in groundwater beneath the site.

**SITE BACKGROUND**

The subject site is located at the intersections of Dublin Boulevard and Amador Plaza Road in Dublin, California, as shown on the Vicinity Map, Figure 1. In June 1993, Gettler-Ryan Inc. (G-R) removed one 1000-gallon waste-oil underground storage tank (UST) and one 2000-gallon gasoline UST from the site. The location of the former USTs are shown on the Site Plan, Figure 2. The laboratory analytical results of soil samples collected from the tank pits indicated that the soils in the vicinity of the tank pits have not been impacted by waste-oil related hydrocarbons, and have been slightly impacted by gasoline-related hydrocarbons (2.4 parts per million [ppm] of total petroleum hydrocarbons as gasoline [TPH-G] in the sample collected from the southern wall of the gasoline tank pit).

Laboratory analytical results for the groundwater sample collected from the former waste-oil tank pit indicated 150 parts per billion (ppb) TPH-G; 3.4 ppb benzene; 6.5 ppb toluene; 2.2 ppb ethylbenzene; 11 ppb total xylenes; 8,600 ppb total petroleum hydrocarbons as motor oil (TPH-MO); and 2,200

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3035 Prospect Park Drive, Suite 80 • Rancho Cordova, CA 95670 • (916) 631-1314 • Fax (916) 631-1317

ppb of oil and grease (O&G). Metals Cd, Cr, Pb, Ni and Zn were detected at concentrations of 17 ppb, 460 ppb, 850 ppb, 1200 ppb, and 530 ppb, respectively. Total petroleum hydrocarbons calculated as diesel (TPH-D) concentration was reported as nondetectable, however, the reporting limit was increased to 100 ppb due to oil interference. Volatile organic compounds (VOC) concentrations (35 compounds tested) were nondetectable (less than 2 ppb) except benzene (2.6 ppb), toluene (6.1 ppb), P,M-xylene (5.6 ppb), O-xylene (3.2 ppb), methylene chloride (4.4 ppb), and acetone (34 ppb). Laboratory analytical results for the groundwater sample collected from the former gasoline tank pit indicated 3600 ppb TPH-G; 67 ppb benzene; 40 ppb toluene; 170 ppb ethylbenzene and 540 ppb total xylenes; and 16 ppb total lead.

In December 1993, three groundwater monitoring wells (A-1 through A-3) were installed at the site by GSI to evaluate the extent of petroleum hydrocarbons in soil and groundwater in the vicinity of the former USTs, and to evaluate the gradient of the shallow groundwater beneath the site. The locations of the groundwater monitoring wells are shown on Figure 2. Laboratory analytical results of the soil and groundwater samples collected during this investigation indicated that the soils and groundwater in the western, southern and southeastern vicinity of the former USTs have not been impacted by waste-oil and gasoline hydrocarbons. Concentrations of metals in soil and groundwater beneath the site appeared to be within the natural background levels. The groundwater gradient of the first encountered water bearing zone beneath the site was interpreted to be approximately 0.004 with the flow direction to the northeast.

Quarterly groundwater monitoring and sampling of the site wells began in the first quarter 1994. Groundwater samples are currently analyzed for TPH-G, gasoline constituents benzene, toluene, ethylbenzene and xylenes (BTEX), TPH-D, TPH-MO, O&G, and metals Cd, Cr, Pb, Ni and Zn.

## CURRENT QUARTER MONITORING RESULTS

Groundwater Level Measurements and Gradient Evaluation

Depth to water-level measurements were obtained in groundwater monitoring wells A-1 through A-3 on April 21, May 17, and June 24,

1994. Static groundwater levels were measured monthly from the surveyed top of each well casing and recorded to the nearest $\pm$0.01 foot. Water-level data were referenced to Mean Sea Level (MSL) datum and used to construct potentiometric maps (Figures 3 through 5). The shallow groundwater hydraulic gradient was interpreted to be approximately 0.004 to 0.01. Flow directions fluctuated between south and west.

Each well was visually inspected for the presence of floating product. Floating product was not observed in any well during this quarter. Floating product has never been observed in the monitoring wells at this site. Current and previous depth-to-groundwater and floating product measurements are summarized in Table 1, Groundwater Monitoring Data.

Chemical Analyses of Groundwater Samples

Groundwater samples were collected from groundwater monitoring wells A-1 through A-3 by G-R personnel on June 24, 1994. Samples were analyzed by Western Environmental Science and Technology of Davis, California (WEST), a State-certified laboratory (Hazardous Waste Testing Laboratory Certification #1346). The groundwater samples were analyzed for TPH-G using Modified EPA Method 8015; BTEX using EPA method 602; TPH-D and TPH-MO using Modified EPA Method 8015; O&G using Standard Methods 5520 B,F; and metals Cd, Cr, Pb, Ni and Zn using EPA Method 7000/6010/200.7.

The groundwater sampling report is presented in Appendix A, and Laboratory Analytical Report and Chain-of-Custody record are presented in Appendix B. Laboratory analytical results for groundwater samples collected from wells A-1 through A-3 indicated nondetectable concentrations of TPH-G, BTEX, TPH-D, TPH-MO, and O&G. Concentrations of metals cadmium, chromium, lead, nickel and zinc were up to 4.4 ppb, 39 ppb, 4.7 ppb, 30 ppb, and 26 ppb, respectively, and were below the current Regional Water Quality Control Board Maximum Contaminant Levels (MCLs). Current and previous analytical data for wells A-1 through A-3 are summarized in Table 2, Groundwater Quality Database. A chemical concentration map for TPH-G and benzene is presented on Figure 6.

## DISCUSSION AND RECOMMENDATIONS

The groundwater elevation increased approximately 0.3 feet in well A-1, and decreased approximately 0.2 feet in wells A-2 and A-3 between March and June 1994. The groundwater flow direction changed from the northeast during the first quarter 1994 to the south to west during the second quarter 1994.

Concentrations of TPH-G, BTEX, TPH-D, TPH-MO and O&G have remained nondetectable in samples from groundwater monitoring wells A-1 through A-3. Concentrations of metals in samples from groundwater beneath the site have generally decreased slightly since the first quarter 1994.

Concentrations of metals in groundwater monitoring wells A-1 through A-3 have been within natural background levels for the third consecutive quarter. Currently concentrations of metals in wells A-1 through A-3 are below the MCLs. Therefore, GSI recommends to discontinue sampling of wells A-1 through A-3 for metals Cd, Cr, Pb, Ni and Zn.

If you have any questions please call us at (510) 551-8777.

Attachments:

Table 1. Groundwater Monitoring Data
Table 2. Laboratory Analyses of Groundwater Samples

Figure 1. Vicinity Map
Figure 2. Site Plan
Figure 3. Potentiometric Map (April 21, 1994)
Figure 4. Potentiometric Map (May 17, 1994)
Figure 5. Potentiometric Map (June 24, 1994)
Figure 6. TPH-G/Benzene Concentration Map

Appendix A: G-R Groundwater Sampling Report
Appendix B: Laboratory Analytical Report and Chain-of-Custody Form

# TABLES

TABLE 1
GROUNDWATER MONITORING DATA
Shamrock Ford
Dublin, California

| Monitoring Date | Well Number | Depth to Water (ft) | Well Elevation (ft) | Static Water Elevation (ft) | Floating Product Thickness (ft) |
|---|---|---|---|---|---|
| 23-Dec-93 | A-1 | 6.27 | 332.88 | 326.61 | 0.00 |
| 25-Feb-94 | A-1 | 6.13 | 332.88 | 326.75 | 0.00 |
| 23-Mar-94 | A-1 | 6.07 | 332.88 | 326.81 | 0.00 |
| 21-Apr-94 | A-1 | 5.96 | 332.88 | 326.92 | 0.00 |
| 17-May-94 | A-1 | 5.92 | 332.88 | 326.96 | 0.00 |
| 24-Jun-94 | A-1 | 5.76 | 332.88 | 327.12 | 0.00 |
| 23-Dec-93 | A-2 | 7.43 | 334.16 | 326.73 | 0.00 |
| 25-Feb-94 | A-2 | 7.05 | 334.16 | 327.11 | 0.00 |
| 23-Mar-94 | A-2 | 6.93 | 334.16 | 327.23 | 0.00 |
| 21-Apr-94 | A-2 | 7.83 | 334.16 | 326.96 | 0.00 |
| 17-May-94 | A-2 | 7.71 | 334.16 | 326.45 | 0.00 |
| 24-Jun-94 | A-2 | 7.13 | 334.16 | 327.03 | 0.00 |
| 23-Dec-93 | A-3 | 7.50 | 334.18 | 326.68 | 0.00 |
| 25-Feb-94 | A-3 | 7.19 | 334.18 | 326.99 | 0.00 |
| 23-Mar-94 | A-3 | 7.01 | 334.18 | 327.17 | 0.00 |
| 21-Apr-94 | A-3 | 7.45 | 334.18 | 326.73 | 0.00 |
| 17-May-94 | A-3 | 7.29 | 334.18 | 326.89 | 0.00 |
| 24-Jun-94 | A-3 | 7.18 | 334.18 | 327.00 | 0.00 |

Notes:

1. Static water elevations referenced to Mean Sea Level (MSL).
2. Well elevations and depth-to-water measured to top of casing.

## TABLE 2
## LABORATORY ANALYSES OF GROUNDWATER SAMPLES
### Shamrock Ford
### Dublin, California

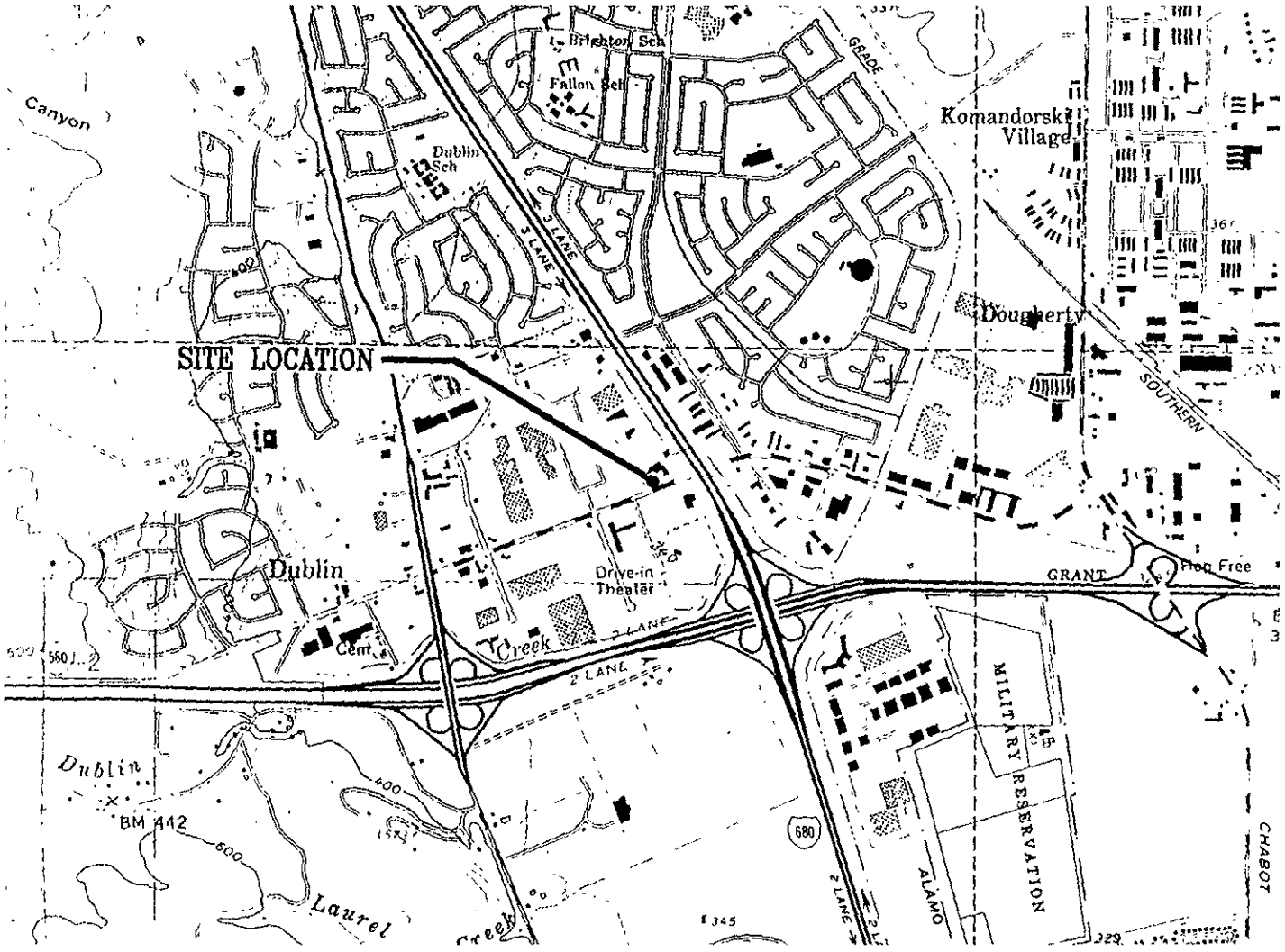
| SAMPLE DATE | SAMPLE POINT | TPH-G (PPB) | BENZENE (PPB) | TOLUENE (PPB) | ETHYLBENZENE (PPB) | XYLENES (PPB) | TPH-D (PPB) | TPH-MO (PPB) | O&G (PPB) | VOCs (PPB) | METALS (PPB) Cd | Cr | Pb | Zn | Ni |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23-Dec-93 | A-1 | <50 | <0.30 | <0.30 | <0.30 | <0.50 | <50 | <100 | <1000 | ND* | 5.2 | 54 | 4.0 | 42 | 41 |
| 23-Mar-94 | A-1 | <50 | <0.30 | <0.30 | <0.30 | <0.50 | <50 | <100 | <1000 | ND* | 5.8 | 33 | 18 | 22 | 12 |
| 24-Jun-94 | A-1 | <50 | <0.30 | <0.30 | <0.30 | <0.50 | <50 | <100 | <1000 | NA | 4.4 | 25 | <3 | <10 | 23 |
| 23-Dec-93 | A-2 | <50 | <0.30 | <0.30 | <0.30 | <0.50 | <50 | <100 | <1000 | ND* | 13 | 190 | 15 | 210 | 150 |
| 23-Mar-94 | A-2 | <50 | <0.30 | <0.30 | <0.30 | <0.50 | <50 | <100 | <1000 | ND* | 8.3 | 73 | 5.3 | 46 | 56 |
| 24-Jun-94 | A-2 | <50 | <0.30 | <0.30 | <0.30 | <0.50 | <50 | <100 | <1000 | NA | <4 | 30 | <3 | 13 | 30 |
| 23-Dec-93 | A-3 | <50 | <0.30 | <0.30 | <0.30 | <0.50 | <50 | <100 | <1000 | ND* | 5.5 | 51 | 3.5 | 39 | 32 |
| 23-Mar-94 | A-3 | <50 | <0.30 | <0.30 | <0.30 | <0.50 | <50 | <100 | <1000 | ND* | 7.6 | 78 | 6.5 | 45 | 71 |
| 24-Jun-94 | A-3 | <50 | <0.30 | <0.30 | <0.30 | <0.50 | <50 | <100 | <1000 | NA | <4 | 39 | 4.7 | 26 | 22 |

Current Regional Water Quality Control Board Maximum Contaminant Levels:
Benzene 1.0 ppb, Xylenes 1750 ppb, Ethylbenzene 680 ppb, Cadmium 10 ppb, Chromium 50 ppb, Lead 50 ppb, Nickel 100 ppb, Zinc 5,000 ppb.
Current Cal EPA Action Levels: Toluene 100 ppb

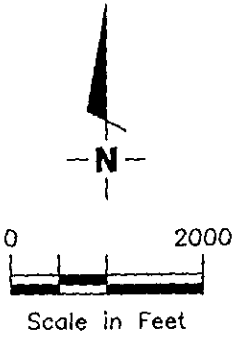
| | | |
|---|---|---|
| TPH-G | = | Total Petroleum Hydrocarbons calculated as Gasoline. |
| TPH-D | = | Total Petroleum Hydrocarbons calculated as Diesel. |
| TPH-MO | = | Total Petroleum Hydrocarbons calculated as Motor Oil. |
| O&G | = | Oil and Grease |
| VOCs | = | Volatile Organic Compounds. |
| PPB | = | Parts per Billion |
| Cd | = | Cadmium |
| Cr | = | Chromium |
| Pb | = | Lead |
| Zn | = | Zinc |
| Ni | = | Nickel |
| ND | = | Not detected |
| * | = | 38 compounds tested |
| NA | = | Not analyzed |

Notes: 1. All data shown as <x are reported as ND (none detected).

# ILLUSTRATIONS








Base Map: USGS Topographic Map

GeoStrategies Inc.

VICINITY MAP
SHAMROCK FORD
7499 Dublin Boulevard
Dublin, California

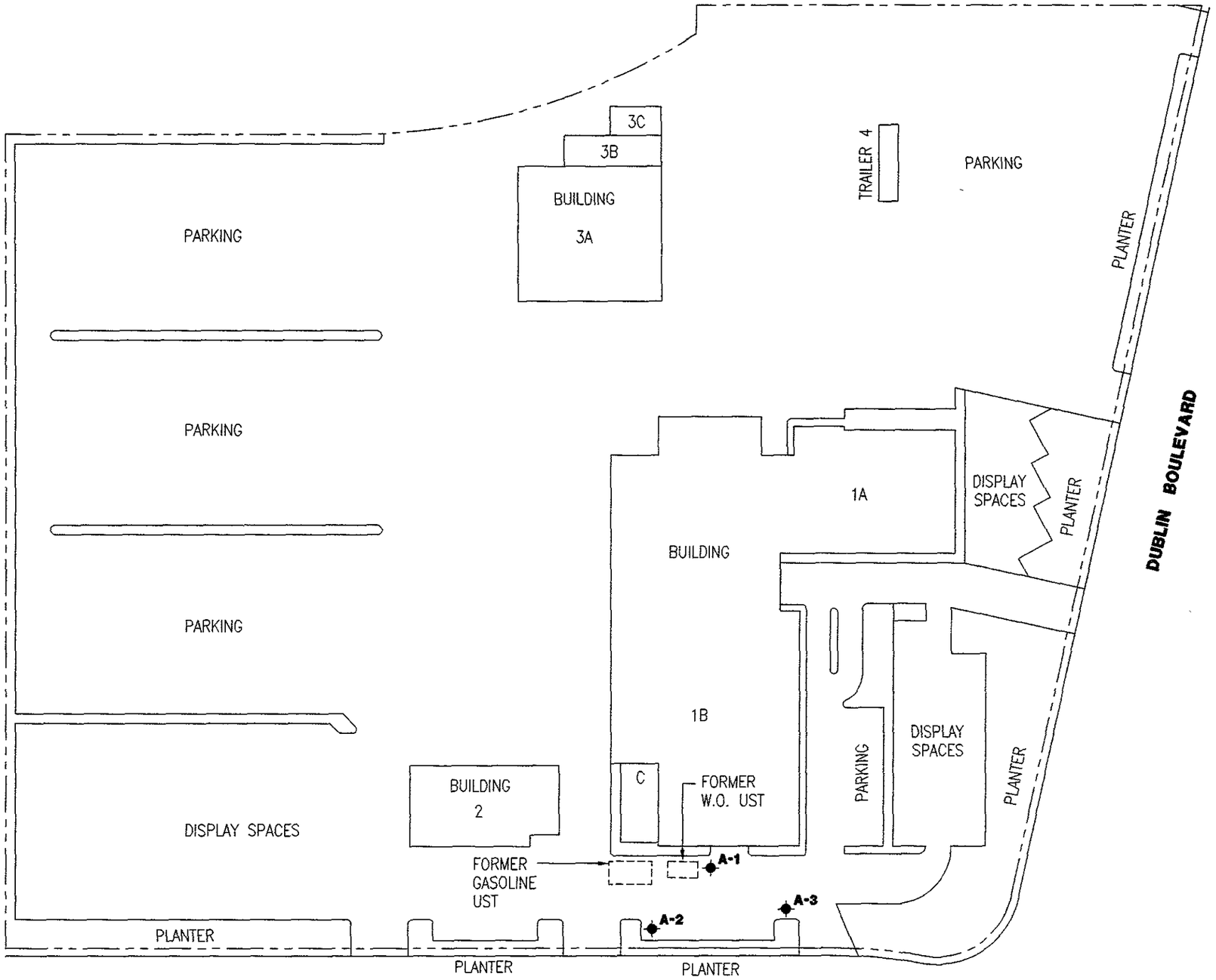
FIGURE
1

JOB NUMBER

REVIEWED BY

DATE
8/93

REVISED DATE




Base Map: Modified from plan supplied by Shamrock Ford

FIGURE **2**

**SITE PLAN**
SHAMROCK FORD
7499 Dublin Boulevard
Dublin, California

DATE 7/94

REVISED DATE

REVIEWED BY

GeoStrategies Inc.

JOB NUMBER 613001-5

FIGURE 3

## POTENTIOMETRIC MAP (APRIL 21, 1994)

SHAMROCK FORD
7499 Dublin Boulevard
Dublin, California

DATE 7/94
REVISED DATE

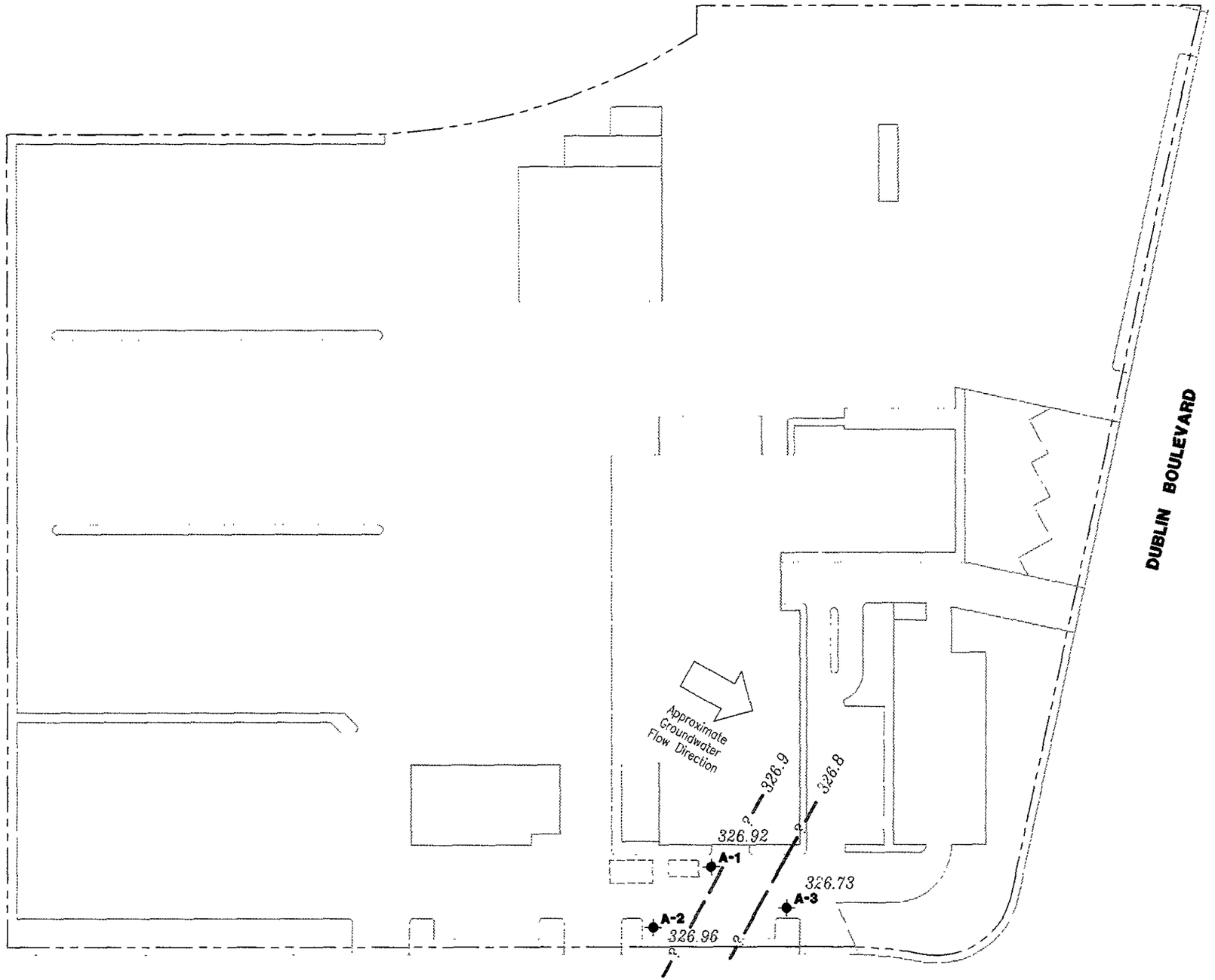
GeoStrategies Inc.

GSI

JOB NUMBER 613001-5
REVIEWED BY

EXPLANATION

- ✦ Groundwater monitoring well
- *99.99* Groundwater elevation in feet referenced to Mean Sea Level (MSL) measured on April 21, 1994
- —99.99— Groundwater elevation contour. Approximate Gradient = 0.004




Base Map: Modified from plan supplied by Shamrock Ford

N

0 60
Scale in Feet

FIGURE 4

## EXPLANATION

- Groundwater monitoring well
- 99.99 — Groundwater elevation in feet referenced to Mean Sea Level (MSL) measured on May 17, 1994
- 99.99 — Groundwater elevation contour. Approximate Gradient = 0.01

DUBLIN BOULEVARD

Approximate Groundwater Flow Direction

326.96
A-1
326.8
326.6
326.89
A-3
A-2
326.45

AMADOR PLAZA ROAD

Base Map: Modified from plan supplied by Shamrock Ford

N

0 60
Scale in Feet

POTENTIOMETRIC MAP (MAY 17, 1994)
SHAMROCK FORD
7499 Dublin Boulevard
Dublin, California

DATE 7/94
REVISED DATE
REVIEWED BY

GeoStrategies Inc.

GSI

JOB NUMBER 613001-5

FIGURE 5

**POTENTIOMETRIC MAP (JUNE 24, 1994)**
SHAMROCK FORD
7499 Dublin Boulevard
Dublin, California

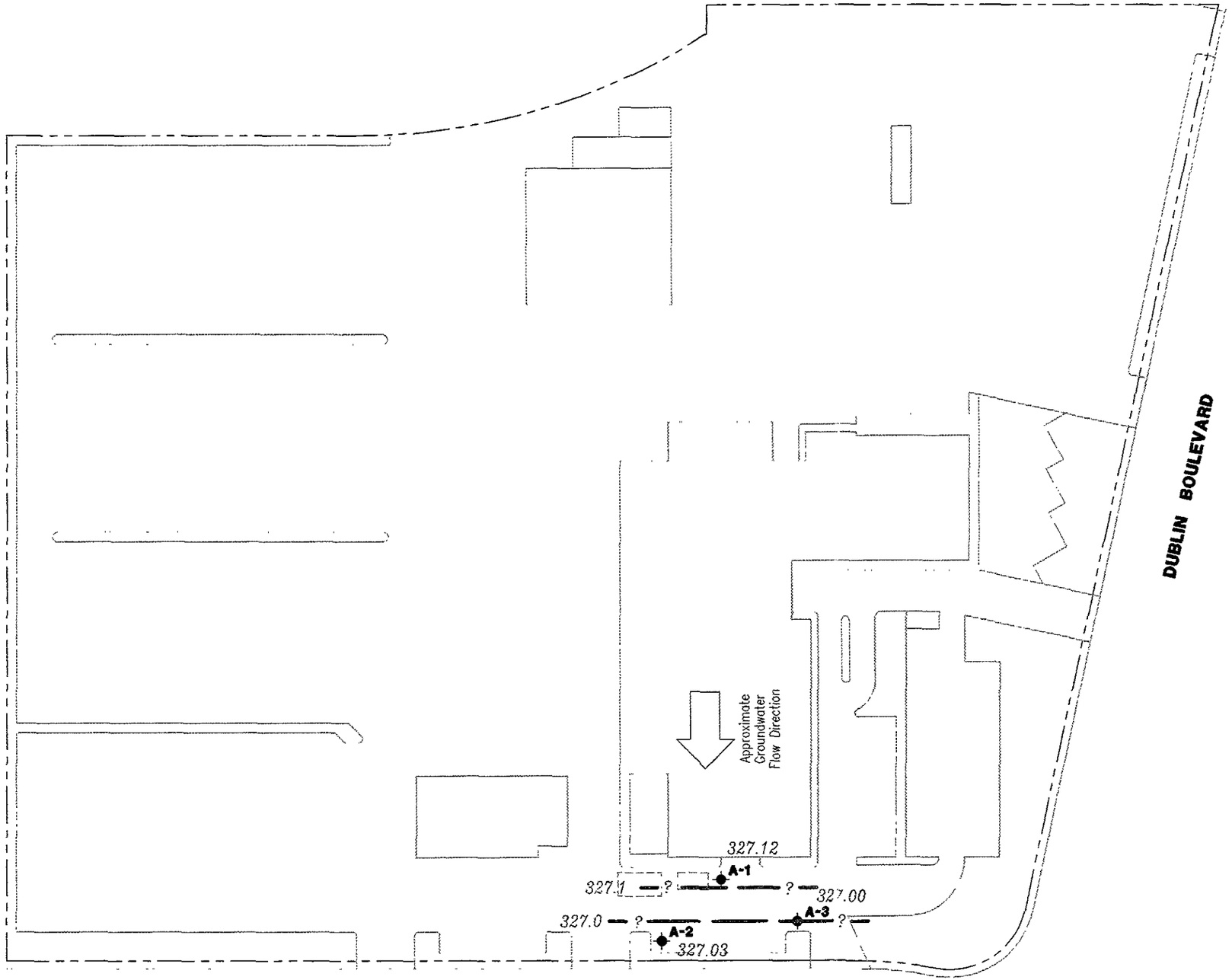
DATE 7/94
REVISED DATE
REVIEWED BY
JOB NUMBER 61.3001-5

GeoStrategies Inc.

GSI

EXPLANATION

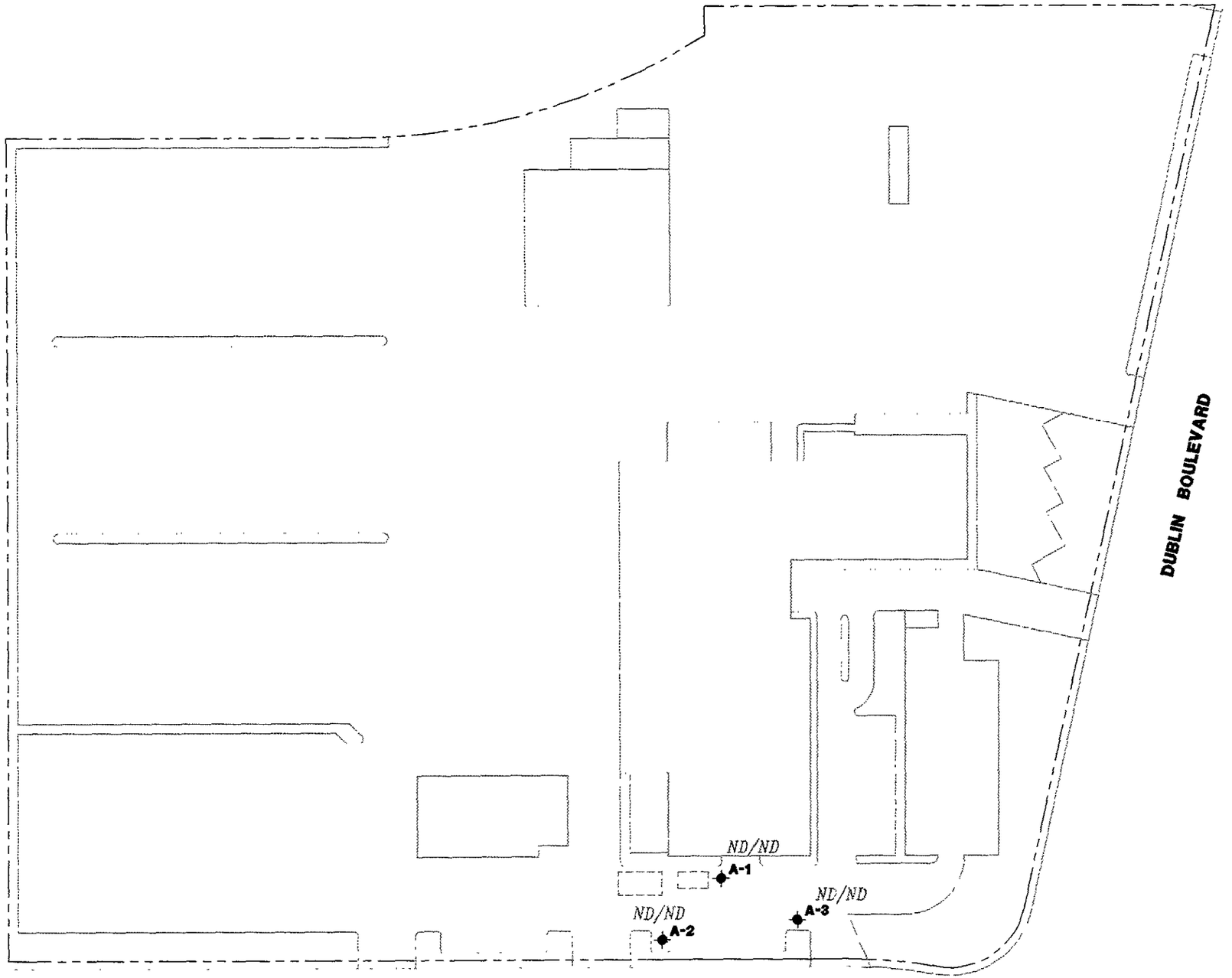
- Groundwater monitoring well
- 99.99 — Groundwater elevation in feet referenced to Mean Sea Level (MSL) measured on June 24, 1994
- 99.99 — Groundwater elevation contour. Approximate Gradient = 0.006




Base Map: Modified from plan supplied by Shamrock Ford

N

0 60
Scale in Feet




EXPLANATION

- Groundwater monitoring well
- *99/9.9* TPH–G (Total Petroleum Hydrocarbons calculated as Gasoline)/Benzene concentrations in ppb sampled on June 24, 1994
- *ND* Not Detected (See laboratory reports for detection limits)

Base Map: Modified from plan supplied by Shamrock Ford

0 60
Scale in Feet

FIGURE **6**

**TPH–G/BENZENE CONCENTRATION MAP**
SHAMROCK FORD
7499 Dublin Boulevard
Dublin, California

DATE 7/94
REVISED DATE
REVIEWED BY
JOB NUMBER 613001–5

GeoStrategies Inc.
GSI

# APPENDIX A

# G-R GROUNDWATER SAMPLING REPORT

**GEOSTRATEGIES INC.**
Environmental Consultants

MONITORING WELL
OBSERVATION SUMMARY SHEET

COMPANY: Shamrock Ford
JOB NO.: 6130.01
LOCATION: 7199 Dublin Blvd
DATE: 4-21-94
CITY: Dublin CA
TIME: 20:00 hrs.

| WELL ID | TOTAL WELL DEPTH | DEPTH TO LIQUID | HYDROCARBON THICKNESS | MEASUREMENT POINT TOB or TOC | COMMENTS |
|---|---|---|---|---|---|
| B-1 old tank A-1 | N/T | 5.96 | | TOC | |
| Northern well A-2 | | 7.83 | | | |
| Southern well A-3 | | 7.45 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments:

Sampler: [signature]
Assistant:

GEOSTRATEGIES INC.
Environmental Consultants

MONITORING WELL
OBSERVATION SUMMARY SHEET

COMPANY Shamrock Ford
LOCATION Dublin Blvd
CITY Dublin CA

JOB NO. 8130.01
DATE 5-17-94
TIME 9:30 a.

| WELL ID | TOTAL WELL DEPTH | DEPTH TO LIQUID | HYDROCARBON THICKNESS | MEASUREMENT POINT TOB or TOC | COMMENTS |
|---|---|---|---|---|---|
| A-1 | NT | 5.92 | — | TOC | |
| A-2 | NT | 7.71 | — | TOC | |
| A-3 | NT | 7.29 | — | TOC | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments:

Sampler: F. Cline

Assistant:

GEOSTRATEGIES INC.
Environmental Consultants

MONITORING WELL
OBSERVATION SUMMARY SHEET

COMPANY Shamrock Ford
JOB NO. 91.3C
LOCATION 7499 Dublin Blvd
DATE 6-24-94
CITY Dublin CA
TIME

| WELL ID | TOTAL WELL DEPTH | DEPTH TO LIQUID | HYDROCARBON THICKNESS | MEASUREMENT POINT TOB or TOC | COMMENTS |
|---|---|---|---|---|---|
| A-1 | 15' | 6.21 (5.76) | 0 | TOB (TOC) | |
| A-2 | 15.1' | 7.41 (7.13) | 0 | ↓ | |
| A-3 | 15' | 7.44 (7.18) | C | ↓ | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments:

Sampler: [signature]
Assistant:

6130.01

# GETTLER–RYAN INC.

General and Environmental Contractors

## WELL SAMPLING FIELD DATA SHEET

COMPANY Shamrock Ford JOB # 6130

LOCATION Dublin Blvd DATE 6-24-94

CITY Dublin CA TIME

Well ID. A-1 Well Condition okay

Well Diameter 2" in. Hydrocarbon Thickness — ft.

Total Depth 15' ft.

Depth to Liquid- 6.21 ft.

| Volume Factor (VF) | | | |
|---|---|---|---|
| | 2" = 0.17 | 6" = 1.50 | 12" = 5.80 |
| | 3" = 0.38 | 8" = 2.60 | |
| | 4" = 0.66 | 10" = 4.10 | |

(# of casing volumes) 5 x 8.79 x(VF) 0.17 = (Estimated Purge Volume) 15.25 gal.

Purging Equipment Bailer

Sampling Equipment Bailer

Starting Time 5:38 Purging Flow Rate gpm.

(Estimated Purge Volume) gal. / (Purging Flow Rate) gpm. = (Anticipated Purging Time) min.

| Time | pH | Conductivity | Temperature | Volume |
|---|---|---|---|---|
| 5:40 | 6.86 | 1340 | 66.4 | 1.6 |
| 5:42 | 6.83 | 1367 | 65.5 | 3.2 |
| 5:44 | 6.82 | 1364 | 66.0 | 4.8 |
| 5:46 | 6.83 | 1365 | 65.8 | 6.4 |
| 6:15 | 6.83 | 1364 | 65.8 | 8.0 |

Did well dewater? Yes If yes, time 5:46 Volume 6.4

Sampling Time 6:15 Weather Conditions Dark

Analysis Gas Diesel / MTBE BTXE 8260 Bottles Used 8-

Chain of Custody Number

COMMENTS

FOREMAN [signature] ASSISTANT

# GETTLER–RYAN INC.

General and Environmental Contractors

## WELL SAMPLING FIELD DATA SHEET

COMPANY Shamrock Env JOB # 5130

LOCATION Dublin Blvd DATE 6-24-94

CITY Dublin CA TIME

Well ID. A-2 Well Condition okay

Well Diameter 2" in. Hydrocarbon Thickness ft.

Total Depth 15' ft.

Depth to Liquid- 7.41 ft.

| Volume Factor (VF) | 2" = 0.17 | 3" = 0.38 | 4" = 0.66 | 6" = 1.50 | 8" = 2.60 | 10" = 4.10 | 12" = 5.80 |
|---|---|---|---|---|---|---|---|

(# of casing volumes) 5 x 7.59 x(VF) 0.17 = (Estimated Purge Volume) 1.29 6.45 gal.

Purging Equipment Bailer

Sampling Equipment Bailer

Starting Time 4:46 Purging Flow Rate gpm.

(Estimated Purge Volume) gal. / (Purging Flow Rate) gpm. = (Anticipated Purging Time) min.

| Time | pH | Conductivity | Temperature | Volume |
|---|---|---|---|---|
| 4:48 | 7.05 | 1214 | 64.4 | 1.3 |
| 4:50 | 7.03 | 1214 | 64.6 | 2.6 |
| 4:52 | 6.96 | 1216 | 64.0 | 3.9 |
| 4:54 | 6.90 | 1216 | 64.8 | 5.2 |
| 4:56 | 6.92 | 1216 | 64.8 | 6.5 |

Did well dewater? No If yes, time Volume

Sampling Time 4:56 Weather Conditions

Analysis Gas Diesel BTEX Water Oil Bottles Used

Chain of Custody Number

COMMENTS

FOREMAN [signature] ASSISTANT

# GETTLER–RYAN INC.

General and Environmental Contractors

WELL SAMPLING
FIELD DATA SHEET

COMPANY Shamrock Ford JOB # 6130

LOCATION Dublin Blvd DATE 6-24-97

CITY Dublin CA TIME

Well ID. A-3 Well Condition Okay.

Well Diameter 2" in. Hydrocarbon Thickness ft.

Total Depth 15' ft.

Depth to Liquid- 7.44 ft.

| Volume Factor (VF) | | | |
|---|---|---|---|
| | 2" = 0.17 | 6" = 1.50 | 12" = 5.80 |
| | 3" = 0.38 | 8" = 2.60 | |
| | 4" = 0.66 | 10" = 4.10 | |

(# of casing volumes) 5 x 7.56 x(VF) 0.17 = (Estimated Purge Volume) 13 64 gal.

Purging Equipment Bailer

Sampling Equipment Bailer

Starting Time 5:14 Purging Flow Rate gpm.

(Estimated Purge Volume) gal. / (Purging Flow Rate) gpm. = (Anticipated Purging Time) min.

| Time | pH | Conductivity | Temperature | Volume |
|---|---|---|---|---|
| 5:16 | 7.06 | 1196 | 6510 | 1.3 |
| 5:18 | 6.99 | 1216 | 6510 | 2.6 |
| 5:20 | 6.89 | 1216 | 6418 | 3.9 |
| 5:22 | 6.88 | 1213 | 6418 | 5.2 |
| 5:24 | 6.89 | 1211 | 6418 | 6.5 |

Did well dewater? NO If yes, time Volume

Sampling Time 5:26 Weather Conditions

Analysis Gas Diesel Motor Oil, BTXE, 8260 Bottles Used

Chain of Custody Number

COMMENTS

FOREMAN [signature] ASSISTANT

**Gettler - Ryan Inc.** ENVIRONMENTAL DIVISION — **Chain of Custody**

COMPANY Shamrock Ford JOB NO. 8130

JOB LOCATION 7499 Dublin Blvd

CITY Dublin CA PHONE NO.

AUTHORIZED Barbara Siemenski DATE 6-24-94 P.O. NO. 8130

| SAMPLE ID | NO. OF CONTAINERS | SAMPLE MATRIX | DATE/TIME SAMPLED | ANALYSIS REQUIRED | SAMPLE CONDITION LAB ID |
|---|---|---|---|---|---|
| A-1 | 8 | Liquid | 6-24-94/6:15 | THC Gas BTXE | |
| A-2 | 8 | ↓ | 14:56 | TPH Diesel Motor Oil | |
| A-3 | 8 | ↓ | 15:26 | Total Oil EG. Gasoline Metals Cd Cr Pb Ni Zn | |
| TB | 1 | — | — — | THC (Gas) BTXE | |

RELINQUISHED BY: 6-24-94

RECEIVED BY: Sandra R Hanson 6/24/94 3:4

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY LAB:

DESIGNATED LABORATORY: West Davis DHS #:

REMARKS: Normal TAT

DATE COMPLETED 6-24-94 FOREMAN

DUPLICATE

# APPENDIX B

# LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY FORM

July 8, 1994
Sample Log 9730

Barbara Siemenski
Gettler-Ryan Inc.
2150 W. Winston Avenue
Hayward, CA 94545

Subject: Analytical Results for 4 Water Samples
Identified as: Shamrock Ford
Received: 06/24/94
Purchase Order: 8130

Dear Ms. Siemenski:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on July 8, 1994 and describes procedures used to analyze the samples.

The sample(s) were received in:

1-L polyethylene bottle with polyethylene cap
1-L glass bottle sealed with TFE-lined cap
40-ml glass vials sealed with TFE-lined septae

Each sample was transported and received under documented chain of custody, assigned a consecutive log number and stored at 4 degrees Celsius until analysis commenced.

Sample(s) were analyzed using the following method(s):

"BTEX" (EPA Method 602/Purge-and-Trap)
"TPH as Gasoline" (Modified EPA Method 8015/Purge-and-Trap)
"TPH as Diesel,Motor Oil,Jet/Kerosene" (Mod. 8015/Extraction)
"Metals by Atomic Absorption/ICAP" (EPA Methods 7000/6010/200.7)
"Oil and Grease" (5520 B,F)

Please refer to the following table(s) for summarized analytical results and contact us at 916-753-9500 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:

Stewart Podolsky
Senior Chemist

Sample Log 9730

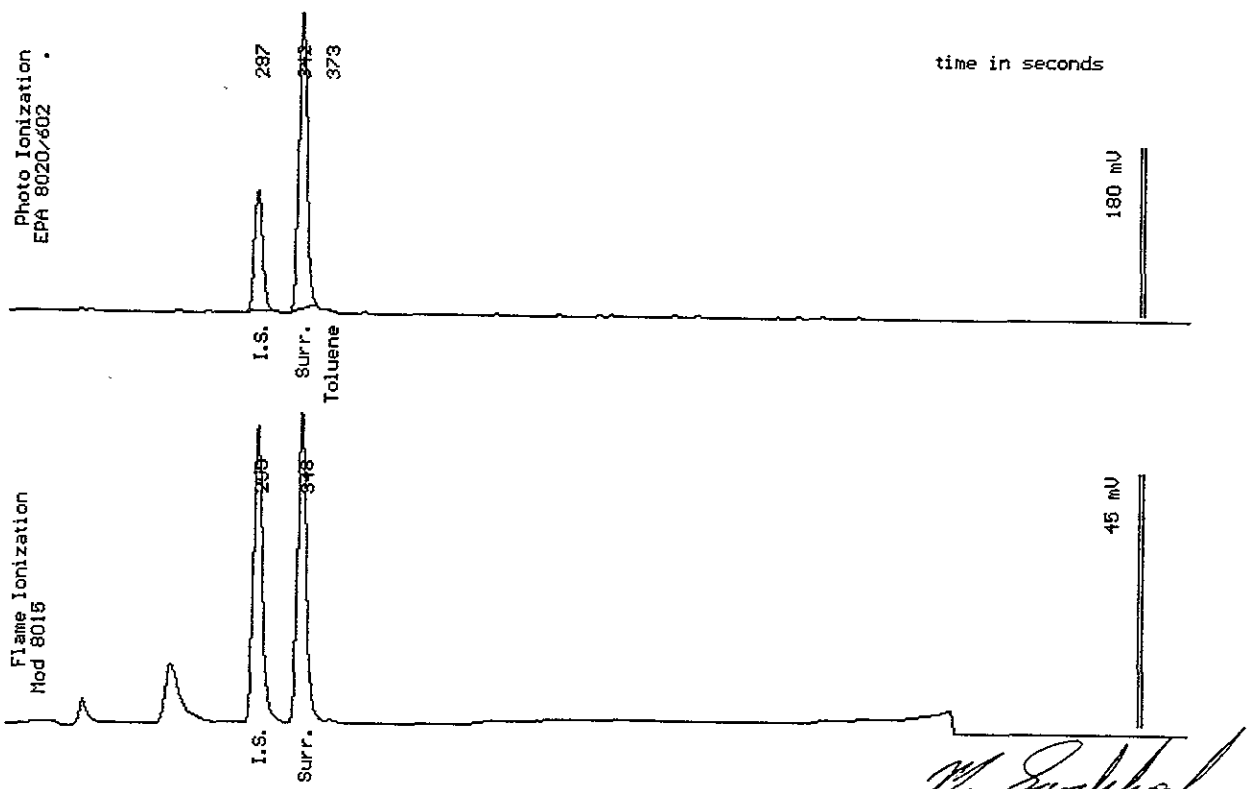
9730-1

Sample: A-1

From : Shamrock Ford
Sampled : 06/24/94
Dilution : 1:1
Matrix : Water

QC Batch : 2091a

| Parameter | (MRL) ug/L | Measured Value ug/L |
|---|---|---|
| Benzene | (.30) | <.30 |
| Toluene | (.30) | <.30 |
| Ethylbenzene | (.30) | <.30 |
| Total Xylenes | (.50) | <.50 |
| TPH as Gasoline | (50) | <50 |
| Surrogate Recovery | | 94 % |




Date Analyzed: 07-01-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

Sample Log 9730

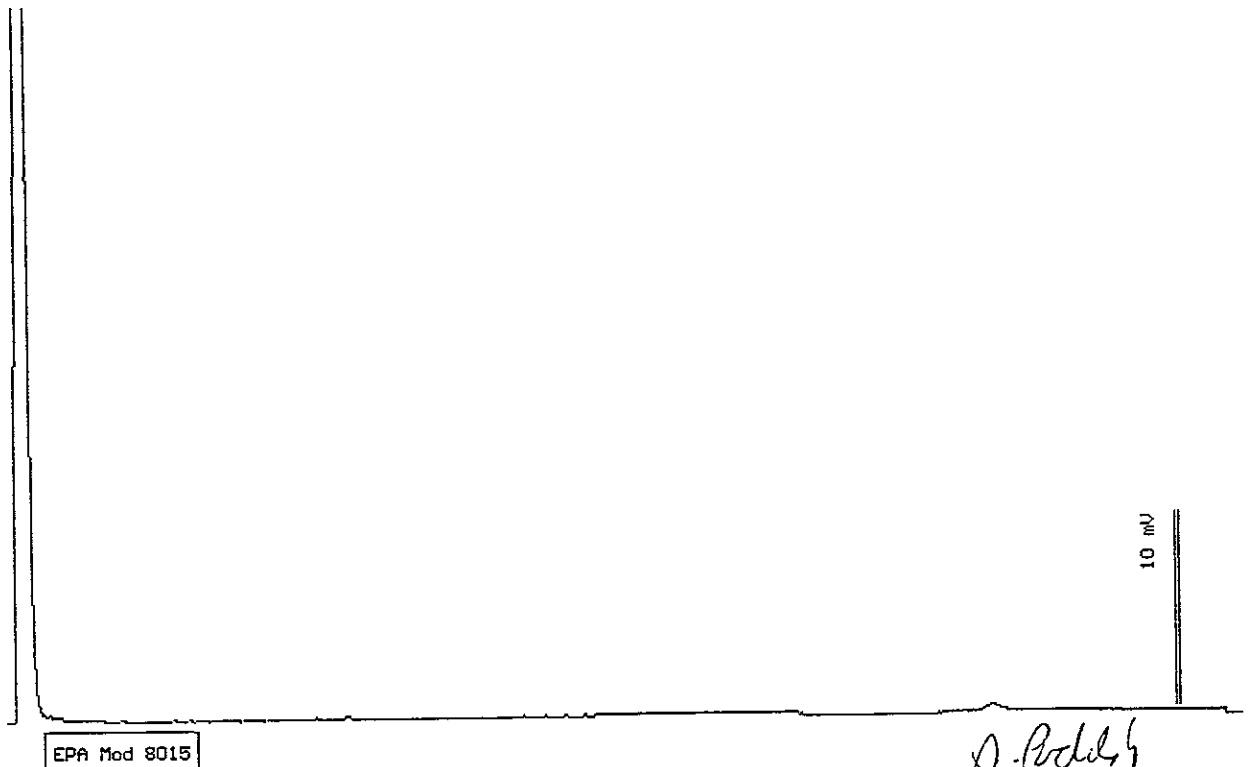
9730-1

Sample: A-1

From : Shamrock Ford
Sampled : 06/24/94
Extracted: 06/29/94
Dilution : 1:1
Matrix : Water

QC Batch : DW940611
Run Log : 8173F

| Parameter | (MRL) ug/L | Measured Value ug/L |
|---|---|---|
| TPH as Diesel | (50) | <50 |
| TPH as Motor Oil | (100) | <100 |




EPA Mod 8015

Date: 07-01-94 Time: 13:17:34
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

Sample Log 9730

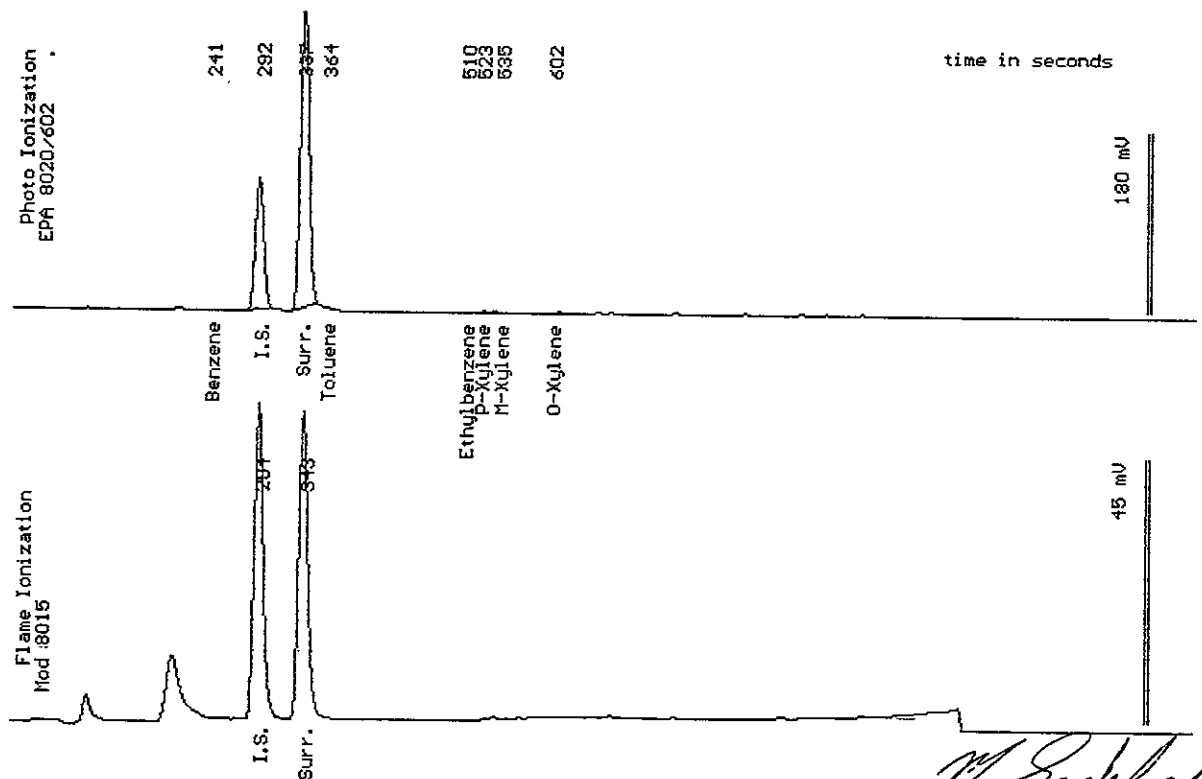
9730-2

Sample: A-2

From : Shamrock Ford
Sampled : 06/24/94
Dilution : 1:1
Matrix : Water

QC Batch : 2091a

| Parameter | (MRL) ug/L | Measured Value ug/L |
|---|---|---|
| Benzene | (.30) | <.30 |
| Toluene | (.30) | <.30 |
| Ethylbenzene | (.30) | <.30 |
| Total Xylenes | (.50) | <.50 |
| TPH as Gasoline | (50) | <50 |
| Surrogate Recovery | | 94 % |




Date Analyzed: 07-01-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

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Sample Log 9730

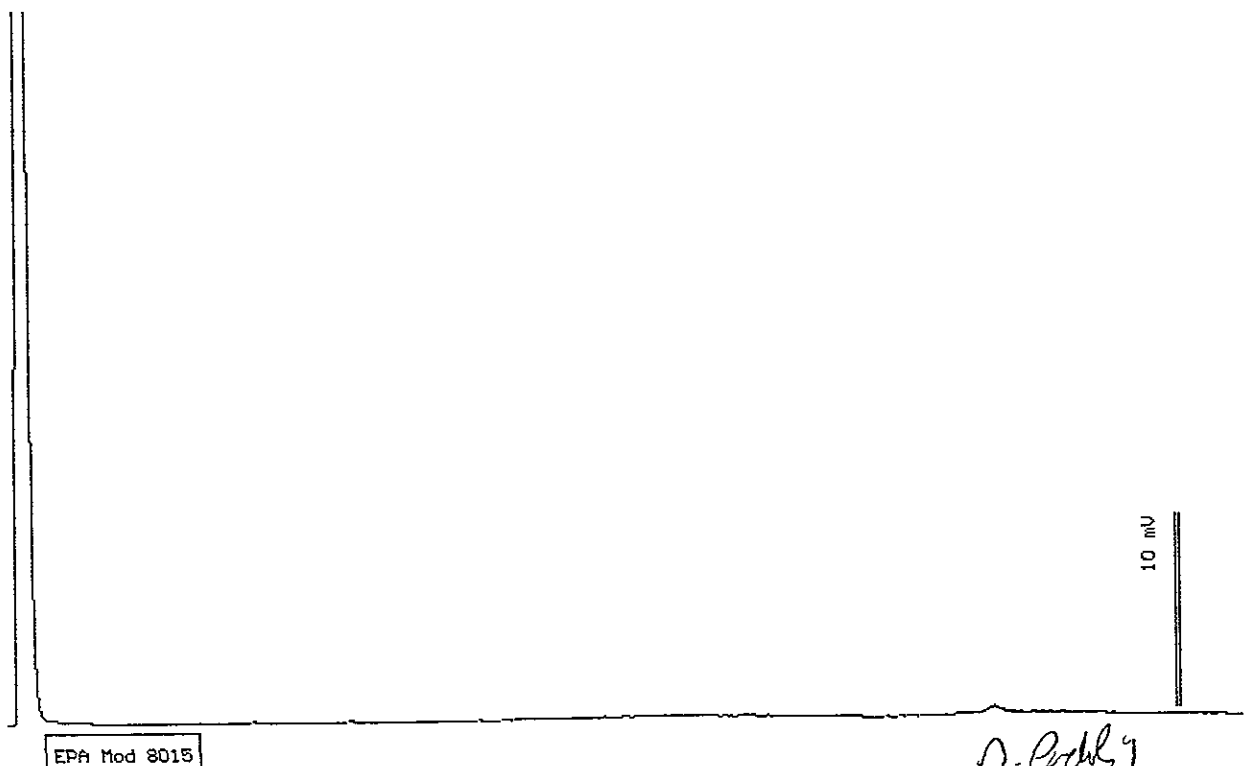
9730-2

Sample: A-2

From : Shamrock Ford
Sampled : 06/24/94
Extracted: 06/29/94
Dilution : 1:1
Matrix : Water

QC Batch : DW940611
Run Log : 8173F

| Parameter | (MRL) ug/L | Measured Value ug/L |
|---|---|---|
| TPH as Diesel | (50) | <50 |
| TPH as Motor Oil | (100) | <100 |




EPA Mod 8015

Date: 07-01-94 Time: 13:50:41
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

Sample Log 9730

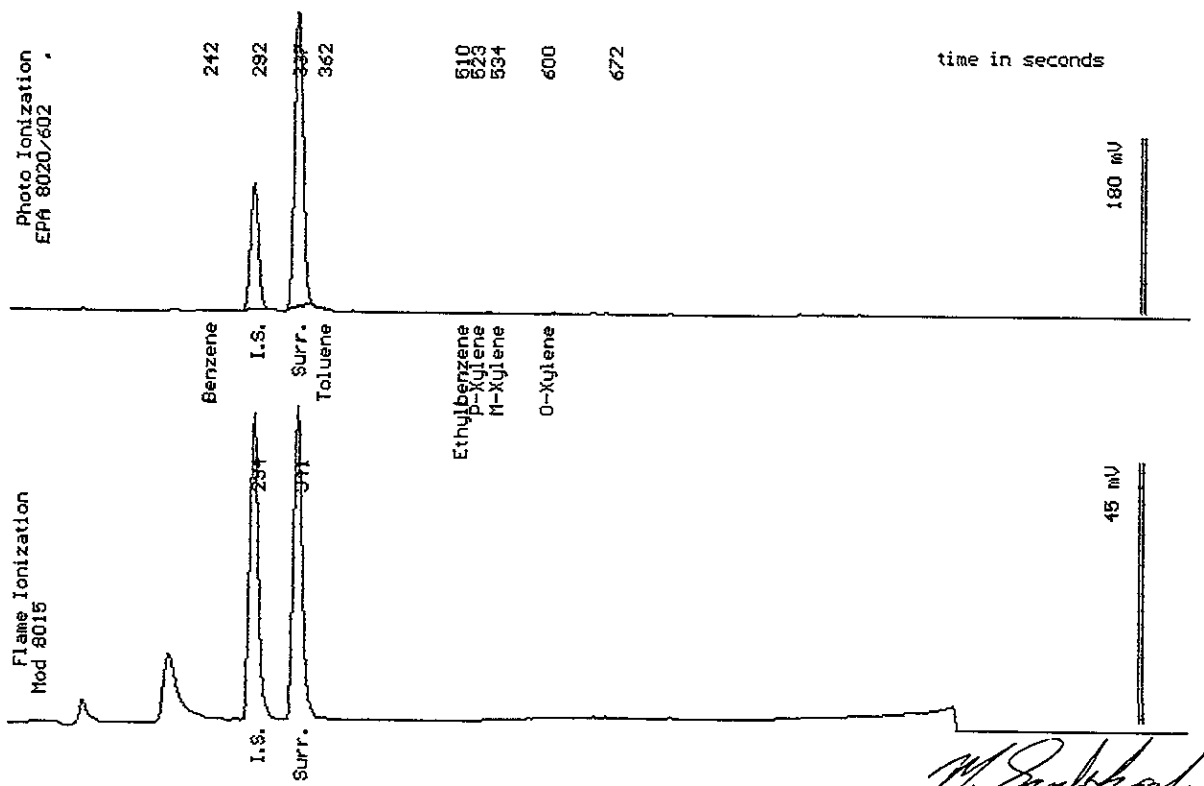
9730-3

Sample: A-3

From : Shamrock Ford
Sampled : 06/24/94
Dilution : 1:1
Matrix : Water

QC Batch : 2091a

| Parameter | (MRL) ug/L | Measured Value ug/L |
|---|---|---|
| Benzene | (.30) | <.30 |
| Toluene | (.30) | <.30 |
| Ethylbenzene | (.30) | <.30 |
| Total Xylenes | (.50) | <.50 |
| TPH as Gasoline | (50) | <50 |
| Surrogate Recovery | | 92 % |




Date Analyzed: 07-01-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

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Sample Log 9730

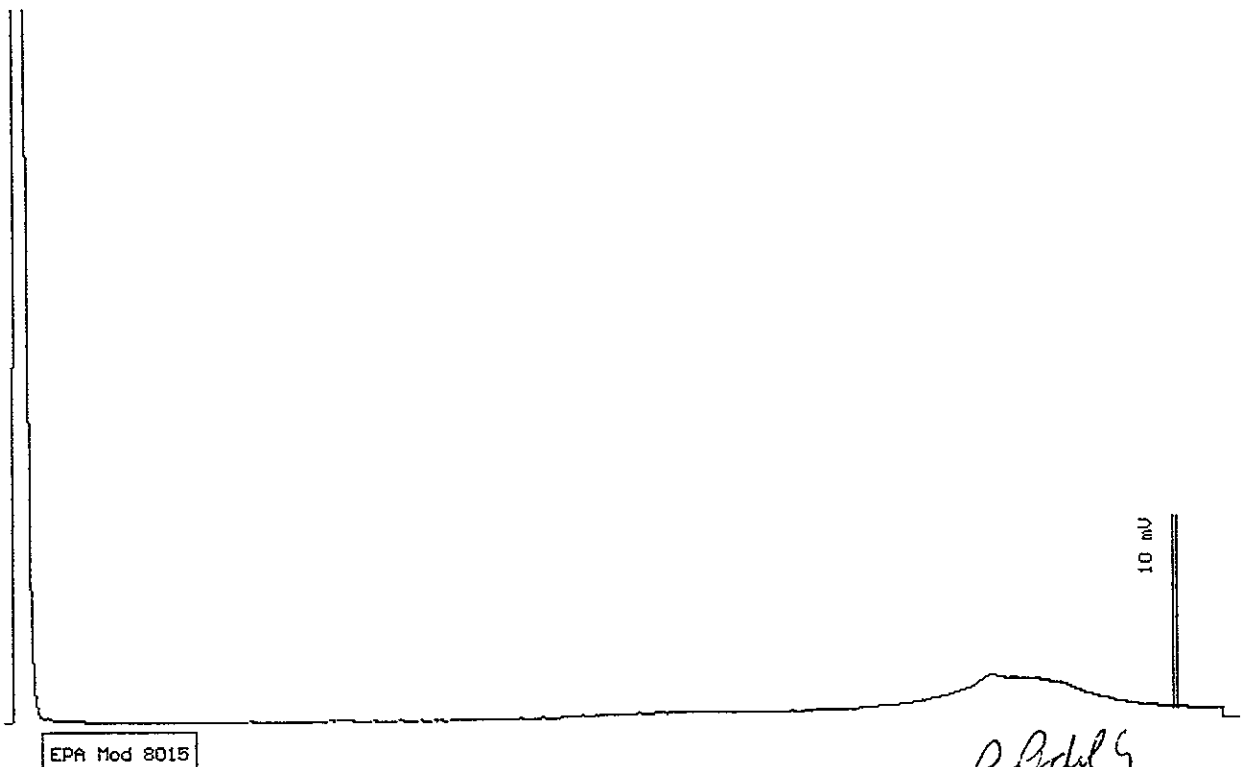
9730-3

Sample: A-3

From : Shamrock Ford
Sampled : 06/24/94
Extracted: 06/29/94
Dilution : 1:1
Matrix : Water

QC Batch : DW940611
Run Log : 8173F

| Parameter | (MRL) ug/L | Measured Value ug/L |
|---|---|---|
| TPH as Diesel | (50) | <50 |
| TPH as Motor Oil | (100) | <100 |




EPA Mod 8015

Date: 07-01-94 Time: 14:24:20
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

Sample Log 9730

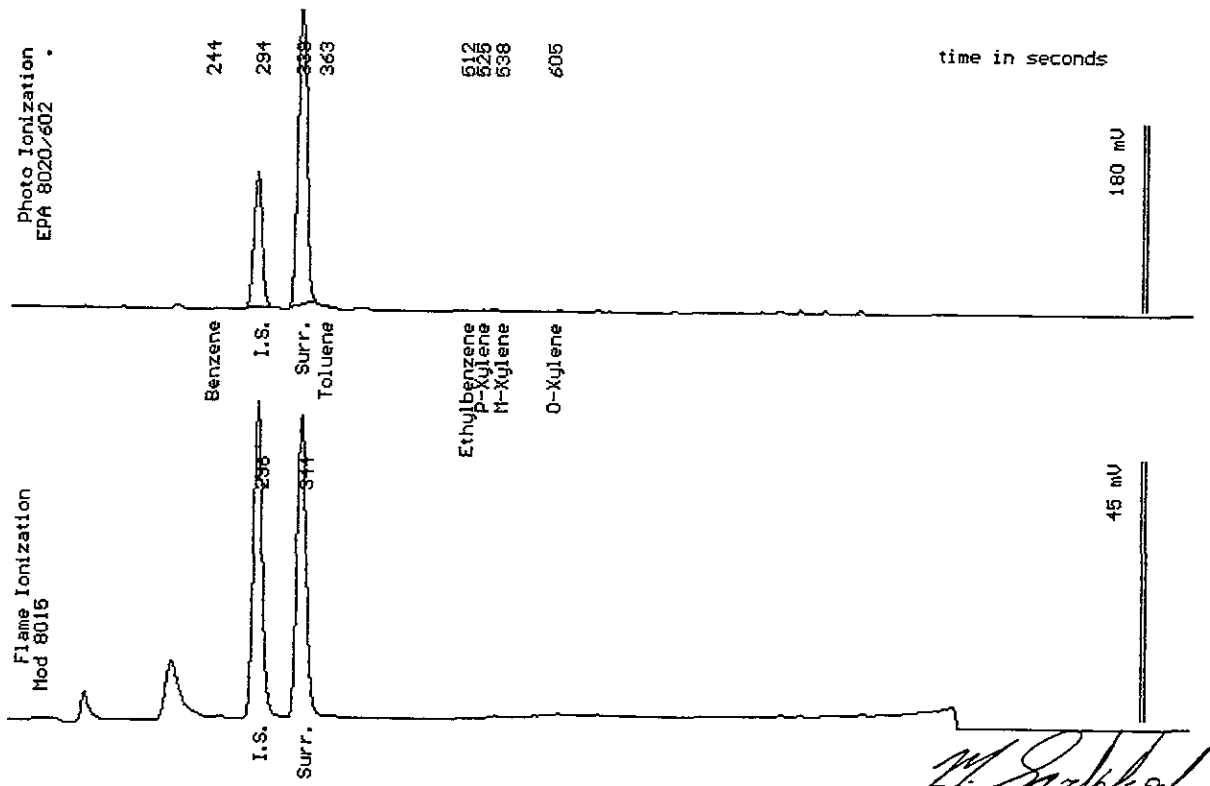
9730-4

Sample: TB

From : Shamrock Ford
Sampled : 06/24/94
Dilution : 1:1
Matrix : Water

QC Batch : 2091a

| Parameter | (MRL) ug/L | Measured Value ug/L |
|---|---|---|
| Benzene | (.30) | <.30 |
| Toluene | (.30) | <.30 |
| Ethylbenzene | (.30) | <.30 |
| Total Xylenes | (.50) | <.50 |
| TPH as Gasoline | (50) | <50 |
| Surrogate Recovery | | 94 % |




Date Analyzed: 07-01-94
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

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July 8, 1994

## Metals QC Report for Sample Log 9730

From : Shamrock Ford  Matrix: Water  Units: (mg/L)

### Method Blank

| Analyte | Result | MRL* | EPA Method | Date Digested | Date Analyzed |
|---|---|---|---|---|---|
| Cadmium | <0.004 | 0.004 | 6010 | 07/01/94 | 07/07/94 |
| Chromium | <0.007 | 0.007 | 6010 | 07/01/94 | 07/07/94 |
| Lead | <0.003 | 0.003 | 7421 | 07/01/94 | 07/05/94 |
| Nickel | <0.015 | 0.015 | 6010 | 07/01/94 | 07/07/94 |
| Zinc | <0.010 | 0.010 | 6010 | 07/01/94 | 07/07/94 |

* MRL = Method Reporting Limit

### Matrix Spikes

| Analyte | MS %Recov | MSD %Recov | RPD | EPA Method | Date Digested | Date Analyzed |
|---|---|---|---|---|---|---|
| Cadmium | 106 | 110 | 4 | 6010 | 07/01/94 | 07/07/94 |
| Chromium | 91 | 89 | 2 | 6010 | 07/01/94 | 07/07/94 |
| Lead | 103 | 107 | 4 | 7421 | 07/01/94 | 07/05/94 |
| Nickel | 92 | 94 | 2 | 6010 | 07/01/94 | 07/07/94 |
| Zinc | 99 | 99 | 0 | 6010 | 07/01/94 | 07/07/94 |

MS = Matrix Spike  MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

Michelle L. Anderson
Inorganics Supervisor

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July 8, 1994
Sample Log 9730-1

Sample : A-1
From : Shamrock Ford
Sampled : 06/24/94
Matrix : Water

Received : 06/24/94
Units : mg/L

**5 LUFT "Waste Oil" Metals**

| Parameter | EPA Method | Date Digested | Date Analyzed | MRL* | Result |
|---|---|---|---|---|---|
| Cadmium | 6010 | 07/01/94 | 07/07/94 | (0.004) | 0.0044 |
| Chromium | 6010 | 07/01/94 | 07/07/94 | (0.007) | 0.025 |
| Lead | 7421 | 07/01/94 | 07/05/94 | (0.030) | <0.003 |
| Nickel | 6010 | 07/01/94 | 07/07/94 | (0.015) | 0.023 |
| Zinc | 6010 | 07/01/94 | 07/07/94 | (0.010) | <0.010 |

* MRL = Method Reporting Limit

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July 8, 1994
Sample Log 9730-2

Sample : A-2
From : Shamrock Ford
Sampled : 06/24/94
Matrix : Water

Received : 06/24/94
Units : mg/L

**5 LUFT "Waste Oil" Metals**

| Parameter | EPA Method | Date Digested | Date Analyzed | MRL* | Result |
|---|---|---|---|---|---|
| Cadmium | 6010 | 07/01/94 | 07/07/94 | (0.004) | <0.004 |
| Chromium | 6010 | 07/01/94 | 07/07/94 | (0.007) | 0.030 |
| Lead | 7421 | 07/01/94 | 07/05/94 | (0.030) | <0.003 |
| Nickel | 6010 | 07/01/94 | 07/07/94 | (0.015) | 0.030 |
| Zinc | 6010 | 07/01/94 | 07/07/94 | (0.010) | 0.013 |

* MRL = Method Reporting Limit

Michelle L. Anderson
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July 8, 1994
Sample Log 9730-3

Sample : A-3
From : Shamrock Ford
Sampled : 06/24/94
Matrix : Water

Received : 06/24/94
Units : mg/L

**5 LUFT "Waste Oil" Metals**

| Parameter | EPA Method | Date Digested | Date Analyzed | MRL* | Result |
|---|---|---|---|---|---|
| Cadmium | 6010 | 07/01/94 | 07/07/94 | (0.004) | <0.004 |
| Chromium | 6010 | 07/01/94 | 07/07/94 | (0.007) | 0.039 |
| Lead | 7421 | 07/01/94 | 07/05/94 | (0.030) | 0.0047 |
| Nickel | 6010 | 07/01/94 | 07/07/94 | (0.015) | 0.022 |
| Zinc | 6010 | 07/01/94 | 07/07/94 | (0.010) | 0.026 |

* MRL = Method Reporting Limit

Michelle L. Anderson
Inorganics Supervisor

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July 8, 1994
Sample Log 9730

Total Oil and Grease (Standard Methods 5520 B,F)
From : Shamrock Ford
Received : 06/24/94
Matrix : Water

--all concentrations are units of ug/l--

| Sample | Date Sampled | Date Analyzed | MRL | (5520 B,F) Oil and Grease |
|---|---|---|---|---|
| A-1 | 06/24/94 | 07/06/94 | (1000) | <1000 |
| A-2 | 06/24/94 | 07/06/94 | (1000) | <1000 |
| A-3 | 06/24/94 | 07/06/94 | (1000) | <1000 |

QC Batch: KW940701

D. Podolsky

Stewart Podolsky
Senior Chemist

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July 8, 1994
Sample Log 9730

**QC Report**
Total Oil and Grease (Standard Methods 5520 B,F)

From : Shamrock Ford

QC Batch KW940701

**Spike and Spike Duplicate Results** **Matrix: Water**

| Parameter | Matrix Spike (%Rec) | Matrix Spike Dup. (%Rec) | RPD % |
|---|---|---|---|
| O&G Gravimetric | Not enough sample for spiking. See duplicate LCS Data. | | |

**Laboratory Control Spike** **Matrix: Water**

| Paramater | Laboratory Control Spike (%Rec) | Laboratory Control Spike Dup. (%Rec) | RPD % |
|---|---|---|---|
| O&G Gravimetric | 94 | 99 | 5 |

**Method Blank** **Matrix: Water**

| Parameter | MDL(ug/L) | Measured Value(ug/L) |
|---|---|---|
| O&G Gravimetric | (1000) | <1000 |

D. Podolsky

Stewart Podolsky
Senior Chemist

July 8, 1994
Sample Log 9730

QC Report for EPA 602 & Modified EPA 8015

From : Shamrock Ford
Sample(s) Received : 06/24/94

| Parameter | Matrix Spike % Recovery | Matrix Spike Duplicate % Recovery | RPD * |
|---|---|---|---|
| Benzene | 95 | 95 | 0 |
| Ethylbenzene | 98 | 99 | 1 |
| TPH as Gasoline | 90 | 84 | 7 |

* RPD = Relative Percent Difference

| Parameter | Method Blank |
|---|---|
| Benzene | <0.30 ug/L |
| Toluene | <0.30 ug/L |
| Ethylbenzene | <0.30 ug/L |
| Total Xylenes | <0.50 ug/L |
| TPH as Gasoline | <50 ug/L |

Mitra Sarkhosh
Senior Chemist

July 8, 1994
Sample Log 9730

QC Report
TPH Diesel/Motor Oil by 8015 Mod

From : Shamrock Ford

QC Batch DW940611 Matrix: Water

**Spike and Spike Duplicate Results**

| Parameter | Matrix Spike (%Rec) | Matrix Spike Dup. (%Rec) | RPD % |
|---|---|---|---|
| TPH as Diesel | No sample available for spiking. See duplicate LCS data. | | |

**Laboratory Control Spike**

| Parameter | Laboratory Control Spike (%Rec) | Laboratory Control Spike Dup. (%Rec) | RPD % |
|---|---|---|---|
| TPH as Diesel | 97 | 105 | 8 |

**Method Blank**

| Parameter | MDL(ug/L) | Measured Value(ug/L) |
|---|---|---|
| TPH as Diesel | (50) | <50 |
| TPH as Motor Oil | (100) | <100 |

D. Podolsky

Stewart Podolsky
Senior Chemist

**Gettler - Ryan Inc.** ENVIRONMENTAL DIVISION — **Chain of Custody**

COMPANY Shamrock Ford JOB NO. 8130

JOB LOCATION 7499 Dublin Blvd

CITY Dublin CA PHONE NO.

AUTHORIZED Barbara Siemenski DATE 6-24-94 P.O. NO. 8130

| SAMPLE ID | NO. OF CONTAINERS | SAMPLE MATRIX | DATE/TIME SAMPLED | ANALYSIS REQUIRED | SAMPLE CONDITION LAB ID |
|---|---|---|---|---|---|
| A-1 | 8 | Liquid | 6-24-94/6:15 | THC Gas BTXE | |
| A-2 | 8 | ↓ | 14:56 | TPH Diesel & Motor Oil | |
| A-3 | 8 | ↓ | 15:26 | Total Oil & Grease Metals Cd Cr Pb Ni Zn | |
| TB | 1 | — | — — | THC (Gas) BTXE | |

RELINQUISHED BY: 6-24-94

RECEIVED BY: Sandra R Hanson 6/24/94 3:4

RELINQUISHED BY: Sandra R Hanson 6/24/94

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY LAB: John Keese 6/24/94

DESIGNATED LABORATORY: West Davis DHS #:

REMARKS: Normal TAT

RECEIVED by WEST 00C date 06/24/94

DATE COMPLETED 6-24-94 FOREMAN