TRANSMITTAL

TO: Ms. Eva Chu
ACHCSA
80 Swan Way, Room 200
Oakland, California 94621

DATE: January 31, 1994
PROJECT #: 6130.01
SUBJECT: Initial Subsurface Investigation Report for Shamrock Ford

FROM:
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cc: **Mr. Craig Caldwell**, Shamrock Ford
Job File, GSI

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INITIAL SUBSURFACE INVESTIGATION

Shamrock Ford
7499 Dublin Boulevard
Dublin, California

613001-3

January 26, 1994

GeoStrategies Inc.

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INITIAL SUBSURFACE INVESTIGATION
Shamrock Ford,
7499 Dublin Boulevard, Dublin, California

INTRODUCTION

At the request of Shamrock Ford, GeoStrategies Inc. (GSI) performed an initial subsurface investigation at the Shamrock Ford site, located at 7499 Dublin Boulevard in Dublin, California, and prepared this report of the investigation. This work was requested by Ms. Eva Chu of Alameda County Health Care Services Agency (ACHCSA) after groundwater samples collected from the tank pits during removal of one gasoline underground storage tank (UST) and one waste-oil UST indicated the presence of gasoline and waste-oil related hydrocarbons in groundwater beneath the subject site. The purpose of this work was to evaluate the presence and extent of hydrocarbon impacted soil and groundwater beneath the site.

The work for this investigation was performed as specified in the GSI Work Plan (GSI, October 27, 1993) approved by Ms. Eva Chu of ACHCSA in the letter dated November 15, 1993. The work performed included: drilling three onsite soil borings, collecting soil samples from the borings for description and possible laboratory analyses; installing three 2-inch diameter groundwater monitoring wells (A-1 through A-3) in the borings; submitting selected soil samples for laboratory analyses; developing wells A-1 through A-3; surveying wells A-1 through A-3; monitoring, purging and sampling groundwater from wells A-1 through A-3 and submitting groundwater samples for laboratory analyses; and preparing a report including field methods, results, and conclusions of the investigation.

Field work was performed to comply with current Regional Water Quality Control Board (RWQCB) and local agency guidelines.

SITE DESCRIPTION AND BACKGROUND

General

Shamrock Ford is an operating dealership facility located at the northern corner of the intersection of Dublin Boulevard and Amador Plaza Road in Dublin, California. The site location is shown on Plate 1, Vicinity map. The site is a relatively flat, asphalt- and concrete-covered lot at an elevation of approximately 335 feet above mean sea level.

One 1,000-gallon waste-oil UST (T1) and one 2,000-gallon gasoline UST (T2) were located in the southwestern portion of the site adjacent to the auto repair center. The approximate locations of the former tanks and other pertinent site features are shown on Plate 2, Site Plan.

Regional and Local Geology and Hydrogeology

Shamrock Ford site is located in the northwestern end of the Livermore Valley, within the Coast Ranges Geomorphic Province of Northern California. The Livermore Valley is approximately 13 miles long oriented in an east-west direction, approximately 4 miles wide, and is bounded by hills of the Diablo Range. In the vicinity of the subject site, the valley floor slopes gently to the south-southeast. Soil in the vicinity of the subject site is mapped as Holocene alluvium consisting of unconsolidated, moderately to poorly sorted silt and clay rich in organic material, interfingered with and graded into coarser grained stream deposits toward higher elevations (Helley and others, 1979). Holocene alluvium (estimated to be 10 to 50 feet thick) overlies Pleistocene alluvium, which consists of weakly consolidated, poorly sorted, irregularly interbedded clay, silt, sand and gravel, and in turn overlies older sedimentary deposits. The Calaveras Fault is approximately ½-mile west of the site.

The Livermore Valley groundwater basin is divided into subbasins on the basis of fault traces or other hydrogeologic discontinuities (California Department of Water Resources, 1974). The groundwater system in Livermore Valley is a multi-layered system with an unconfined aquifer

overlying a sequence of leaky or semi-confined aquifers. The subject site is located within the Dublin groundwater subbasin. The groundwater in this subbasin has been reported to be at depths ranging from 10 to 60 feet below ground (fbg) (Alameda County Flood Control and Water Conservation District [ACFCWCD], January 16, 1991).

The site is approximately ¼-mile north of Dublin Creek. The direction of groundwater flow in the vicinity of the site is inferred to be to the southeast, based on regional and local topography, and drainage patterns.

PREVIOUS ENVIRONMENTAL WORK

In June 1993, Gettler-Ryan Inc. (G-R) removed one 1000-gallon single-walled steel waste-oil UST (T1), and one 2000-gallon single-walled steel gasoline UST (T2) (GSI, 1993). Tank removal was observed by GSI personnel. Examination of the waste-oil UST (T1) indicated that this tank was pitted and rusted, and had holes up to 1-inch in diameter throughout the lower half of the tank. Examination of the gasoline UST (T2) indicated that this tank was in good condition with no visible through-going holes. The backfill material excavated from the tank pit above and around the tanks was predominantly coarse grained sand. The native soil consisted of silty clay to sandy silt to 8 fbg. Groundwater was encountered in the tank pits at the depth of approximately 7 fbg. Approximately 100 cubic yards of backfill soil were removed from the tank pit excavations, and after aeration were disposed at BFI Landfill in Livermore, California.

Two soil samples were collected from native soil from the side walls of each tank pit at depths of approximately 7 feet, just above the groundwater surface.

Laboratory analyses of both soil samples (S-7-T1-1 and S-7-T1-2) collected from the former waste-oil tank pit indicated nondetectable concentrations of total petroleum hydrocarbons calculated as gasoline (TPH-G), gasoline constituents benzene, ethylbenzene, toluene and total

xylenes (BTEX), total petroleum hydrocarbons calculated as diesel (TPH-D), total petroleum hydrocarbons calculated as motor oil (TPH-MO), oil and grease (O&G), and volatile organic compounds (VOCs). Concentrations of the metals: cadmium (Cd), chromium (Cr), lead (Pb), nickel (Ni) and zinc (Zn) were up to 1.5 parts per million (ppm), 51 ppm, 14 ppm, 37 ppm, and 86 ppm, respectively. Metals appear to be present in the soil in normal background concentrations (Lindsay, 1979; and Scott, 1991).

Laboratory analyses of soil samples collected from the former gasoline tank pit indicated nondetectable TPH-G and BTEX for the sample collected from the southern wall of the tank pit (S-7-T2-1), and 2.4 ppm TPH-G and up to 0.094 ppm BTEX for the sample collected from the northern wall (S-7-T2-2). Lead was detected at a concentration of 12 ppm in sample S-7-T2-1, which is within normal background concentrations (Lindsay, 1979; and Scott, 1991); and was nondetectable in sample S-7-T2-2. Laboratory analyses results for tank pit soil samples are presented in Table 1, Laboratory Analyses of Tank Pit Soil Samples.

Groundwater samples were collected from the tank pits after the tank pits were purged. Laboratory analytical results for the groundwater sample (W-7-T1) collected from the former waste-oil tank pit indicated 150 parts per billion (ppb) TPH-G; up to 11 ppb BTEX; 8,600 ppb TPH-MO; and 2,200 ppb O&G. Metals including Cd, Cr, Pb, Ni and Zn were detected at concentrations of 17 ppb, 460 ppb, 850 ppb, 1200 ppb, and 530 ppb, respectively. TPH-D concentration was reported as nondetectable, however, the reporting limit was increased to 100 ppb due to oil interference. 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 (W-7-T2) collected from the former gasoline tank pit indicated 3600 ppb TPH-G; up to 540 ppb BTEX; and 16 ppb of lead. Laboratory analyses results for water samples collected from the tank pits are presented in Table 2, Laboratory Analyses of Tank Pit Water Samples.

FIELD WORK

Drilling

Field work at the site was conducted in accordance with the GSI Field Methods and Procedures presented in the GSI Work Plan dated October 27, 1993, and the Site Safety Plan (GSI, December 7, 1993). Well construction permit was acquired from the Alameda County Flood Control and Water Conservation District (ACFCWCD) prior to drilling at the site. A copy of the well permit is included in Appendix A, Well Construction Permit.

On December 17, 1993, three soil borings (A-1 through A-3) were drilled using a Mobile Drill B-61 in the inferred downgradient vicinity of the former USTs, see Plate 2. A GSI geologist observed the drilling and described the soil samples collected from borings using the Unified Soil Classification System (ASTM D 2488-84) and Munsell Color Chart, and prepared a lithologic log for each boring. Borings A-1 through A-3 were drilled with 8 inch outer-diameter hollow-stem augers to an approximate depth of 16½ to 18 fbg, and converted to groundwater monitoring wells.

The earth materials encountered at the site during drilling consisted primarily of silty and sandy clay to clayey silt interbedded with clayey sand. Silty and sandy clay to clayey silt was encountered immediately beneath the ground surface in borings A-1 through A-3, and extended to the depth of approximately 9 to 9½ fbg. A unit consisting of sandy clay with clayey sand lenses was encountered beneath the silty and sandy clay

to clayey silt. Clayey sand lenses in this unit contained white subangular grains of evaporite minerals. Groundwater was encountered in the sandy clay with clayey sand lenses unit at the depths ranging from 9 to 9½ fbg and stabilized at depths of approximately 7 to 7½ fbg. A stratum of sandy clay which may act as a perching or confining layer was encountered in borings A-1 through A-3 beneath sandy clay with clayey sand lenses at depth of approximately 14½ to 15½ fbg and extended to the total depth of the borings (16½ to 18 fbg). The graphic interpretation of soil stratigraphy beneath the site is shown on Geologic Cross Section A-A' (Plate 3). The location of the cross section is shown on Plate 2. Exploratory boring logs and graphic well construction details are presented in Appendix B.

Drill cuttings generated during drilling were stored onsite, placed on and covered with visqueen. After drilling was completed on December 17, 1993, four soil samples were collected from the soil stockpile and submitted for compositing and analyses to the laboratory to determine the proper disposal action for the soil stockpile.

Soil Sampling and Description

Soil samples were collected at five-foot or less intervals from borings A-1 through A-3. The soil samples were collected using a modified California split-spoon sampler fitted with stainless steel sample tube liners. Soil samples retained for chemical analyses were sealed on both ends with aluminum foil and plastic end caps. Samples were labeled, entered onto a Chain-of-Custody form, and transported in a cooler with ice to the laboratory.

An Organic Vapor Monitor (OVM) photoionization detector was used to perform head-space analyses on soils from each sample interval, as a reconnaissance-level field test to evaluate the presence of hydrocarbons in the soil. OVM readings for soil samples collected from borings A-1

through A-3 indicated nondetectable concentrations of hydrocarbons. OVM readings are presented on each boring log (in PID column) in Appendix B.

Well Construction

Three groundwater monitoring wells (A-1 through A-3) were constructed in the borings. Groundwater monitoring wells were completed with 2-inch-diameter, Schedule 40, polyvinylchloride (PVC) casing. Well casings were set in wells A-1 through A-3 to depths of approximately 15 fbg. The screened casings consisted of 2-inch-diameter, 0.020 inch-wide machine-slotted PVC set from the total depths of the wells to approximate depth of 7 fbg. Blank PVC casing was set from the top of each screened casing to approximately ½ foot below the ground surface. The wells were secured with 2-inch expandable locking well caps. Each well was covered with highway rated Christie box cemented to grade.

Graphic well construction details are presented on the exploratory boring logs in Appendix B.

Well Development

The groundwater monitoring wells were hand-developed by a Gettler-Ryan Inc (G-R) field technician on December 22, 1993, to remove fine-grained sediments and allow better communication between the water-bearing zone and the groundwater monitoring well. Well Development Forms are included in Appendix C.

Well Monitoring and Sampling

On December 23, 1993, G-R field personnel obtained depth-to-water (DTW) measurements in groundwater monitoring wells A-1 through A-3, visually inspected groundwater from the wells for the presence of floating

product, and purged and collected groundwater samples from each well. Depth to groundwater and floating product observations are summarized in Table 3, Groundwater Monitoring Data. Well Sampling Field Data Sheets are attached in Appendix C.

Water level data collected on December 23, 1993, were reference to Mean Sea Level (MSL) datum and used to construct a potentiometric map shown on Plate 4. The gradient of the groundwater beneath the site is approximately 0.004 with the flow direction toward the northeast.

Floating product was not observed in any well on December 23, 1993.

Water generated during well development and purging for sampling was removed from the site and transported for recycling to Gibson Environmental in Redwood City, California, on January 17, 1994. Prior to disposal, development and purge water was stored in drums onsite.

Well Survey

On December 27, 1993, wells A-1 through A-3 were surveyed to a U.S. Coast and Geodetic Survey Datum by Virgil Chavez, a California Licenced Land Surveyor. The results of this well survey are included in Appendix D.

LABORATORY ANALYSES

Soil and groundwater samples collected during this investigation were preserved as required by the applicable analytical method and delivered, with Chain-of-Custody Records, to Western Environmental Science and Technology of Davis, California (WEST), a State-certified laboratory (Hazardous Waste Testing Laboratory Certification #1346).

Soil Samples from Borings

Selected soil samples collected from borings A-1 through A-3 were analyzed for TPH-G using Modified Environmental Protection Agency (EPA) Method 8015/Purge-and-Trap; BTEX using EPA Method 8020/Purge-and-Trap; TPH-D and TPH-MO using Modified EPA Method 8015/Extraction; O&G using Standard Methods # 5520 E,F; VOCs using EPA Method 8240; and metals (Cd, Cr, Pb, Ni and Zn) using EPA Methods 7000/6010.

Laboratory analyses of soil samples collected from borings A-1 through A-3 reported nondetectable concentrations of TPH-G, BTEX, TPH-D, TPH-MO and VOCs. O&G concentrations were nondetectable in all samples submitted for laboratory analyses except for sample (A3-8.5) collected at a depth of 8.5 fbg in boring A-3, which indicated 77 ppm. However, according to the laboratory, this result does not represent mineral oil and grease, but is due to the presence of a white non-petroleum residue which the samples yielded during extraction. Concentrations of metals Cd, Cr, Ni and Zn were up to 1.9 ppm, 48 ppm, 51 ppm, and 61 ppm, respectively, and lead was nondetectable (less than 10 ppm). Metals appear to be present in the soil in normal background concentrations (Lindsay, 1979; and Scott, 1991). Soil chemical analytical data are summarized in Table 4, Laboratory Analyses of Boring Soil Samples. The soil chemical analytical reports and Chain-of-Custody Forms are presented in Appendix E.

Stockpile Samples

The stockpile samples were composited in the laboratory and analyzed for TPH-G using Modified EPA Method 8015; BTEX using EPA method 8020; Total Recoverable Petroleum Hydrocarbons using Method 418.1; VOCs using EPA Method 8240; and metals using EPA Methods 7000/6010/200.7.

Laboratory analyses of composite soil samples collected from the soil stockpile reported nondetectable concentrations of TPH-G, BTEX and VOCs. Concentrations of Total Recoverable Petroleum Hydrocarbons and metals were within acceptable limits for disposal. The soil stockpile will be removed from the site and transported to BFI Landfill in Livermore, California.

The soil stockpile chemical analytical data are summarized in Table 4, and the analytical reports and the Chain-of-Custody Form are presented in Appendix E.

Groundwater Samples

A groundwater samples collected from groundwater monitoring wells A-1 through A-3 on December 23, 1993, 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/Extraction; O&G using Standard Methods 5520 B,F; VOCs using EPA Method 624; and metals Cd, Cr, Pb, Ni and Zn using EPA Method 7000/6010/200.7.

Laboratory analytical results for the groundwater sample collected from wells A-1 through A-3 indicated nondetectable concentrations of TPH-G, BTEX, TPH-D, TPH-MO, O&G and VOCs. Metals Cd, Cr, and Ni were detected at concentrations exceeding Maximum Contaminant Levels (MCLs) of 10 ppb, 50 ppb and 100 ppb, respectively, in groundwater sample collected in well A-2. Concentration of metals in groundwater samples collected from wells A-1 and A-3 were below MCLs, except Cr which slightly exceeded MCL. Based on the upgradient location of well A-2 to former USTs, it appears that the concentrations of Cd, Cr and Ni detected in groundwater sample from well A-2 represent the natural background level at this location. The presence of soluable evaporites in the soil beneath the site may contribute to the high levels of metals detected in well A-2.

The results of laboratory analyses of groundwater samples collected from groundwater monitoring wells A-1 through A-3 are summarized in Table 5, Laboratory Analyses of Groundwater Samples. Concentrations of TPH-G and benzene are also shown on Plate 5. The groundwater chemical analytical reports and Chain-of-Custody Forms are presented in Appendix C.

SUMMARY

The results of this investigation are presented below:

- Three exploratory borings were drilled on-site on December 17, 1993, and completed as groundwater monitoring wells A-1 through A-3.

- The lithology of the borings consisted primarily of silty and sandy clay to clayey silt interbedded with clayey sand to the total depth explored of 18 fbg. Groundwater was first encountered in the borings at depths ranging between 9 and 9½ and stabilized at depths 7 to 7½ fbg.

- The groundwater gradient of the first encountered water bearing zone beneath the site is interpreted to be approximately 0.004 (very flat) with the flow direction to the northeast.

- Based on the laboratory analytical results the soils in the western, southern and southeastern vicinity of the former waste-oil and gasoline USTs have not been impacted by hydrocarbons and metals.

- Groundwater in the western, southern and southeastern vicinity of the former waste-oil and gasoline USTs appears not to be impacted by waste-oil and gasoline related hydrocarbons. Concentrations of

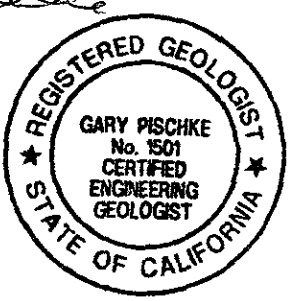
metals in groundwater beneath the site appear to be within the natural background levels, although above MCLs.

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

Sincerely,
GeoStrategies Inc.

Barbara Sieminski
Project Geologist

Gary Pischke
Senior Geologist
C.E.G. 1501



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TABLES

TABLE 1
LABORATORY ANALYSES OF TANK PIT SOIL SAMPLES
Shamrock Ford
Dublin, California

TANK PIT/ SAMPLE NO.	SAMPLE DATE	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)	TPH-D (PPM)	TPH-MO (PPM)	O&G (PPM)	VOCs (PPM)	METALS (PPM)
Waste-oil Tank Pit											
S-7-T1-1	23-Jun-93	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<10	<10	<50	ND*	Cadmium - 1.5 Chromium - 49 Lead - 13 Nickel - 34 Zinc - 86
S-7-T1-2	23-Jun-93	<0 50	<0.0050	<0.0050	<0.0050	<0.0050	<10	<10	<50	ND*	Cadmium - 1.3 Chromium - 51 Lead - 14 Nickel - 37 Zinc - 56
Gasoline Tank Pit											
S-7-T2-1	23-Jun-93	<0.50	<0 0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA	Lead - 12
S-7-T2-2	23-Jun-93	2.4	0.015	0 0060	0.030	0.094	NA	NA	NA	NA	Lead - <10

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
PPM = Parts per Million
ND = Not detected
* = 35 compounds tested
NA = Not analyzed

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

TABLE 2
LABORATORY ANALYSES OF TANK PIT WATER SAMPLES
Shamrock Ford
Dublin, California

TANK PIT/ SAMPLE NO.	SAMPLE DATE	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)	TPH-D (PPB)	TPH-MO (PPB)	O&G (PPB)	VOCs (PPB)	METALS (PPB)
Waste-oil Tank Pit											
W-7-T1	29-Jun 93	150	3.4	6.5	2.2	11	<100*	8600	2200	ND** except: Methylene Chloride - 4.4; Acetone - 34; Benzene - 2.6, Toluene 6.1; P,M-Xylene - 5.6; O-Xylene - 3.2	Cadmium - 17 Chromium - 460 Lead - 850 Nickel - 1200 Zinc - 530
Gasoline Tank Pit											
W-7-T2	24-Jun 93	3600	67	40	170	540	NA	NA	NA	NA	Lead - 16

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
ND = Not detected
NA = Not analyzed
* = Reporting limit increased due to oil interference.
** = 35 compounds tested.
Notes: 1. All data shown as <x are reported as ND (none detected).

TABLE 3
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
23-Dec-93	A-2	7.43	334.16	326.73	0.00
23-Dec-93	A-3	7.50	334.18	326.68	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 4
LABORATORY ANALYSES OF BORING SOIL SAMPLES
Shamrock Ford
Dublin, California
December 17, 1993

SAMPLE NO.	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)	TPH-D (PPM)	TPH-MO (PPM)	O&G (PPM)	VOCs (PPM)	METALS (PPM) Cd	Cr	Pb	Zn	Ni
A1-5 5	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<10	<10	<50	ND*	1.3	39	<10	50	34
A1-7.5	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<10	<10	<50	ND*	1.5	48	<10	61	40
A1-16	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<10	<10	<50	ND*	1.3	43	<10	52	33
A2-5.5	<0 50	<0.0050	<0.0050	<0.0050	<0.0050	<10	<10	<50	ND*	1.7	40	<10	49	35
A2-8.5	<0 50	<0.0050	<0.0050	<0.0050	<0.0050	<10	<10	<50	ND*	1.6	48	<10	57	35
A2-17 5	<0.50	<0 0050	<0.0050	<0.0050	<0.0050	<10	<10	<50	ND*	1.7	41	<10	52	36
A3-5.5	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<10	<10	<50	ND*	1.9	41	<10	51	51
A3-8 5	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<10	<10	77**	ND*	1.6	48	<10	58	38
A3-16	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<10	<10	<50	ND*	1.8	48	<10	56	42
Stockpile Sample S-1217-SPABCD	<0.50	<0.0003	<0.0003	<0.0003	<0.0005	NA	NA	490***	ND*	1.6	45 [0.1]	8.0	44	54

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.
PPM = Parts per Million
Cd = Cadmium
Cr = Chromium
Pb = Lead
Zn = Zinc
Ni = Nickel

Sample Identification:
A1-16.5
| └── Depth in feet
└──── Well ID

ND = Not detected
* = 38 compounds tested
** = Sample extracts yielded a white non-petroleum residue.
*** = Total Recoverable Petroleum Hydrocarbons analyzed by EPA Method 418.1
[] = STLC Metals results

Notes: 1. All data shown as <x are reported as ND (none detected).
2. Stockpile sample S-1217-SPABCD was analyzed also for: antimony (<3.2 ppm), arsenic (6.8 ppm, [0.16 ppm]), barium (130 ppm), beryllium (0.90 ppm), cobalt (11 ppm, [0.0068 ppm]), copper (26 ppm), mercury (<0.50 ppm, [<0.0050 ppm]), molybdenum (<0.80 ppm), selenium (<4.0), silver (0.90 ppm), thallium (<1.0) and vanadium (41ppm).

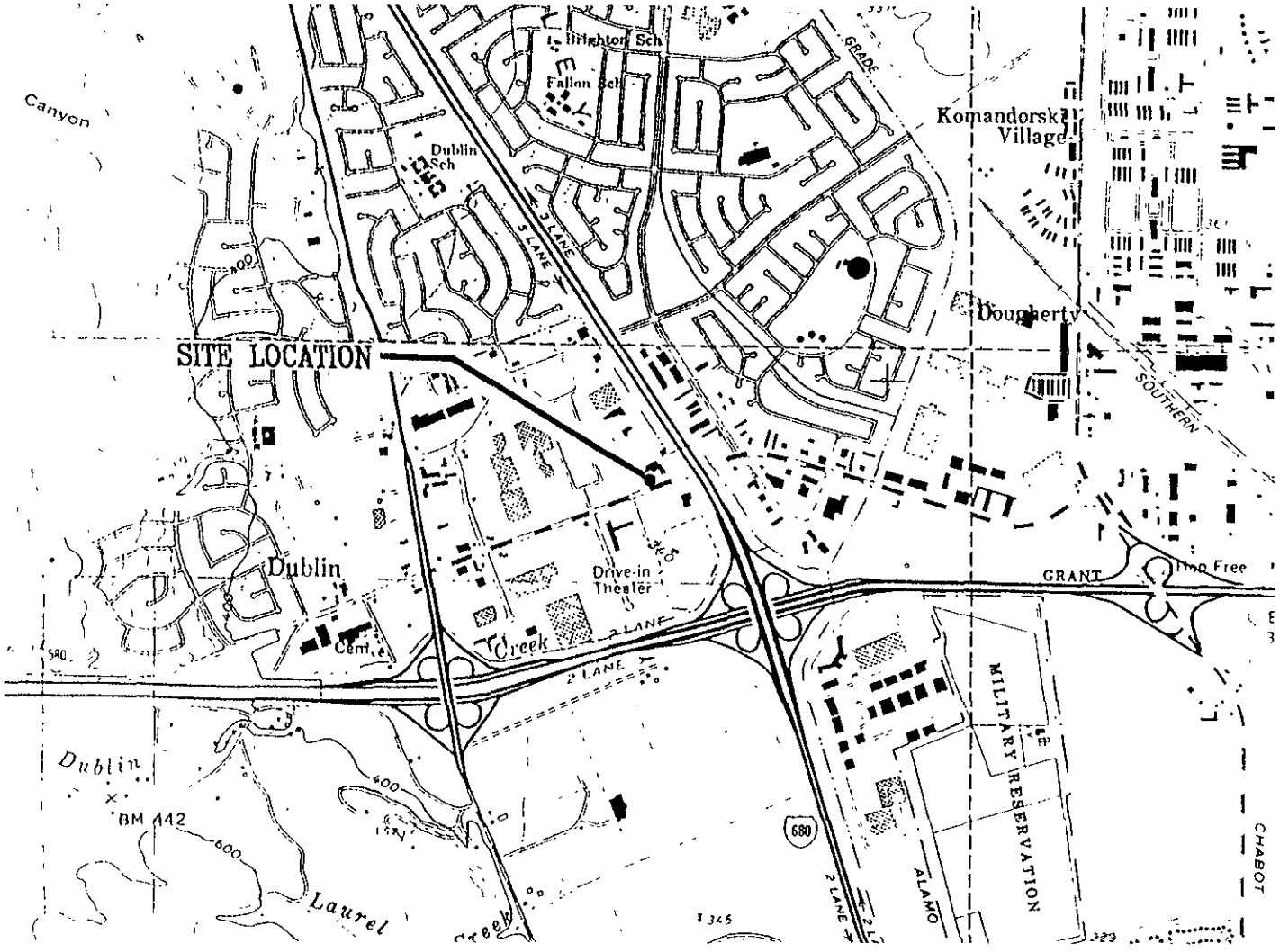
TABLE 5
LABORATORY ANALYSES OF GROUNDWATER SAMPLES
Shamrock Ford
Dublin, California

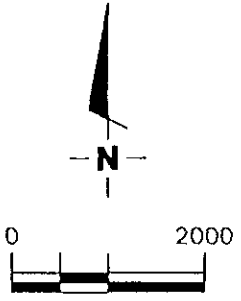
SAMPLE DATE	SAMPLE POINT	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZE -NE (PPB)	XYLENES (PPB)	TPH-D (PPB)	TPH-MO (PPB)	O&G (PPB)	VOCs (PPB)	METALS (PPB) Cd	Cr	Pb	Zn	Ni
23-Dec-93	A-1	<50	<0.30	<0.30	<0.30	<0.50	<50	<100	<1000	ND*	5.2	54	4.0	42	41
23-Dec-93	A-2	<50	<0 30	<0.30	<0.30	<0.50	<50	<100	<1000	ND*	13	190	15	210	150
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

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

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





Base Map: USGS Topographic Map

GeoStrategies Inc.

VICINITY MAP
SHAMROCK FORD
7499 Dublin Boulevard
Dublin, California

PLATE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
6100		8/93	

PLATE 2

EXPLANATION

- Groundwater monitoring well
- Cross section

3C
3B
BUILDING
3A
TRAILER 4
PARKING
PLANTER
PARKING
PARKING
1A
BUILDING
DISPLAY SPACES
PLANTER
DUBLIN BOULEVARD
PARKING
1B
DISPLAY SPACES
PARKING
BUILDING
2
C
FORMER W.O. UST
DISPLAY SPACES
PLANTER
FORMER GASOLINE UST
A
A'
A-1
A-2
A-3
PLANTER
PLANTER
PLANTER
AMADOR PLAZA ROAD

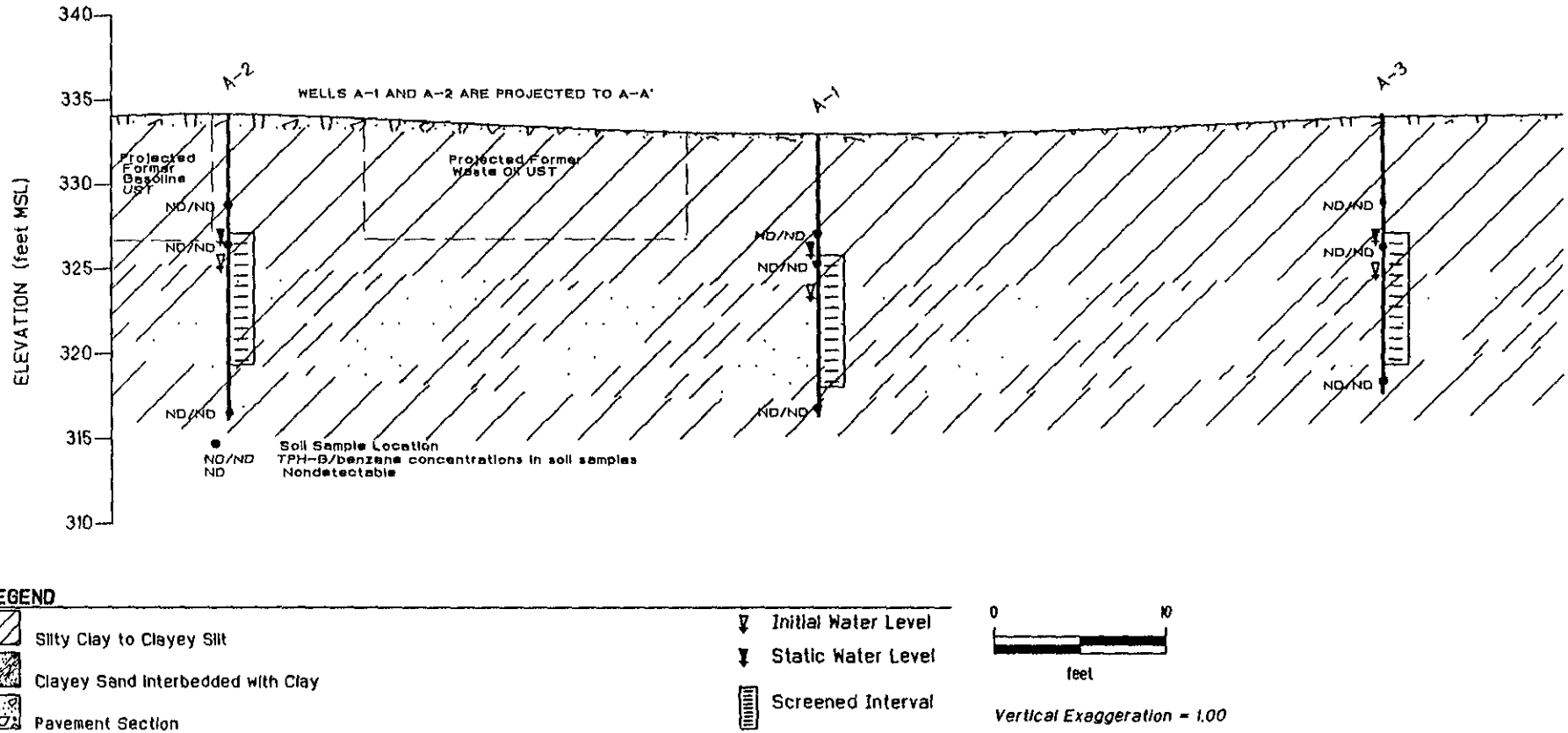
Base Map: Modified from plan supplied by Shamrock Ford

0 60
Scale in Feet

SITE PLAN
SHAMROCK FORD
7499 Dublin Boulevard
Dublin, California

DATE 1/94
REVIEWED BY
REVISED DATE
JOB NUMBER 6130

GeoStrategies Inc.



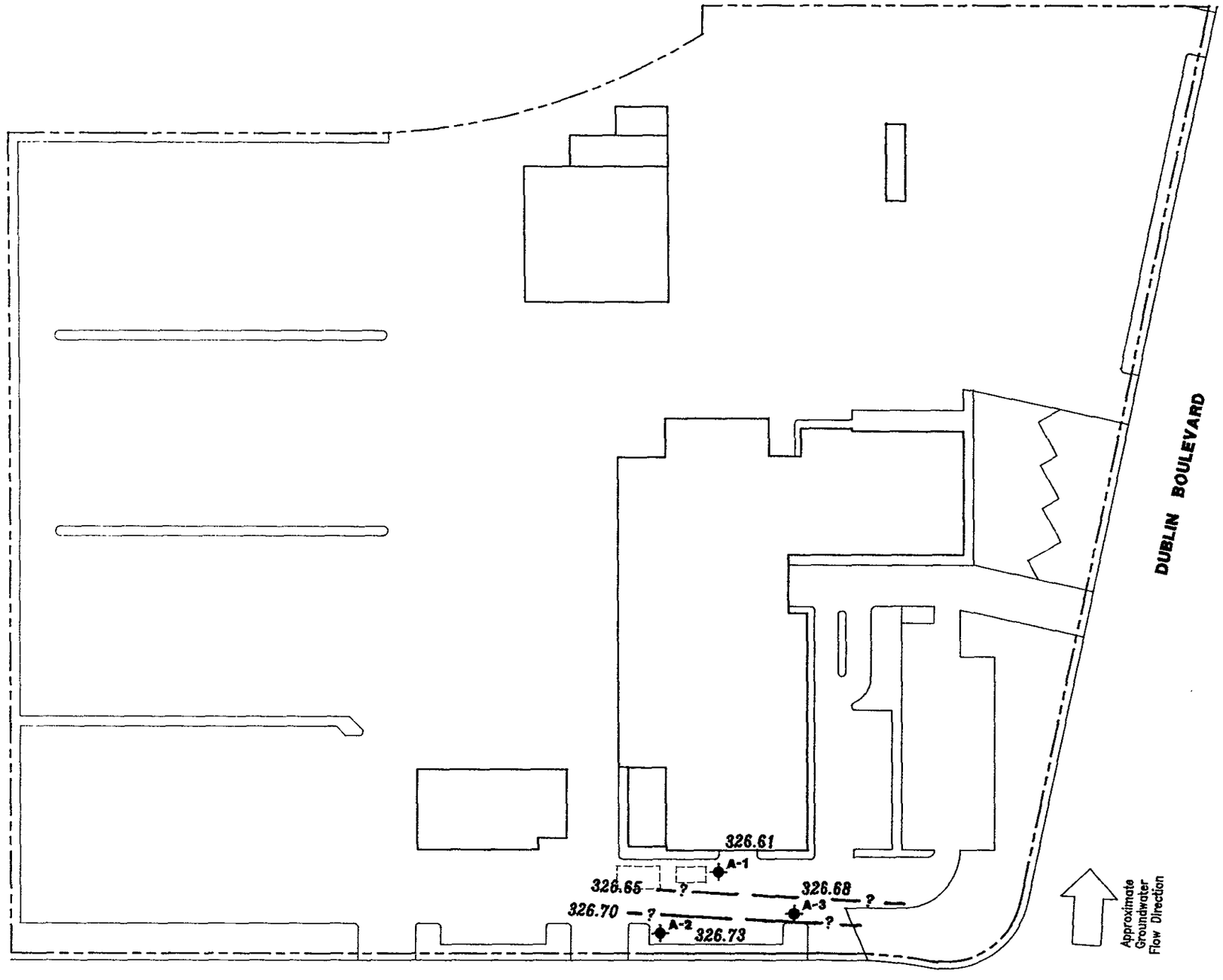
GeoStrategies Inc.

GEOLOGIC CROSS SECTION A-A'
Shamrock Ford
7499 Dublin Boulevard
Dublin, California

PLATE
3

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
613001-3	BZ	1/94	

PLATE 4



EXPLANATION

- Groundwater monitoring well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL) measured on December 23, 1993
- 99.99 Groundwater elevation contour. Approximate Gradient = 0.004

NOTES: 1. Contours may be influenced by irrigation practices and/or site construction activities.

Base Map: Modified from plan supplied by Shamrock Ford

0 60
Scale in Feet

POTENTIOMETRIC MAP
SHAMROCK FORD
7499 Dublin Boulevard
Dublin, California

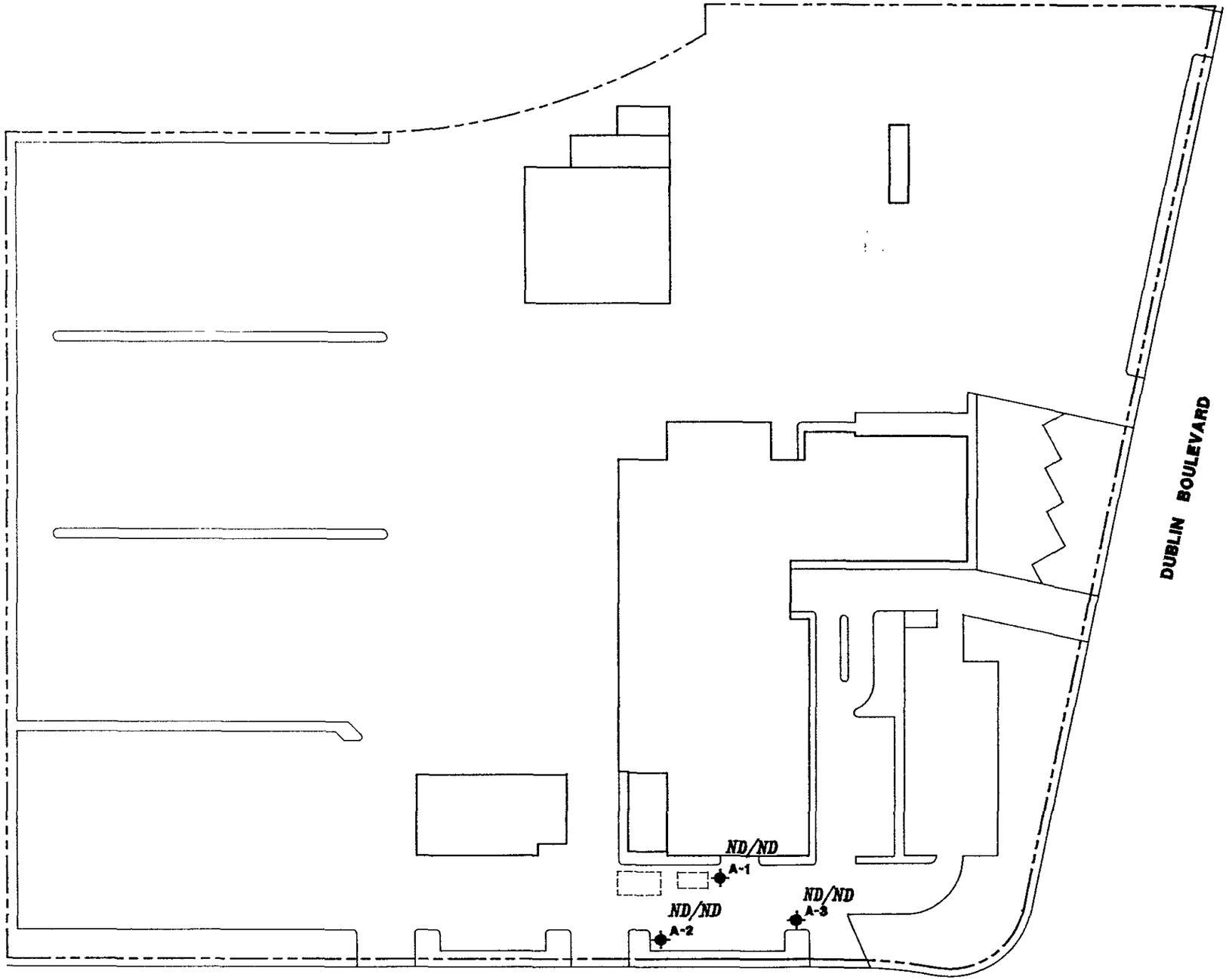
GeoStrategies Inc.

JOB NUMBER	DATE	REVIEWED BY	REVISED DATE
613001-3	1/94		

PLATE 5

EXPLANATION

- Groundwater monitoring well
- ***99/9.9*** TPH–G (Total Petroleum Hydrocarbons calculated as Gasoline)/Benzene concentrations in ppb sampled on December 23, 1993
- ***ND*** Not Detected (See laboratory reports for detection limits)



Base Map: Modified from plan supplied by Shamrock Ford

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

GeoStrategies Inc.

GSI

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
613001–3		1/94	

ILLUSTRATIONS

APPENDIX A

WELL CONSTRUCTION PERMIT

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94566 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

ATION OF PROJECT Shamrock Ford
7499 Dublin Boulevard
Dublin, California

ENT
e Shamrock Ford
ress 7499 Dublin Blvd Phone (510) 829-5211
y Dublin Zip 94568

LICANT
e Barbara Sieminski
GeoStrategies
ress 6747 Sierra Court Phone (510) 551-8777
y Dublin Zip 94568

E OF PROJECT

l Construction		Geotechnical Investigation	
athodic Protection	___	General	___
ater Supply	___	Contamination	___
onitoring	V	Well Destruction	___

POSED WATER SUPPLY WELL USE
estic ___ Industrial ___ Other ___
icipal ___ Irrigation ___

LLING METHOD:
Rotary ___ Air Rotary ___ Auger Hollow Stem
le ___ Other ___

LLER'S LICENSE NO. 484282

L PROJECTS

Drill Hole Diameter	8 in.	Maximum Depth	30 ft.
Casing Diameter	2 in.		
Surface Seal Depth	7 ft.	Number	3

TECHNICAL PROJECTS

Number of Borings	___	Maximum Depth	___ ft.
Hole Diameter	___ in.		

IMATED STARTING DATE 12/13/93
IMATED COMPLETION DATE 12/13/93

ereby agree to comply with all requirements of this
nit and Alameda County Ordinance No. 73-68.

LICANT'S
NATURE Barbara Sieminski Date 11/23/93

FOR OFFICE USE

PERMIT NUMBER 93667
LOCATION NUMBER

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as arrive at the Zone 7 office five days prior proposed starting date.
2. Submit to Zone 7 within 60 days after complet of permitted work the original Department Water Resources Water Well Drillers Report equivalent for well projects, or drilling and location sketch for geotechnical projects.
3. Permit is void if project not begun within days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal Industrial wells or 20 feet for domestic Irrigation wells unless a lesser depth specially approved. Minimum seal depth monitoring wells is the maximum depth practica or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted tings or heavy bentonite and upper two feet with pacted material. In areas of known or suspec contamination, tremied cement grout shall be used place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concr placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 24 Nov 9
Wyman Hong

12/9

APPENDIX B

EXPLORATORY BORING LOGS

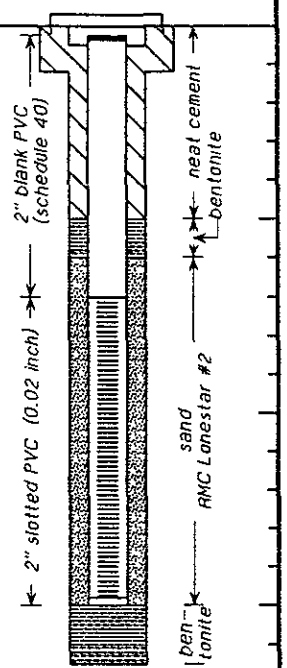
GeoStrategies, Inc.
6747 Sierra Court – Suite G Dublin, Ca. 95468

Log of Boring A-1

PROJECT: *Shamrock Ford*	LOCATION: *7499 Dublin Boulevard, Dublin, Ca.*
GSI PROJECT NO.: *6130.01*	SURFACE ELEVATION: *332.88 ft. MSL*
DATE STARTED: *12/17/93*	WL (ft. bgs): *9.5* DATE: *12/17/93* TIME: *12:00*
DATE FINISHED: *12/17/93*	WL (ft. bgs): *7.0* DATE: *12/17/93* TIME: *12:30*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *16.5 Feet*
DRILLING COMPANY: *Exploration GeoServices*	GEOLOGIST: *BS*

DEPTH (feet)	SAMPLE NUMBER	BLOWS/FT.*	PID (ppm)	SOIL CLASS	GEOLOGIC DESCRIPTION
				PV	PAVEMENT SECTION – 3" baserock, 3" asphalt
				CL	SILTY CLAY (CL) – black (5Y 2.5/2), damp, stiff, medium plasticity; 95 % fines, 5% fine grained sand.
5				CL	SANDY CLAY (CL) – olive (5Y 4/4), damp, very stiff, medium plasticity; 80% fines, 20% sand.
	A1-5.5	22	0	ML	CLAYEY SILT WITH SAND (ML) – very dark gray (5Y 3/1), damp, hard, low plasticity; 70% fines, 30% sand; sand comprised mainly of subangular evaporite grains; with root holes; becoming moist at 7'.
	A1-7.5	34	0		
10				CL SC	SANDY CLAY WITH CLAYEY SAND LENSES (CL/SC) – dark gray (5Y 3/1) mottled dark brown (10YR 3/3), saturated; 60% fines, 40% fine to coarse grained sand; sand comprised mainly of subangular evaporite grains.
	A1-10.5	38	0		
15					
	A1-16	28	0	CL	SANDY CLAY (CL) – olive (5Y 4/4), damp, very stiff, medium plasticity; 80% fines, 20% sand.
					Bottom of boring at 16.5 feet. 12/17/93
20					(* = converted to equivalent standard penetration blows/ft.)
25					
30					
35					

WELL DIAGRAM



JOB NUMBER: *6130.01*

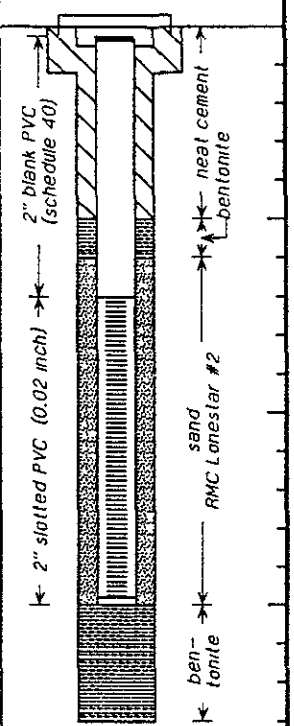
GeoStrategies, Inc.
6747 Sierra Court – Suite G Dublin, Ca. 95468

Log of Boring A-2

PROJECT: *Shamrock Ford*	LOCATION: *7499 Dublin Boulevard, Dublin, Ca.*
GSI PROJECT NO.: *6130.01*	SURFACE ELEVATION: *334.16 ft. MSL*
DATE STARTED: *12/17/93*	WL (ft. bgs): *9* DATE: *12/17/93* TIME: *8:30*
DATE FINISHED: *12/17/93*	WL (ft. bgs): *7.50* DATE: *12/17/93* TIME: *9:30*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *18 Feet*
DRILLING COMPANY: *Exploration GeoServices*	GEOLOGIST: *BS*

DEPTH feet	SAMPLE NUMBER	BLOWS/FT. *	PID (ppm)	SOIL CLASS	GEOLOGIC DESCRIPTION
				PV	PAVEMENT SECTION – 3" baserock, 3" asphalt
				CL	SILTY CLAY (CL) – black (5Y 2.5/2), damp, stiff, medium plasticity; 95 % fines, 5% fine grained sand.
5	A2-5.5	19	0	CL	SANDY CLAY (CL) – olive (5Y 4/4, damp, very stiff, low to medium plasticity, 70% fines, 30% sand.
	A2-7	19	0		
	A2-8.5	29	0		Becoming moist; increasing sand.
10				CL SC	SANDY CLAY WITH CLAYEY SAND LENSES (CL/SC) – olive gray (5Y 4/2) with white motling, saturated; 50% fines, 50% fine to coarse grained sand; sand consists mainly of subangular evaporite grains.
15	A2-15	31	0	CL	SANDY CLAY (CL) – olive gray (5Y 4/2), moist, very stiff, low plasticity; 85% fines, 15% sand.
	A2-17.5	30	0		Becoming damp.
20					Bottom of boring at 18 feet. 12/17/93
					(* = converted to equivalent standard penetration blows/ft.)
25					
30					
35					

WELL DIAGRAM



JOB NUMBER: *6130.01*

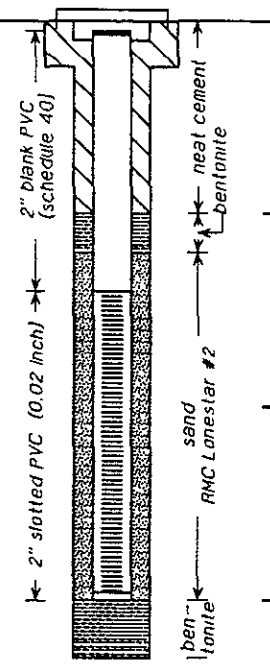
GeoStrategies, Inc.
6747 Sierra Court – Suite G Dublin, Ca. 95468

Log of Boring A-3

PROJECT: *Shamrock Ford*	LOCATION: *7499 Dublin Boulevard, Dublin, Ca.*
GSI PROJECT NO.: *6130.01*	SURFACE ELEVATION: *334.18 ft. MSL*
DATE STARTED: *12/17/93*	WL (ft. bgs): *9.5* DATE: *12/17/93* TIME: *10:30*
DATE FINISHED: *12/17/93*	WL (ft. bgs): *7.50* DATE: *12/17/93* TIME: *11:45*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *16.5 Feet*
DRILLING COMPANY: *Exploration GeoServices*	GEOLOGIST: *BS*

DEPTH feet	SAMPLE NUMBER	BLOWS/FT. *	PID (ppm)	SOIL CLASS	GEOLOGIC DESCRIPTION
				PV	PAVEMENT SECTION – 3" baserock, 3" asphalt
				CL	SILTY CLAY (CL) – black (5Y 2.5/2), damp, stiff, medium plasticity; 95 % fines, 5% fine sand.
				CL	SANDY CLAY (CL) – olive gray (5Y 4/2), damp, very stiff, medium plasticity, 80% fines, 20% sand.
5	A3-5.5	25	0		
	A3-8.5	18	0		
					Becoming moist; increasing sand
10	A3-10	15	0	CL SC	SANDY CLAY WITH CLAYEY SAND LENSES (CL/SC) – olive gray (5Y 4/2) with white mottling, saturated; 50% fines, 50% fine to coarse grained sand; sand consists mainly of subangular evaporite grains.
	A3-13.5	26	0		Decreasing sand; becoming moist.
15	A3-16	28	0	CL	SANDY CLAY (CL) – very dark grayish brown (2.5Y 4/4) damp, very stiff, low plasticity; 80% fines, 20 % sand.
					Bottom of boring at 16.5 feet. 12/17/93
20					(* = converted to equivalent standard penetration blows/ft.)
25					
30					
35					

WELL DIAGRAM



JOB NUMBER: *6130.01*

APPENDIX C

WELL DEVELOPMENT FORMS
WELL SAMPLING FIELD DATA SHEETS,
ANALYTICAL REPORT
AND CHAIN-OF-CUSTODY FORM
FOR GROUNDWATER SAMPLES

WELL DEVELOPMENT FORM

(to be filled out in office)

Client Shamrock Ford SS# _____ Job# 8130.01

Name Shamrock Ford Location 7499 Dublin Blvd., Dublin

Well# A-1 Screened Interval 7'-15' Depth 15'

Aquifer Material clayey sand Installation Date 12/17/93

Drilling Method Hollow Stem Auger Borehole Diameter 8"

Comments regarding well installation: _____

(to be filled out in the field) Name Frank Chi

Date 12-22-93 Development Method Surge/Bailer

Total Depth 14.90 - Depth to liquid 6.19 = WaterColumn 8.71

Product thickness _____

8.71 (Water Column) x 0.17 (Diameter (in.)) x 10 (#Vol) ~~x 0.0408~~ = 15 gal

Purge Start 12:50 Stop 14:48 Rate _____ gpm

Gallons	Time	Clarity	Temp.	pH	Conductivity	
0	12:39	Cloudy	67.5	7.28	2160	
1.5	13:00	Cloudy	66.3	7.30	2130	
3.0	13:04	Clear	66.2	7.23	2030	
6.0	13:11	Clear	66.3	7.24	1960	Dewat
~~10~~ 10	14:46	Clear	66.3	7.20	1650	
~~15~~ 15	14:48	Clear	66.4	7.22	1840	Dewat

Total gallons removed 15gals Development stop time _____

Depth to liquid 14.7' at 14:50 (time)

Color of water Clear Water discharged to Drum

Comments Dewater twice

WELL DEVELOPMENT FORM

(to be filled out in office)

Client Shamrock Ford SS# ______ Job# 8130.01

Name Shamrock Ford Location 7499 Dublin Blvd, Dublin

Well# A-2 Screened Interval 7' - 15' Depth 15'

Aquifer Material clayey sand Installation Date 12/17/93

Drilling Method Hollow Stem Auger Borehole Diameter 8"

Comments regarding well installation: ______

(to be filled out in the field) Name Frank Crni

Date 12-22-93 Development Method Surge / Bail

Total Depth 15' - Depth to liquid 7.35 = WaterColumn 7.65

Product thickness ______

7.65 x 0.17 x 10 x ~~0.0408~~ = 13.0 gal
Water Column Diameter (in.) #Vol

Purge Start 13:18 Stop 14:00 Rate 1 gpm

Gallons	Time	Clarity	Temp.	pH	Conductivity
0	13:20	Muddy	67.8	7.47	7510
1.3	13:24	Muddy	66.8	7.43	7690
2.6	13:28	Muddy	67.0	7.40	7680
5.2	13:33	Muddy	66.5	7.20	7740
7.8	13:37	Muddy	66.5	7.12	6990
10.4	13:43	Cloudy	66.5	7.12	6420
13.0	13:47	Clearing	66.3	7.20	5840
17.0	13:59	Clear	66.4	7.19	5850

Total gallons removed 17 Development stop time ______

Depth to liquid 14' at 14:00 (time)

Odor of water None Water discharged to Drum

Comments Water drew down but did not dewater

WELL DEVELOPMENT FORM

(to be filled out in office)

Client Shamrock Ford SS# _____ Job# 8130.01

Name Shamrock Ford Location 7499 Dublin Blvd., Dublin

Well# A-3 Screened Interval 7'-15' Depth 15'

Aquifer Material Clayey Sand Installation Date 12/17/93

Drilling Method Hollow Stem Auger Borehole Diameter 8"

Comments regarding well installation: _____

(to be filled out in the field) Name Frank Cline

Date 12-22-93 Development Method Surge & Bail

Total Depth 14.7 - Depth to liquid 7.45 = WaterColumn 7.25

Product thickness _____

7.25 x .017 x 10 ~~x 0.0408~~ = 12.3 ga

Water Column x Diameter (in) #Vol

Purge Start 1405 Stop 14:40 Rate 1 gpm

Gallons	Time	Clarity	Temp.	pH	Conductivity
0	1405	cloudy	68.3	7.26	7540
1.3	1409	Muddy	67.3	7.22	7980
3.3	14:13	Muddy	66.8	7.15	7820
5.9	14:18	Mud	66.3	7.10	7130
8.5	14:22	Cloudy/Muddy	66.3	7.04	6680
11.1	14:26	Cloudy	66.3	7.06	6520
13.7	14:30	cloudy	66.3	7.08	6220
16.3	14:33	Cloudy	66.3	7.05	6240
20.0	14:38	Cloudy/clear	66.3	7.06	6250

Total gallons removed 20 Development stop time _____

Depth to liquid 12' at 14:41 (time)

Odor of water No Water discharged to Pond

Comments Well drew down but did not dewater recovered very quickly

GETTLER-RYAN INC.

General and Environmental Contractors

MONITORING WELL

OBSERVATION SUMMARY SHEET

COMPANY: Shamrock Ford

JOB NO.: 8138 01

LOCATION: 7499 Dublin Blvd

DATE: 12-23-93

CITY: Dublin CA

TIME:

WELL ID	TOTAL WELL DEPTH	DEPTH TO LIQUID	HYDROCARBON THICKNESS	MEASUREMENT POINT TOB or TOC	COMMENTS
A-1	14.90	6.27	—	TOC	
A-2	15.0	7.43	—	↓	
A-3	14.7	7.50	—	↓	
			—		

Comments:

Sampler: F. Cline

Assistant:

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING
FIELD DATA SHEET

COMPANY Shamrock Ford JOB # 8128

LOCATION Dublin Blvd DATE 12-23-93

CITY Dublin CA TIME

Well ID. A-1 Well Condition Opal —

Well Diameter — in. Hydrocarbon Thickness — ft.

Total Depth ~~14.7~~ 15.0 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

Depth to Liquid- 6.27 ft.

(# of casing volumes) 5 x 8.73 x(VF) 0.17 = (Estimated Purge Volume) 1.4 ~~2.4~~ gal.

Purging Equipment Bailer

Sampling Equipment Bailer

Starting Time 9:28 Purging Flow Rate — gpm.

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

Time	pH	Conductivity	Temperature	Volume
~~9:36~~ 8:00	7.35	7000	64.3	1.6
~~9:52~~ 8:02	7.22	6200	66.6	3.2
~~9:54~~ 8:04	7.20	5420	65.8	4.8
~~9:30~~ 8:10	7.26	7670	65.9	6.0 Lowering
~~9:58~~ 10:10	7.26	7570	66.0	7.0

Did well dewater? Yes If yes, time 8:10 Volume ~~gals~~

Sampling Time 10:10 Weather Conditions

Analysis 5cc chain Bottles Used

Chain of Custody Number

COMMENTS

FOREMAN [signature] ASSISTANT

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING
FIELD DATA SHEET

COMPANY ~~Arco #~~ Shamrock Park JOB # 6128

LOCATION Dublin Blvd DATE 8-23-93

CITY Dublin TIME

Well ID. A-2 Well Condition clay

Well Diameter 2" in. Hydrocarbon Thickness ft.

Total Depth 19.0 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	

Depth to Liquid- 7.43 ft.

(# of casing volumes) 5 x 7.57 x(VF) 0.17 = (Estimated Purge Volume) 1.3 6.5 gal.

Purging Equipment Bailer

Sampling Equipment Bailer

Starting Time 8:34 Purging Flow Rate gpm.

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

Time	pH	Conductivity	Temperature	Volume
8:36	7.40	5750	67.0	1.3
8:38	7.27	5890	66.0	2.6
8:40	7.17	6056	65.8	3.9
8:42	7.05	6030	65.9	5.2
8:44	7.08	6030	65.8	6.5

Did well dewater? No If yes, time Volume

Sampling Time 8:44 Weather Conditions

Analysis See chain Bottles Used

Chain of Custody Number

COMMENTS

FOREMAN F. Cline ASSISTANT

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING
FIELD DATA SHEET

COMPANY Shamrock Prop JOB # 8128

LOCATION Dublin Blvd DATE 12-23-93

CITY Dublin CA TIME

Well ID. A-3 Well Condition okay

Well Diameter 2" in. Hydrocarbon Thickness — ft.

Total Depth 14.7 ft.

Depth to Liquid- 7.50 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 7.20 x(VF) 0.17 = (Estimated Purge Volume) 1.6 6 gal.

Purging Equipment Bailer

Sampling Equipment Bailer

Starting Time 9:05 Purging Flow Rate — gpm.

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

Time	pH	Conductivity	Temperature	Volume
9:07	7.30	5900	67.8	1.3
9:09	7.10	6110	66.3	2.6
9:11	7.13	6230	66.5	3.9
9:13	7.10	6230	66.8	5.2
9:15	7.11	6250	65.9	6.1

Did well dewater? No If yes, time Volume

Sampling Time 9:15 Weather Conditions

Analysis See chain Bottles Used

Chain of Custody Number

COMMENTS

FOREMAN F Clin ASSISTANT

January 4, 1994
Sample Log 8214

Tom Poulson
Geostrategies Inc.
6747 Sierra Court, Suite J
Dublin, CA 94568

Subject: Analytical Results for 4 Water Samples
Identified as: Project # 8130.01 (Shamrock Ford)
Received: 12/23/93

Dear Mr. Poulson:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on January 4, 1993 and describes procedures used to analyze the samples.

The sample(s) were received in:

40ml voa vials sealed with TFE-lined septae
1-L glass bottles sealed with TFE-lined caps
1-L polyethylene bottles sealed with polyethylene caps

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" (Standard Methods 5520 B,F)
"Volatile Organic Priority Pollutants" (EPA Method 624)

Please refer to the following table(s) for summarized analytical results and contact us at 916-757-4650 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:

Joel Kiff
Senior Chemist

January 4, 1994
Sample Log 8214

Total Oil and Grease (Standard Methods 5520 B,F)
From : Project # 8130.01 (Shamrock Ford)
Received : 12/23/93
Matrix : Water

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

Sample	Date Sampled	Date Analyzed	RDL	(5520 B,F) Oil and Grease
A-1	12/23/93	12/30/93	(1000)	<1000
A-2	12/23/93	12/30/93	(1000)	<1000
A-3	12/23/93	12/30/93	(1000)	<1000

QC Batch: KW931203

Stewart Podolsky
Senior Chemist

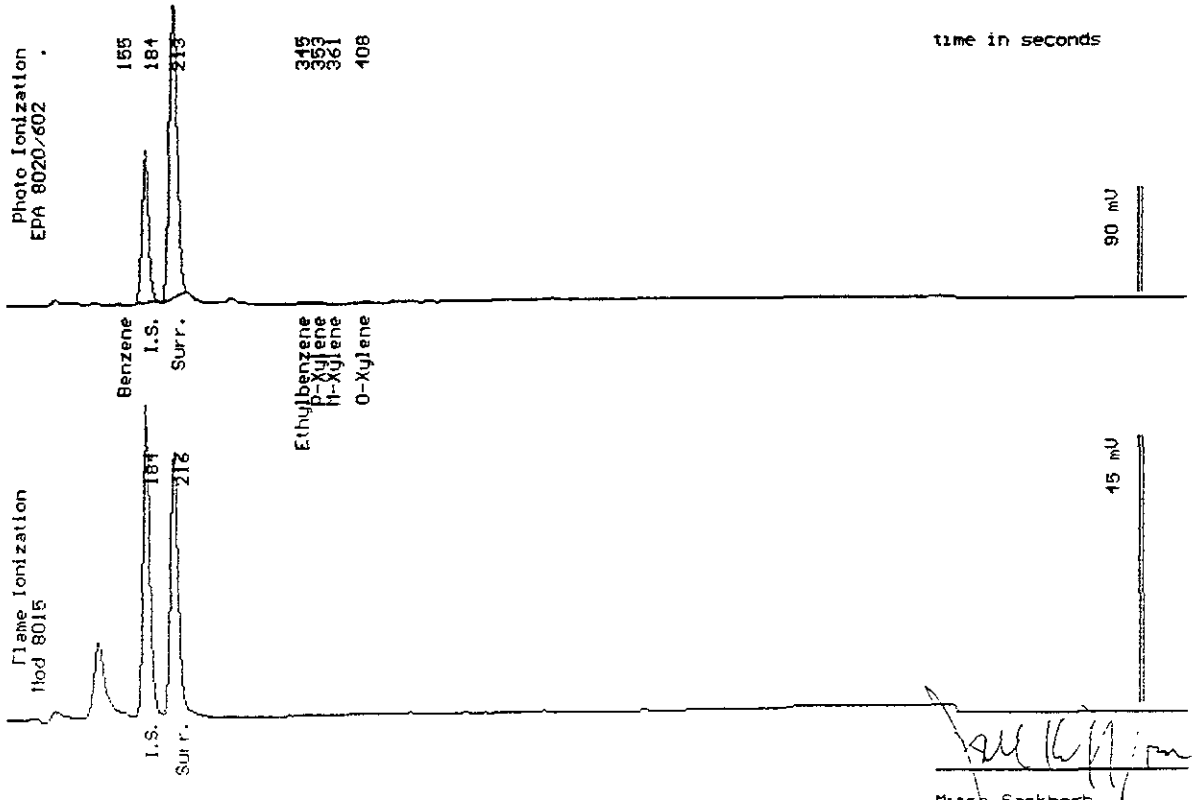
Sample Log 8214

8214-1

Sample: A-1

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/23/93
Dilution : 1:1 QC Batch : 2042d
Matrix : Water

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		101 %



Date Analyzed: 12-28-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

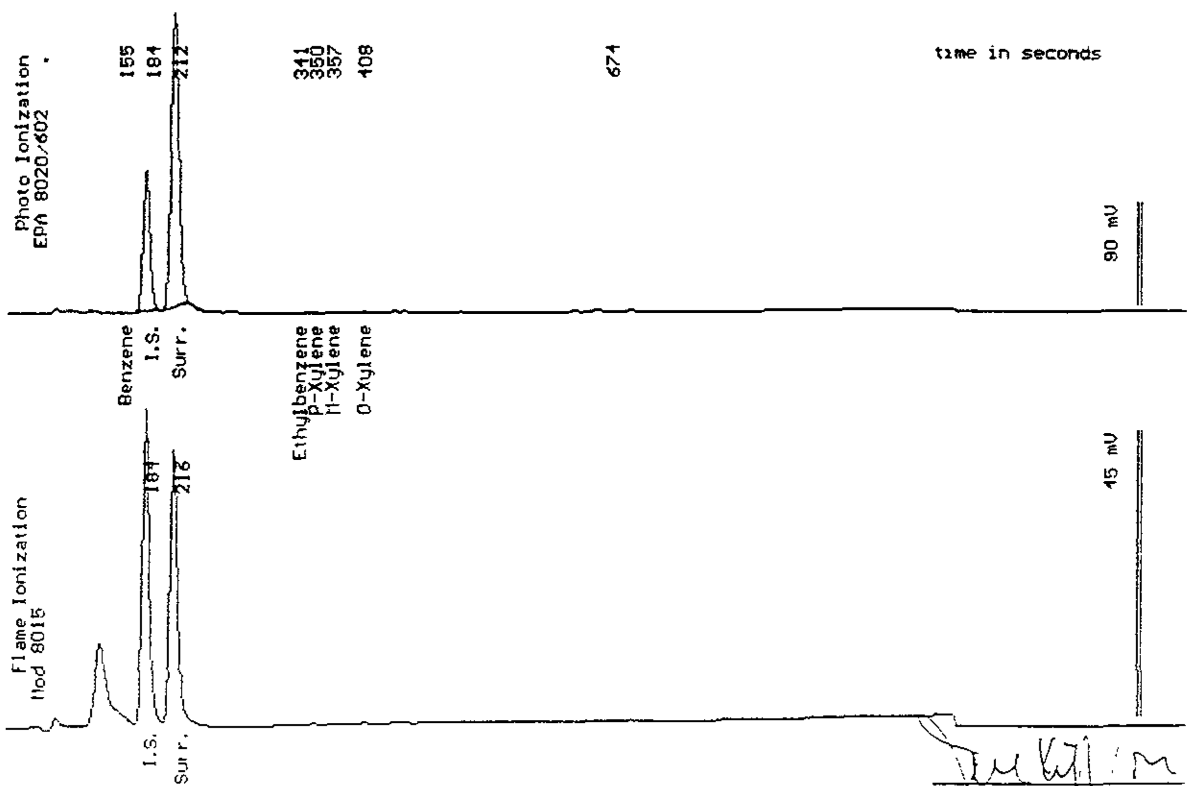
Sample Log 8214

8214-2

Sample: A-2

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/23/93
Dilution : 1:1 QC Batch : 2042d
Matrix : Water

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		101 %



Date Analyzed: 12-28-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

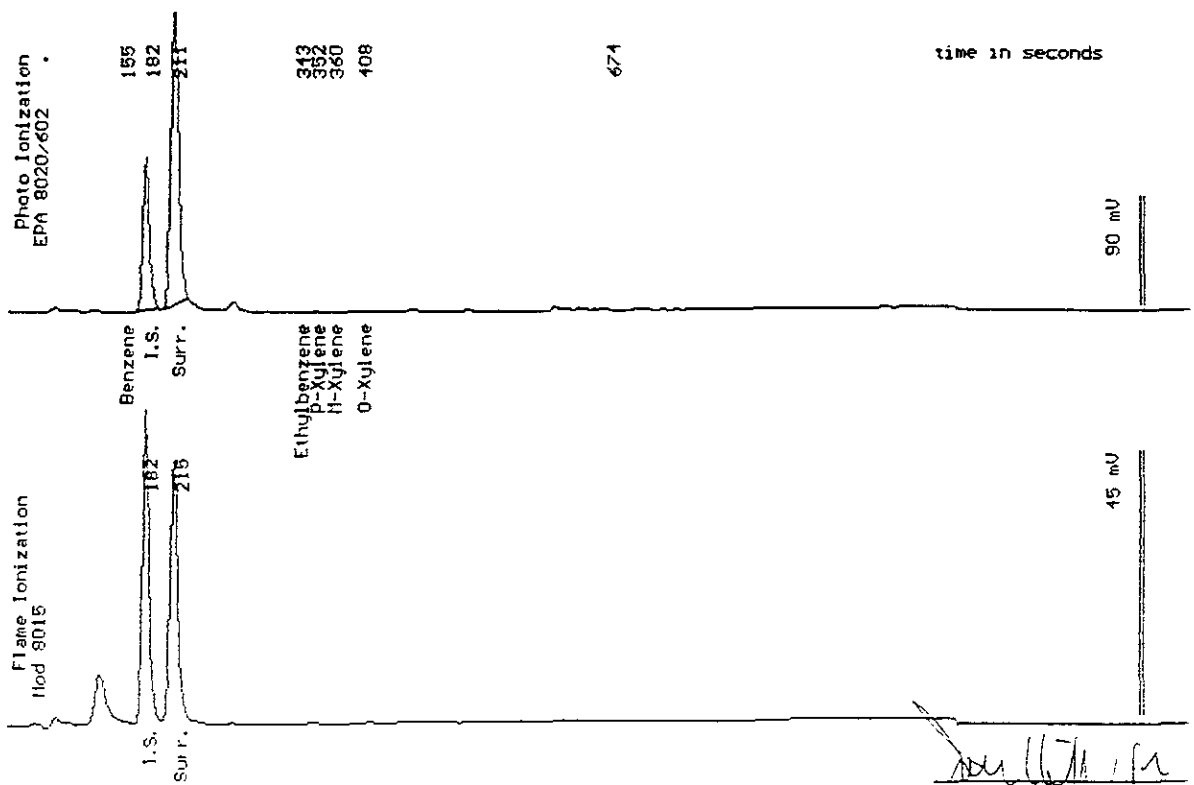
Sample Log 8214

8214-3

Sample: A-3

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/23/93
Dilution : 1:1 QC Batch : 2042d
Matrix : Water

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		101 %



Date Analyzed: 12-28-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

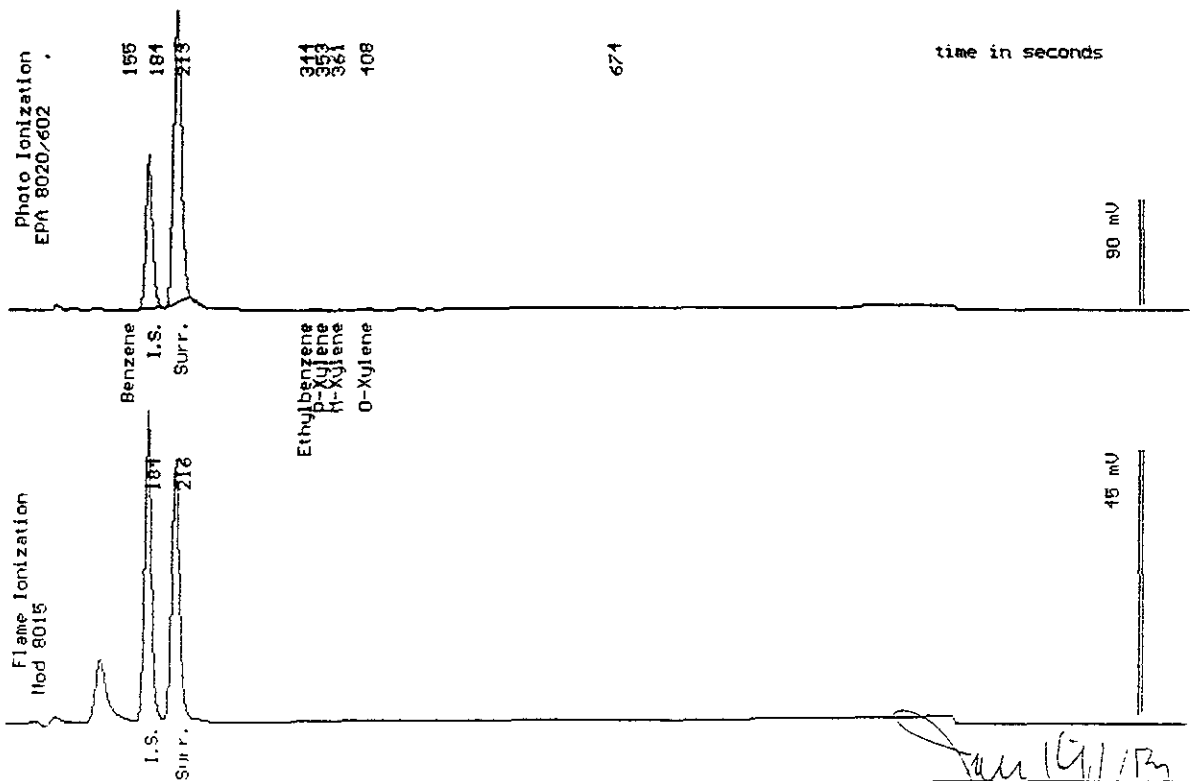
Sample Log 8214

8214-4

Sample: TB

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/21/93
Dilution : 1:1 QC Batch : 2042d
Matrix : Water

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		101 %



Date Analyzed: 12-28-93
Column : 0.53mm ID x 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

Sample Log 8214

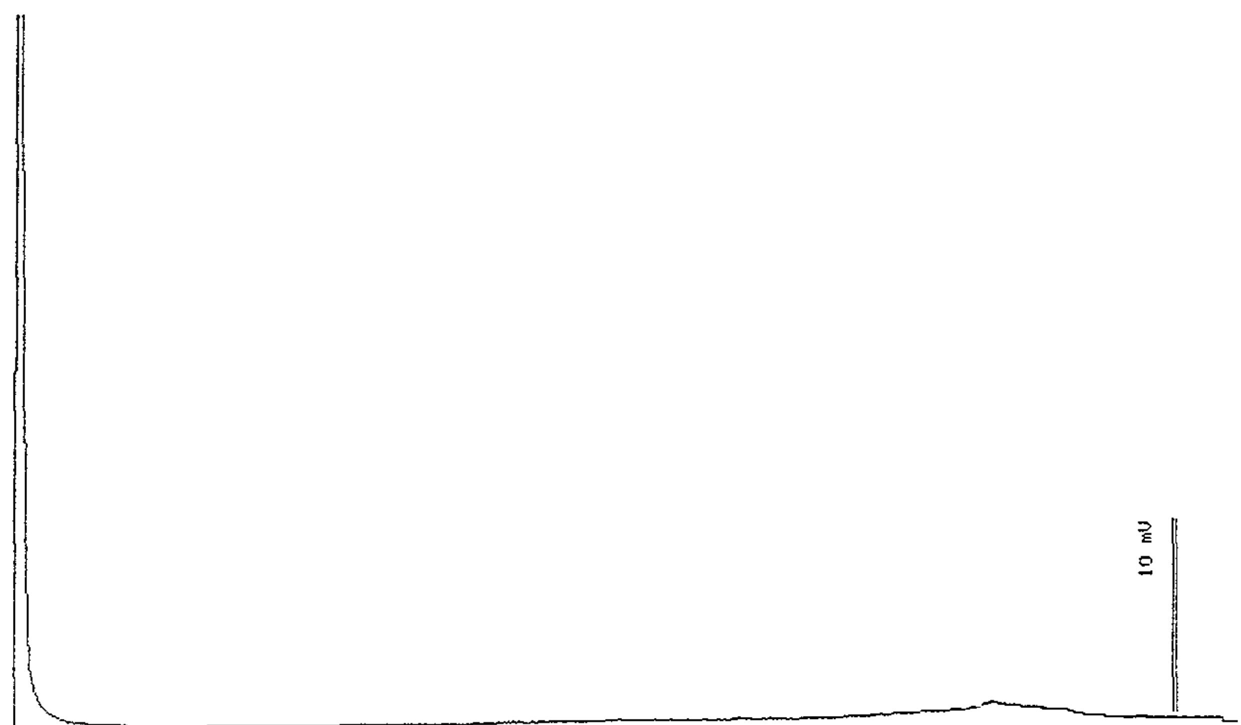
8214-1

Sample: A-1

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/23/93
Extracted: 12/28/93
Dilution : 1:1
Matrix : Water

QC Batch : DW931216
Run Log : 8142E

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



EPA Mod 8015

Date: 12-30-93 Time: 10:20:09
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

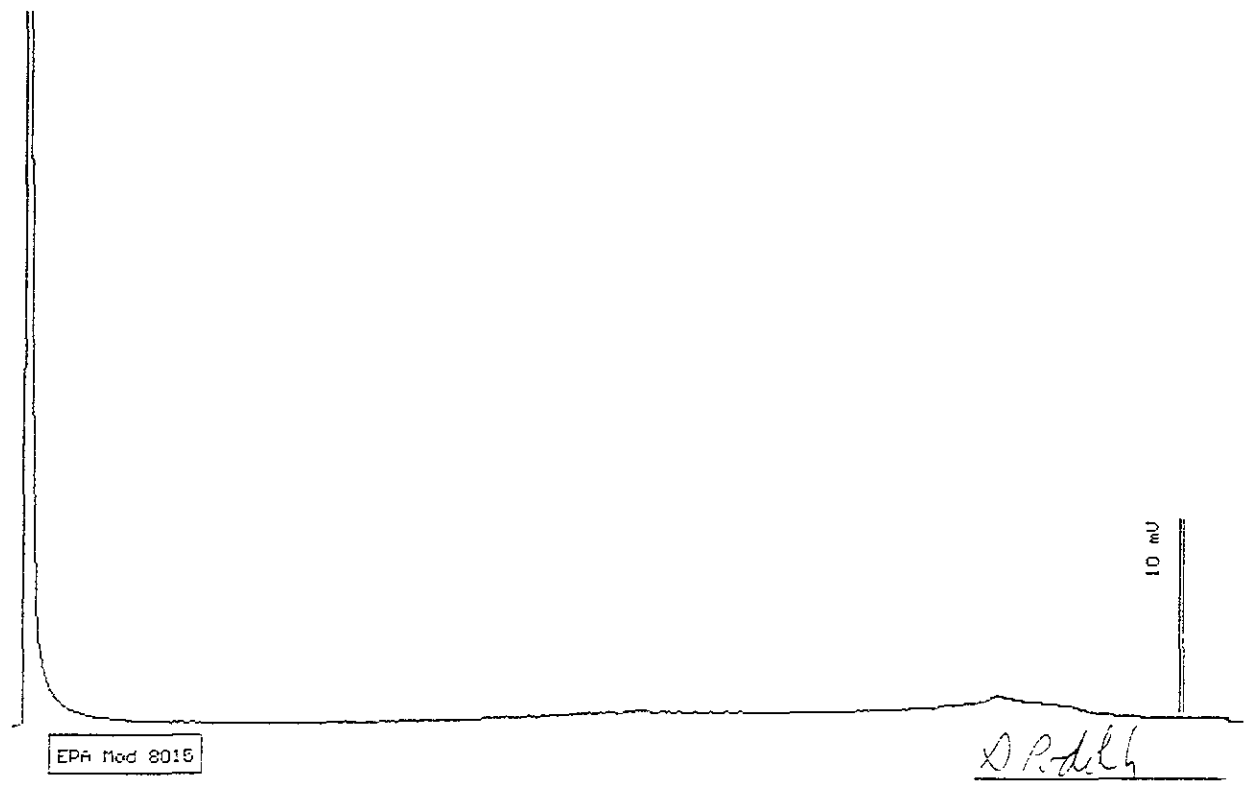
Sample Log 8214

8214-2

Sample: A-2

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/23/93
Extracted: 12/28/93 QC Batch : DW931216
Dilution : 1:1 Run Log : 8142E
Matrix : Water

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



Date: 12-30-93 Time: 10:54:18
Column : 0.53mm ID : 15m DB1 (J&W Scientific)

Steuart Podolsky
Senior Chemist

Sample Log 8214

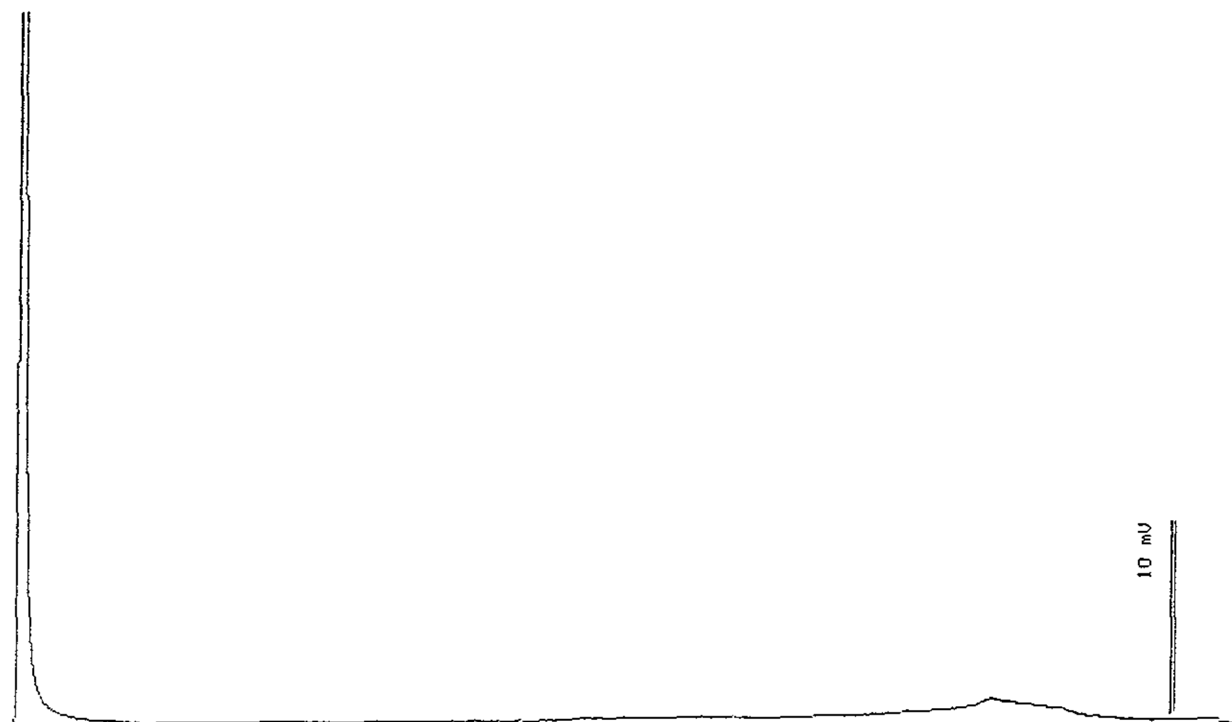
8214-3

Sample: A-3

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/23/93
Extracted: 12/28/93
Dilution : 1:1
Matrix : Water

QC Batch : DW931216
Run Log : 8142E

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



EPH Mod 8015

Date: 12-30-93 Time: 12:36:44
Column : 0.53mm ID 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

January 4, 1994
Sample Log 8214

Sample: A-1

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/23/93
Received : 12/23/93
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Cadmium	(4.0)	5.2
Chromium	(5.0)	54
Lead	(3.0)	4.0
Zinc	(10)	42
Nickel	(15)	41

Joel Kiff
Senior Chemist

January 4, 1994
Sample Log 8214

Sample: A-2

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/23/93
Received : 12/23/93
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Cadmium	(4.0)	13
Chromium	(5.0)	190
Lead	(3.0)	15
Zinc	(10)	210
Nickel	(15)	150

Joel Kiff
Senior Chemist

January 4, 1994
Sample Log 8214

Sample: A-3

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/23/93
Received : 12/23/93
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Cadmium	(4.0)	5.5
Chromium	(5.0)	51
Lead	(3.0)	3.5
Zinc	(10)	39
Nickel	(15)	32

Joel Kiff
Senior Chemist

WEST

January 4, 1994
Sample Log 8214

Sample: A-1

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/23/93
Matrix : Water
Received : 12/23/93
Analyzed : 12/28/93

624 - Volatile Organic Priority Pollutants

Parameter	(MRL) ug/L	Measured Value ug/L	Flag
Chloromethane	(10)	< 10	
Bromomethane	(10)	< 10	
cis-1,2-Dichloroethene	(5.0)	< 5.0	
trans-1,2-Dichloroethene	(5.0)	< 5.0	
Vinyl Chloride	(10)	< 10	
Chloroethane	(10)	< 10	
Methylene Chloride	(5.0)	< 5.0	
Acetone	(100)	< 100	
Carbon Disulfide	(5.0)	< 5.0	
1,1-Dichloroethene	(5.0)	< 5.0	
1,1-Dichloroethane	(5.0)	< 5.0	
Chloroform	(5.0)	< 5.0	
1,2-Dichloroethane	(5.0)	< 5.0	
2-Butanone	(100)	< 100	
1,1,1-Trichloroethane	(5.0)	< 5.0	
Carbon Tetrachloride	(5.0)	< 5.0	
Bromodichloromethane	(5.0)	< 5.0	
1,2-Dichloropropane	(5.0)	< 5.0	
cis-1,3-Dichloropropene	(5.0)	< 5.0	
Trichloroethene	(5.0)	< 5.0	
Dibromochloromethane	(5.0)	< 5.0	
1,1,2-Trichloroethane	(5.0)	< 5.0	
Benzene	(5.0)	< 5.0	
trans-1,3-Dichloropropene	(5.0)	< 5.0	
Bromoform	(5.0)	< 5.0	
4-Methyl-2-Pentanone	(50)	< 50	
1,3-Dichlorobenzene	(5.0)	< 5.0	
1,2-Dichlorobenzene	(5.0)	< 5.0	
1,4-Dichlorobenzene	(5.0)	< 5.0	
2-Hexanone	(50)	< 50	
Tetrachloroethene	(5.0)	< 5.0	
1,1,2,2-Tetrachloroethane	(5.0)	< 5.0	
Toluene	(5.0)	< 5.0	
Chlorobenzene	(5.0)	< 5.0	
Ethylbenzene	(5.0)	< 5.0	
Styrene	(5.0)	< 5.0	
P,M-Xylene	(5.0)	< 5.0	
O-Xylene	(5.0)	< 5.0	

Joel Kiff
Senior Chemist

January 4, 1994
Sample Log 8214

Sample: A-2

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/23/93 Received : 12/23/93
Matrix : Water Analyzed : 12/28/93

624 - Volatile Organic Priority Pollutants

Parameter	(MRL) ug/L	Measured Value ug/L	Flag
Chloromethane	(10)	< 10	
Bromomethane	(10)	< 10	
cis-1,2-Dichloroethene	(5.0)	< 5.0	
trans-1,2-Dichloroethene	(5.0)	< 5.0	
Vinyl Chloride	(10)	< 10	
Chloroethane	(10)	< 10	
Methylene Chloride	(5.0)	< 5.0	
Acetone	(100)	< 100	
Carbon Disulfide	(5.0)	< 5.0	
1,1-Dichloroethene	(5.0)	< 5.0	
1,1-Dichloroethane	(5.0)	< 5.0	
Chloroform	(5.0)	< 5.0	
1,2-Dichloroethane	(5.0)	< 5.0	
2-Butanone	(100)	< 100	
1,1,1-Trichloroethane	(5.0)	< 5.0	
Carbon Tetrachloride	(5.0)	< 5.0	
Bromodichloromethane	(5.0)	< 5.0	
1,2-Dichloropropane	(5.0)	< 5.0	
cis-1,3-Dichloropropene	(5.0)	< 5.0	
Trichloroethene	(5.0)	< 5.0	
Dibromochloromethane	(5.0)	< 5.0	
1,1,2-Trichloroethane	(5.0)	< 5.0	
Benzene	(5.0)	< 5.0	
trans-1,3-Dichloropropene	(5.0)	< 5.0	
Bromoform	(5.0)	< 5.0	
4-Methyl-2-Pentanone	(50)	< 50	
1,3-Dichlorobenzene	(5.0)	< 5.0	
1,2-Dichlorobenzene	(5.0)	< 5.0	
1,4-Dichlorobenzene	(5.0)	< 5.0	
2-Hexanone	(50)	< 50	
Tetrachloroethene	(5.0)	< 5.0	
1,1,2,2-Tetrachloroethane	(5.0)	< 5.0	
Toluene	(5.0)	< 5.0	
Chlorobenzene	(5.0)	< 5.0	
Ethylbenzene	(5.0)	< 5.0	
Styrene	(5.0)	< 5.0	
P,M-Xylene	(5.0)	< 5.0	
O-Xylene	(5.0)	< 5.0	

Joel Kiff
Senior Chemist

January 4, 1994
Sample Log 8214

Sample: A-3

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/23/93 Received : 12/23/93
Matrix : Water Analyzed : 12/28/93

624 - Volatile Organic Priority Pollutants

Parameter	(MRL) ug/L	Measured Value ug/L	Flag
Chloromethane	(10)	< 10	
Bromomethane	(10)	< 10	
cis-1,2-Dichloroethene	(5.0)	< 5.0	
trans-1,2-Dichloroethene	(5.0)	< 5.0	
Vinyl Chloride	(10)	< 10	
Chloroethane	(10)	< 10	
Methylene Chloride	(5.0)	< 5.0	
Acetone	(100)	< 100	
Carbon Disulfide	(5.0)	< 5.0	
1,1-Dichloroethene	(5.0)	< 5.0	
1,1-Dichloroethane	(5.0)	< 5.0	
Chloroform	(5.0)	< 5.0	
1,2-Dichloroethane	(5.0)	< 5.0	
2-Butanone	(100)	< 100	
1,1,1-Trichloroethane	(5.0)	< 5.0	
Carbon Tetrachloride	(5.0)	< 5.0	
Bromodichloromethane	(5.0)	< 5.0	
1,2-Dichloropropane	(5.0)	< 5.0	
cis-1,3-Dichloropropene	(5.0)	< 5.0	
Trichloroethene	(5.0)	< 5.0	
Dibromochloromethane	(5.0)	< 5.0	
1,1,2-Trichloroethane	(5.0)	< 5.0	
Benzene	(5.0)	< 5.0	
trans-1,3-Dichloropropene	(5.0)	< 5.0	
Bromoform	(5.0)	< 5.0	
4-Methyl-2-Pentanone	(50)	< 50	
1,3-Dichlorobenzene	(5.0)	< 5.0	
1,2-Dichlorobenzene	(5.0)	< 5.0	
1,4-Dichlorobenzene	(5.0)	< 5.0	
2-Hexanone	(50)	< 50	
Tetrachloroethene	(5.0)	< 5.0	
1,1,2,2-Tetrachloroethane	(5.0)	< 5.0	
Toluene	(5.0)	< 5.0	
Chlorobenzene	(5.0)	< 5.0	
Ethylbenzene	(5.0)	< 5.0	
Styrene	(5.0)	< 5.0	
P,M-Xylene	(5.0)	< 5.0	
O-Xylene	(5.0)	< 5.0	

Joel Kiff
Senior Chemist

January 4, 1994
Sample Log 8214

Sample: TB

From : Project # 8130.01 (Shamrock Ford)
Sampled : 12/21/93 Received : 12/23/93
Matrix : Water Analyzed : 12/28/93

624 - Volatile Organic Priority Pollutants

Parameter	(MRL) ug/L	Measured Value ug/L	Flag
Chloromethane	(10)	< 10	
Bromomethane	(10)	< 10	
cis-1,2-Dichloroethene	(5.0)	< 5.0	
trans-1,2-Dichloroethene	(5.0)	< 5.0	
Vinyl Chloride	(10)	< 10	
Chloroethane	(10)	< 10	
Methylene Chloride	(5.0)	< 5.0	
Acetone	(100)	< 100	
Carbon Disulfide	(5.0)	< 5.0	
1,1-Dichloroethene	(5.0)	< 5.0	
1,1-Dichloroethane	(5.0)	< 5.0	
Chloroform	(5.0)	< 5.0	
1,2-Dichloroethane	(5.0)	< 5.0	
2-Butanone	(100)	< 100	
1,1,1-Trichloroethane	(5.0)	< 5.0	
Carbon Tetrachloride	(5.0)	< 5.0	
Bromodichloromethane	(5.0)	< 5.0	
1,2-Dichloropropane	(5.0)	< 5.0	
cis-1,3-Dichloropropene	(5.0)	< 5.0	
Trichloroethene	(5.0)	< 5.0	
Dibromochloromethane	(5.0)	< 5.0	
1,1,2-Trichloroethane	(5.0)	< 5.0	
Benzene	(5.0)	< 5.0	
trans-1,3-Dichloropropene	(5.0)	< 5.0	
Bromoform	(5.0)	< 5.0	
4-Methyl-2-Pentanone	(50)	< 50	
1,3-Dichlorobenzene	(5.0)	< 5.0	
1,2-Dichlorobenzene	(5.0)	< 5.0	
1,4-Dichlorobenzene	(5.0)	< 5.0	
2-Hexanone	(50)	< 50	
Tetrachloroethene	(5.0)	< 5.0	
1,1,2,2-Tetrachloroethane	(5.0)	< 5.0	
Toluene	(5.0)	< 5.0	
Chlorobenzene	(5.0)	< 5.0	
Ethylbenzene	(5.0)	< 5.0	
Styrene	(5.0)	< 5.0	
P,M-Xylene	(5.0)	< 5.0	
O-Xylene	(5.0)	< 5.0	

Joel Kiff
Senior Chemist

[illegible] · [illegible] · 45133 County Road 105 · Davis, CA 95616 · 916-756-8551 · FAX 916-757-[illegible]

WEST

January 4, 1994
Sample Log 8214

EPA 624 System Monitoring Compound Recovery

Sample	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
A-1	104	104	99		0
A-2	103	102	98		0
A-3	105	103	97		0
TB	103	99	95		0

		QC Limits
SMC1 (TOL)	= Toluene-d8	(88-120)
SMC2 (BFB)	= Bromofluorobenzene	(86-120)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of QC limits

D System Monitoring Compound diluted out

Joel Kiff
Senior Chemist

Gettler - Ryan Inc. ENVIRONMENTAL DIVISION

5275 **Chain of Custo**

COMPANY Shamrock Ford JOB NO.

JOB LOCATION 7499 Dublin Blvd

CITY Dublin CA PHONE NO.

AUTHORIZED Tom Paulson DATE 12-23-93 P.O. NO. 8130 01

SAMPLE ID	NO OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
A-1	13	Liquid	12-23-93 10:10	THC Gas BTXE TPH Diesel	
A-2	13	↓	↓ 18:44	Motor Oil, Total Oil Grease	
A-3	13	↓	↓ 19:15	by EPA 5520B	
TB	2	↓	—	EPA 8240 Metals	
				Cd, Cr, Pb Ni, Zn by 7000/6010/20	
				TripBlank (THC Gas BTXE EPA 8240)	

RELINQUISHED BY: [signature] 12-23-93 11:20

RECEIVED BY: [signature] 12/23/93 11:20

RELINQUISHED BY: [signature] 12/23/93 1318

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY LAB: [signature] WEST 12/23/93 1318

DESIGNATED LABORATORY: Western Environmental Science Tec DHS #:

REMARKS:

Normal TAT

RECEIVED by W.E.S.T. date 15°C

* Samples were received at WEST in sealed ice chests with no ice. Per clients request, the sample containers were not to be opened + transferred to awaiting ice chests filled with ice.
~~* VOAs were received in a ice chest without preservative.~~ One bottle was in a chest without ice.

DATE COMPLETED 12-23-93 FOREMAN

APPENDIX D

WELL SURVEY REPORT

Virgil Chavez Land Surveying
1418 Lassen Street
Vallejo, California 94591
707.553.2476

January 05, 1994
Project No. 1104-06

Barbara Sieminski
GeoStrategies, Inc.
6747 Sierra Ct., Suite D
Dublin, Ca. 94568

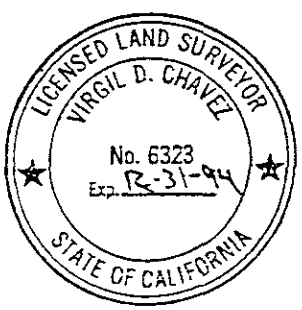
Subject: Monitoring Well Survey
7499 Dublin Blvd.
Dublin, Ca.

Dear Barbara:

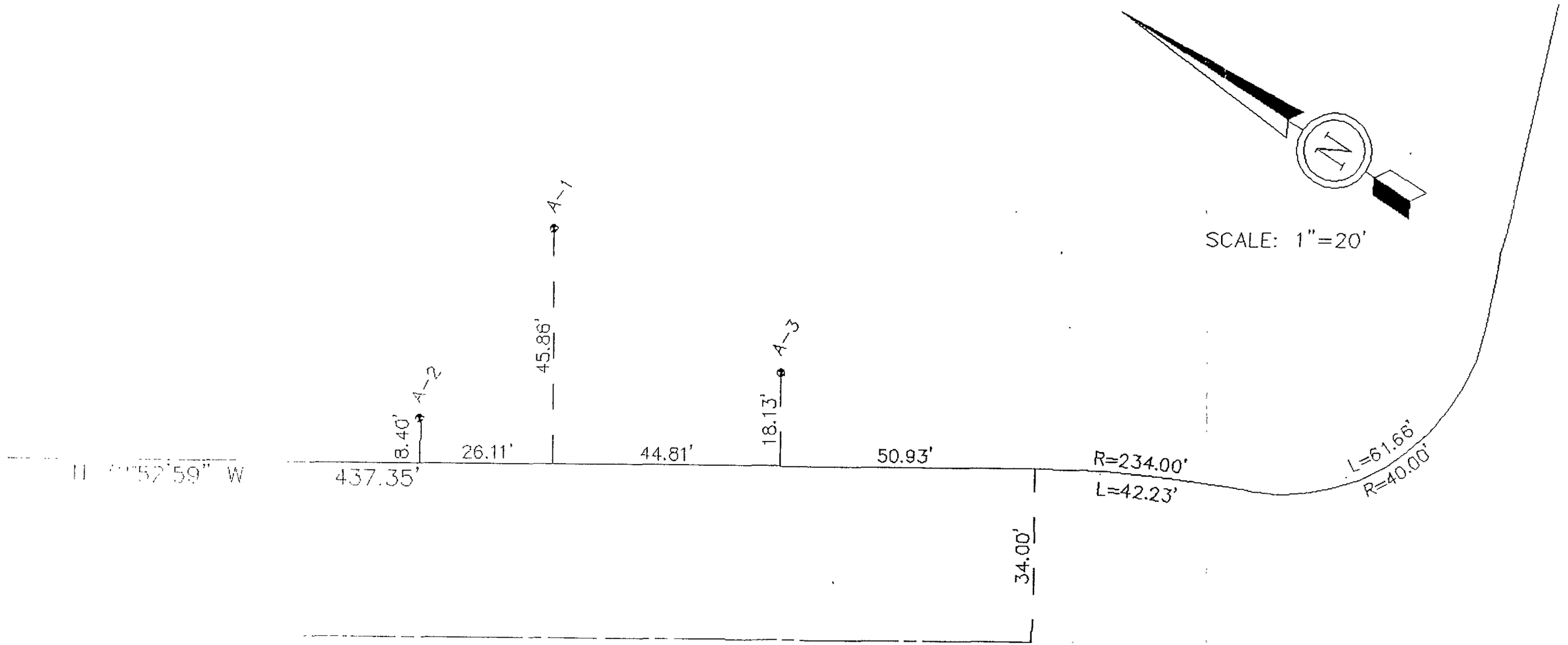
This is to confirm that we have proceeded at your request to survey the new ground water monitoring wells located at the above referenced location. The survey was performed on December 27, 1993. My findings are shown in the table below, and are based on N.G.V.D. (National Geodetic Vertical Datum). I will forward the horizontal location data on the wells as soon as possible.

Monitoring Well No.	Rim Elevation	Top of Casing Elevation
A-1	333.33'	332.88'
A-2	334.44'	334.16'
A-3	334.44'	334.18'

Measurements taken at approximate north side of top of box, and top of casing.



Virgil D. Chavez, P.L.S. 6323



AMADOR PLAZA ROAD

(MONUMENT RECORD)
CALIFORNIA COORDINATE SYSTEM

SHEET 1 OF 1

HORIZONTAL CONTROL DATA	LATITUDE	Y (NORTH) 442,0XX
TYPE –	LONGITUDE	X (EAST) 1,582,7XX
ORDER –	STATION (NAME, SET BY, YEAR SET) DUB-680, ALA. CO., 1970	(YEAR RECOVERED) 1979
AGENCY COP	INDEX SHEET (QUADRANGLE SHEET) DUBLIN (25)	
	ALAMEDA COUNTY ✓	CONTRA COSTA COUNTY
	OTHER COUNTY	

VERTICAL CONTROL DATA	
ELEVATION IN FEET	DATUM
331.597	N.G.V.D. 1929

ORDER – SECOND

1974 NGS 1st ADJ.

AGENCY ALA. CO. COP

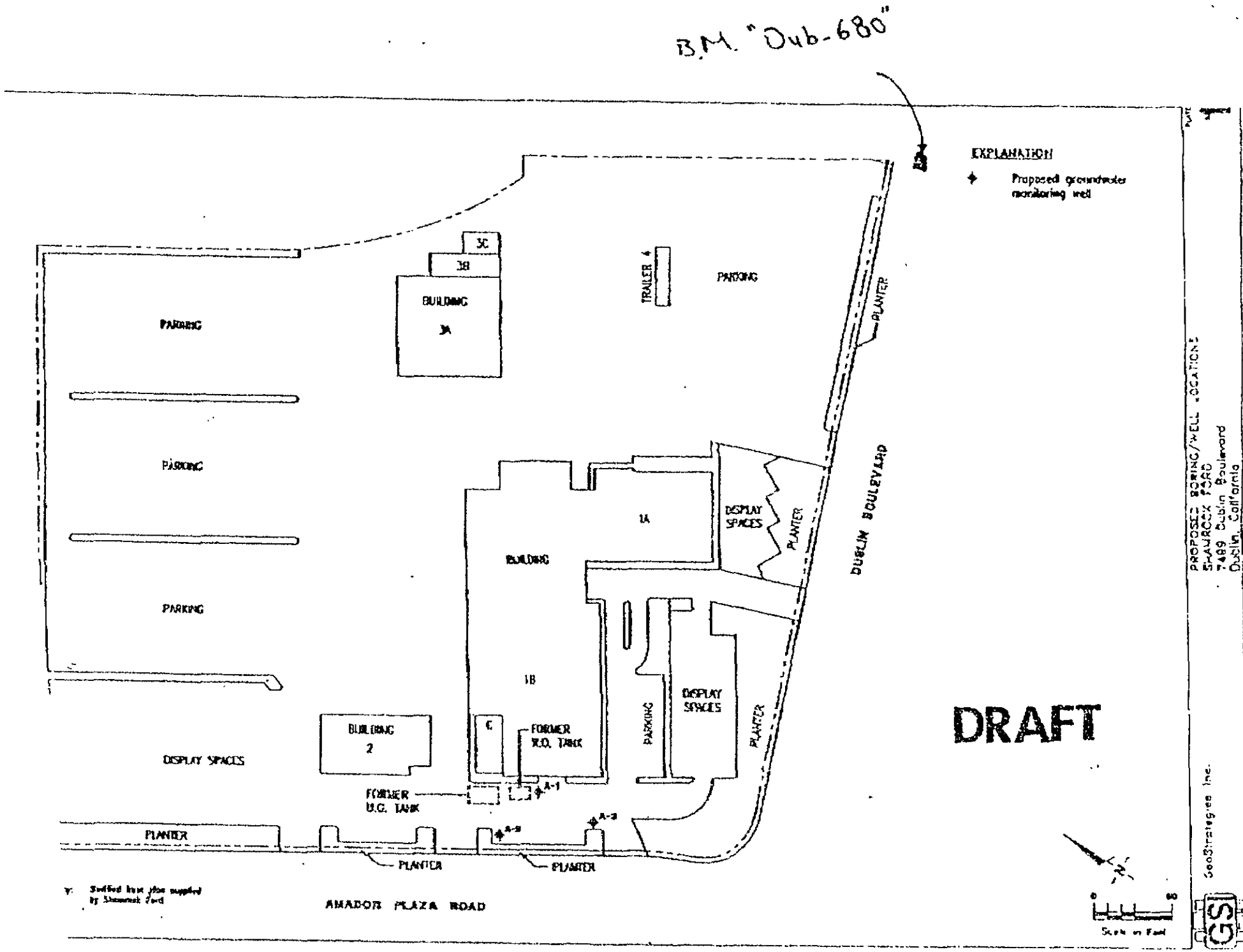
TO STATION OR MARK	AZIMUTH CLOCKWISE FROM GRID NORTH	GRID DISTANCE IN FEET
GRID NORTH	180°00'00".000	
TRUE NORTH		

DESCRIPTION, PLAT, REMARKS, ETC.:

B.M. 'DUB-680'

A CHISELED 'T' PAINTED YELLOW ON TOP CENTER N'LY CONCRETE CURB ABOVE D.I. LOCATED 0.60 MILES E'LY ALONG DUBLIN BLVD. FROM SAN RAMON ROAD; 121.5 FEET W'LY OF ℄ I-680 MEASURED ALONG THE N'LY CURB LINE OF DUBLIN BLVD. AND 43± FEET N'LY OF OLD ℄ DUBLIN BLVD.

M-1


B.M. "Dub-680"
EXPLANATION
Proposed groundwater monitoring well
PROPOSED BORING/WELL LOCATIONS
SHAMROCK ROAD
7489 Dublin Boulevard
Dublin, California
DRAFT
1C
1B
1A
2
3C
3B
3A
TRAILER 4
BUILDING
PARKING
DISPLAY SPACES
PLANTER
DUBLIN BOULEVARD
FORMER U.G. TANK
A-1
A-2
A-3
AMADOR PLAZA ROAD
GeoStrategies Inc.
GSI

APPENDIX E

ANALYTICAL REPORT
AND CHAIN-OF-CUSTODY FORMS
FOR SOIL SAMPLES

December 29, 1993
Sample Log 8186

Barbara Sieminski
Geostrategies, Inc.
6747 Sierra Court, Suite J
Dublin, CA 94568

Subject: Analytical Results for 10 Soil Samples
Identified as: Project # 6130.01 (Shamrock Ford)
Received: 12/20/93

Dear Ms. Sieminski:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on December 28, 1993 and describes procedures used to analyze the samples.

The sample(s) were received in:

Stainless steel sleeves with Al Foil and endcaps

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 8020/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" (Standard Methods # 5520 E,F)
"Total Recoverable Petroleum Hydrocarbons" (EPA 418.1)
"Volatile Organic Priority Pollutants" (EPA Method 8240)
"Metals" (EPA 6010,7000)

Please refer to the following table(s) for summarized analytical results and contact us at 916-757-4650 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:

Joel Kiff
Senior Chemist

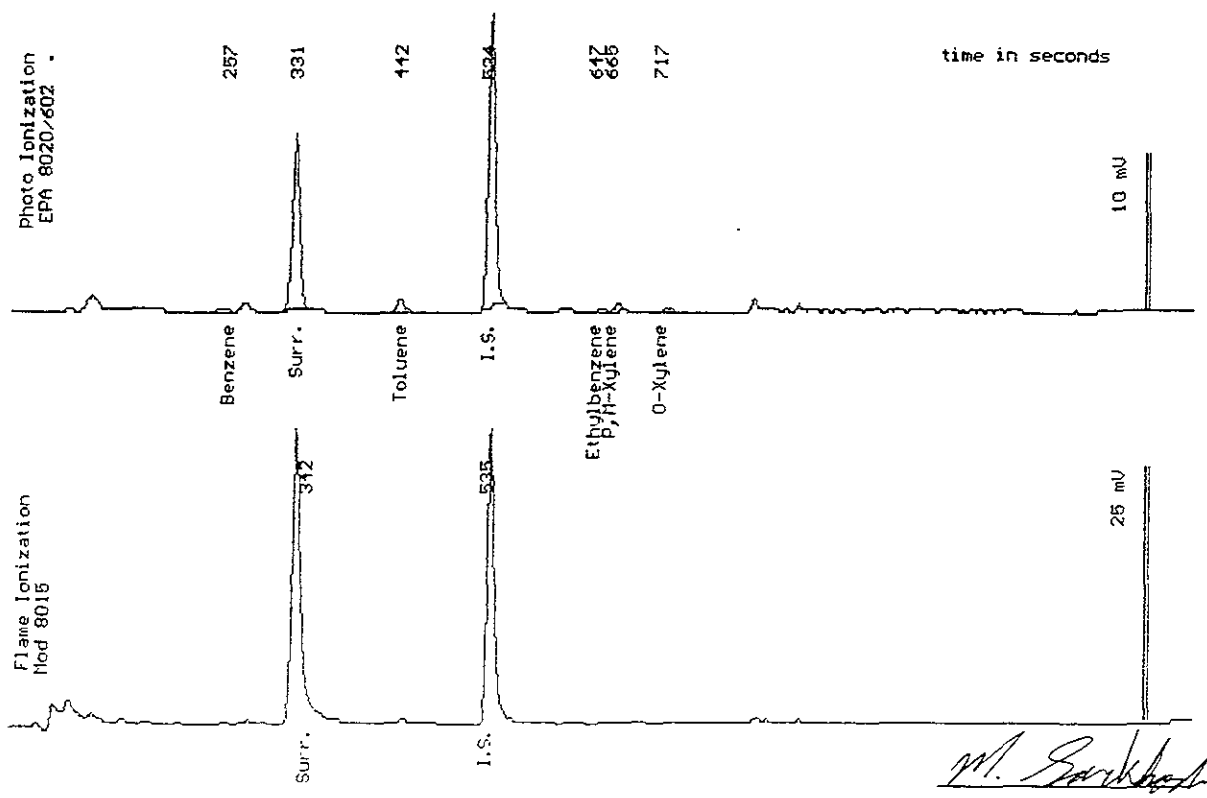
Sample Log 8186

8186-1

Sample: A1-5.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Dilution : 1:1 QC Batch : 6074F
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		100 %



Date Analyzed: 12-22-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

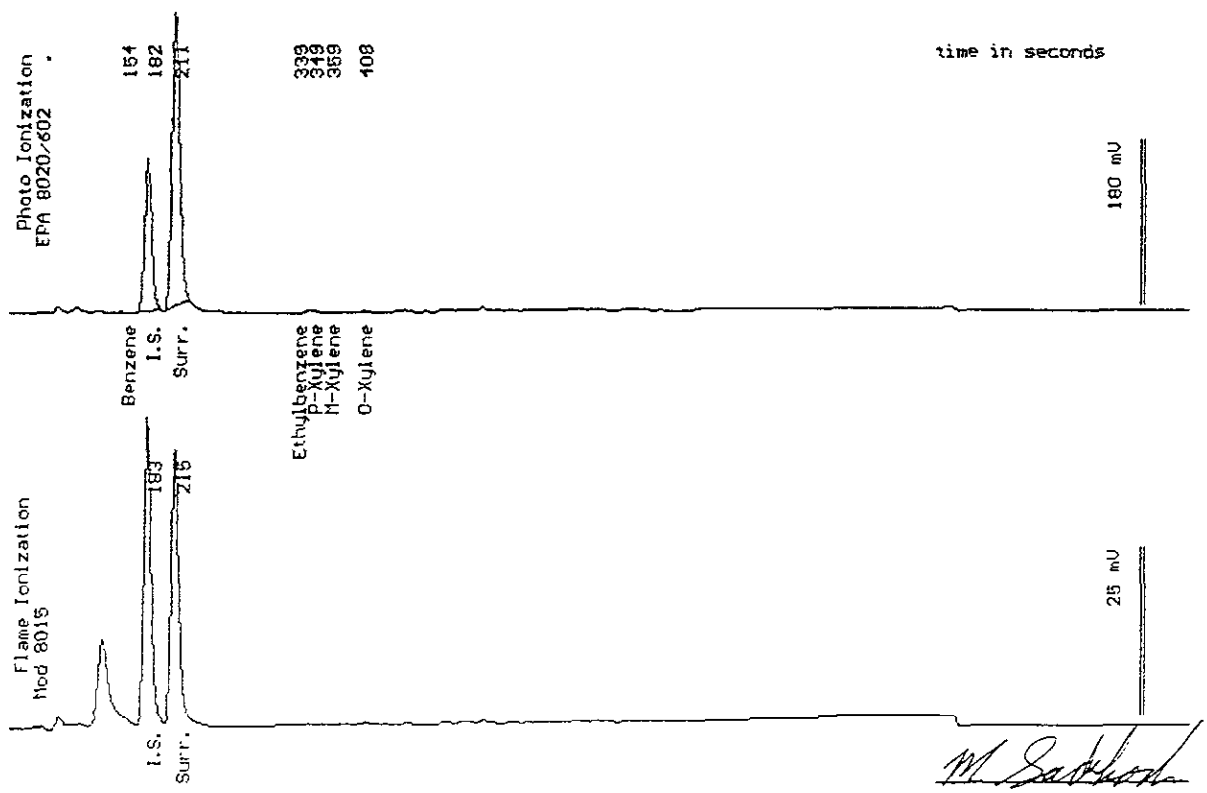
Sample Log 8186

8186-2

Sample: A1-7.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Dilution : 1:1 QC Batch : 2041c
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		95 %



Date Analyzed: 12-22-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

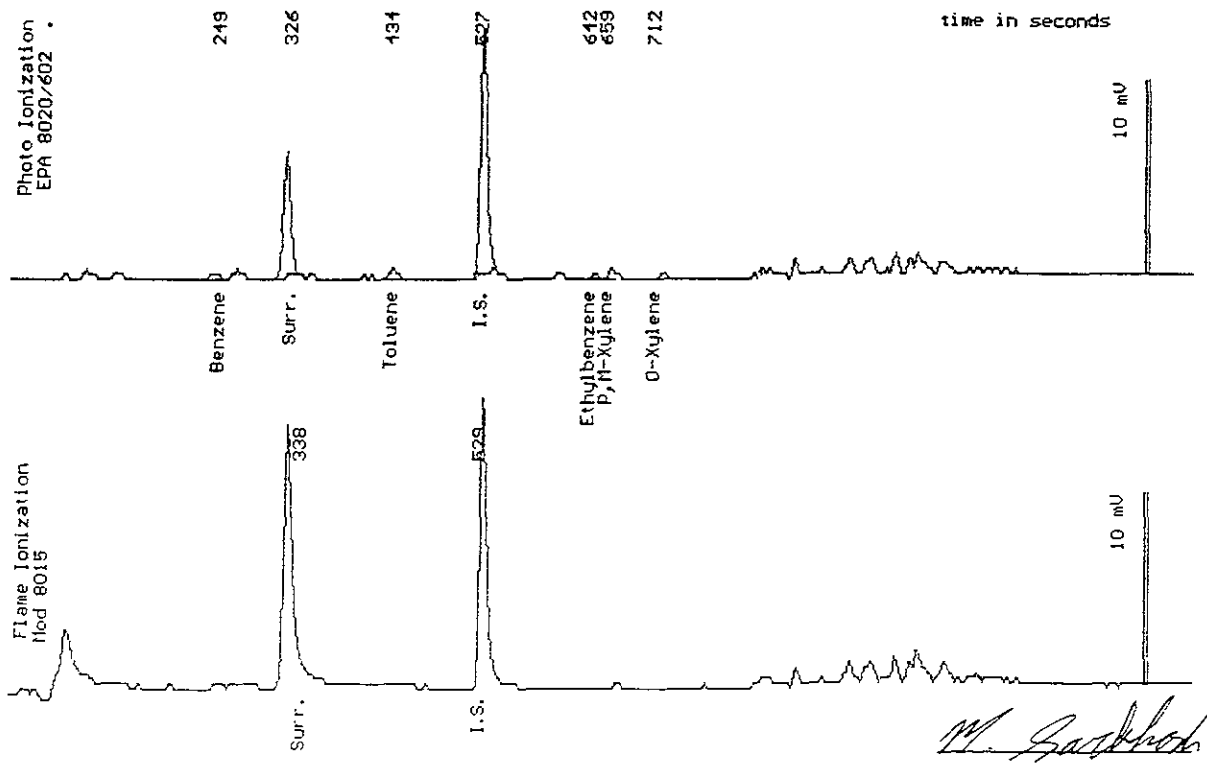
Sample Log 8186

8186-3

Sample: A1-16

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Dilution : 1:1 QC Batch : 6074F
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		89 %



Date Analyzed: 12-22-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

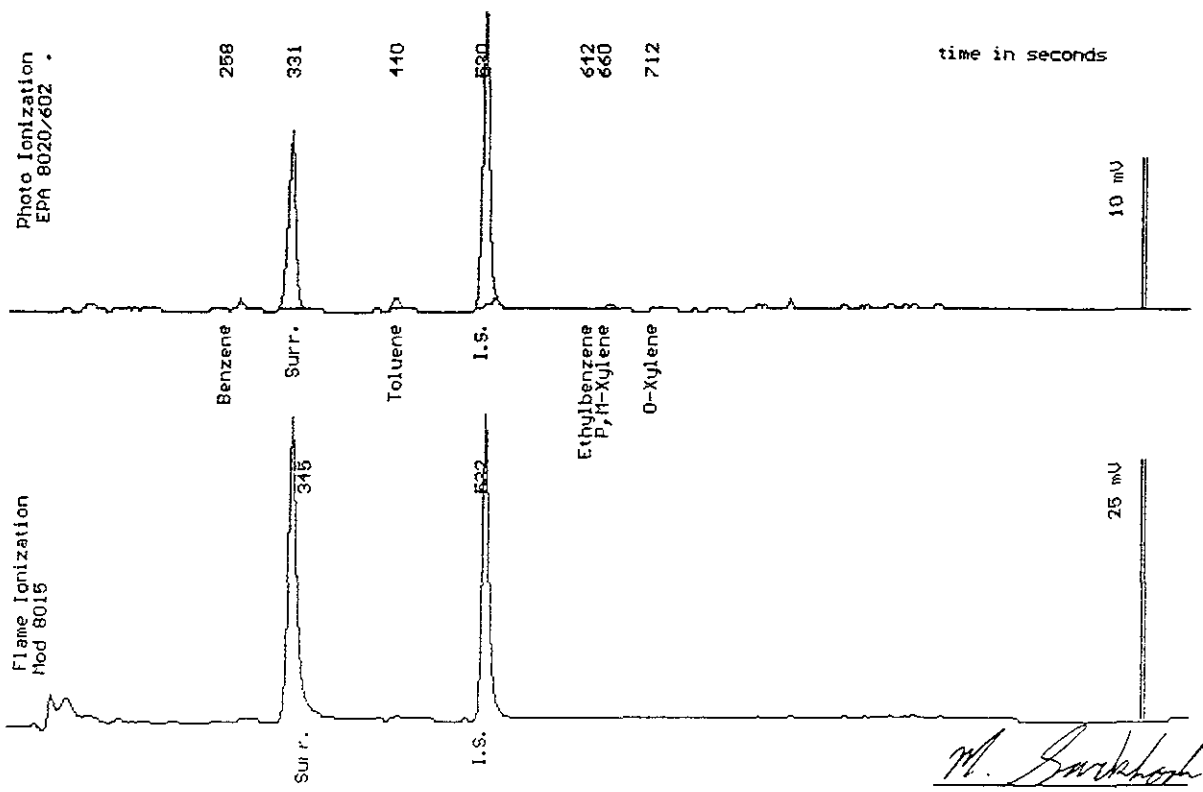
Sample Log 8186

8186-4

Sample: A2-5.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Dilution : 1:1 QC Batch : 6074F
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		101 %



Date Analyzed: 12-22-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

M. Sarkhosh

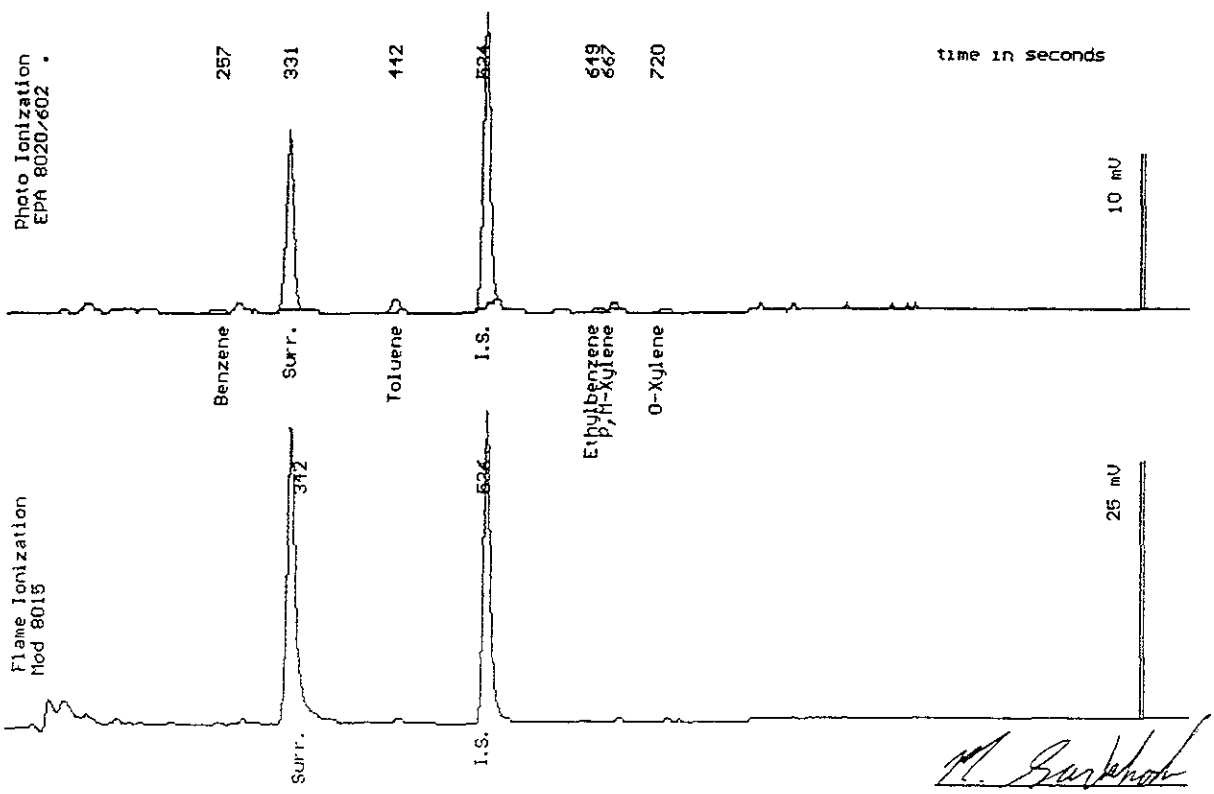
Mitra Sarkhosh
Senior Chemist

Sample Log 8186
8186-5

Sample: A2-8.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Dilution : 1:1 QC Batch : 6074F
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		101 %



Date Analyzed: 12-22-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

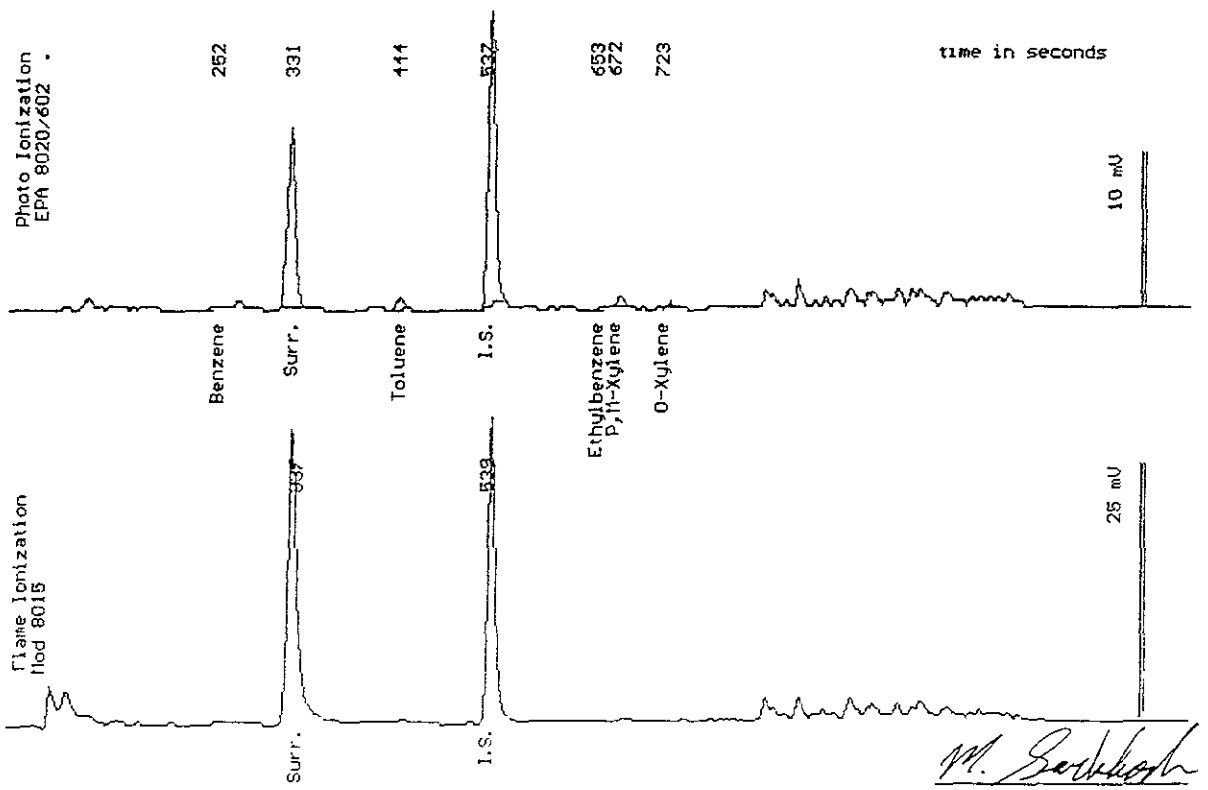
Sample Log 8186

8186-6

Sample: A2-17.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Dilution : 1:1 QC Batch : 6075a
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		104 %



Date Analyzed: 12-22-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

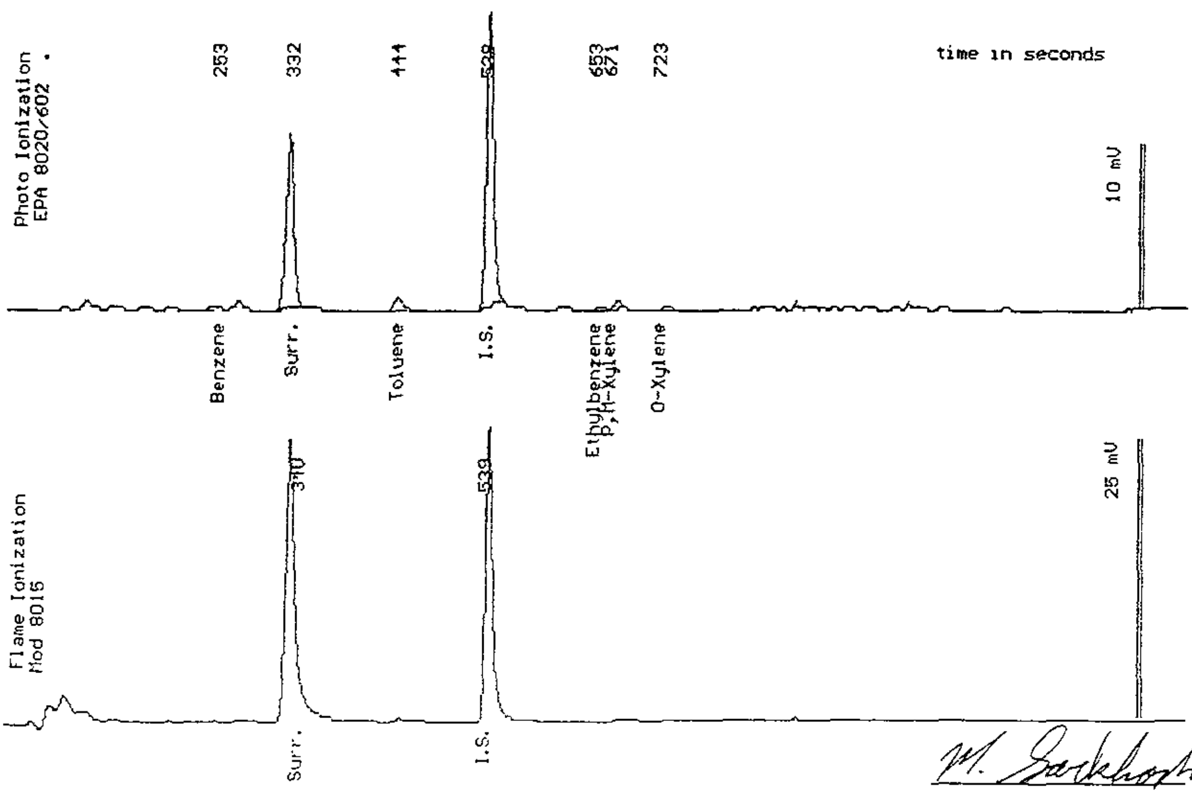
Sample Log 8186

8186-7

Sample: A3-5.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Dilution : 1:1 QC Batch : 6075a
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		100 %



Date Analyzed: 12-22-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

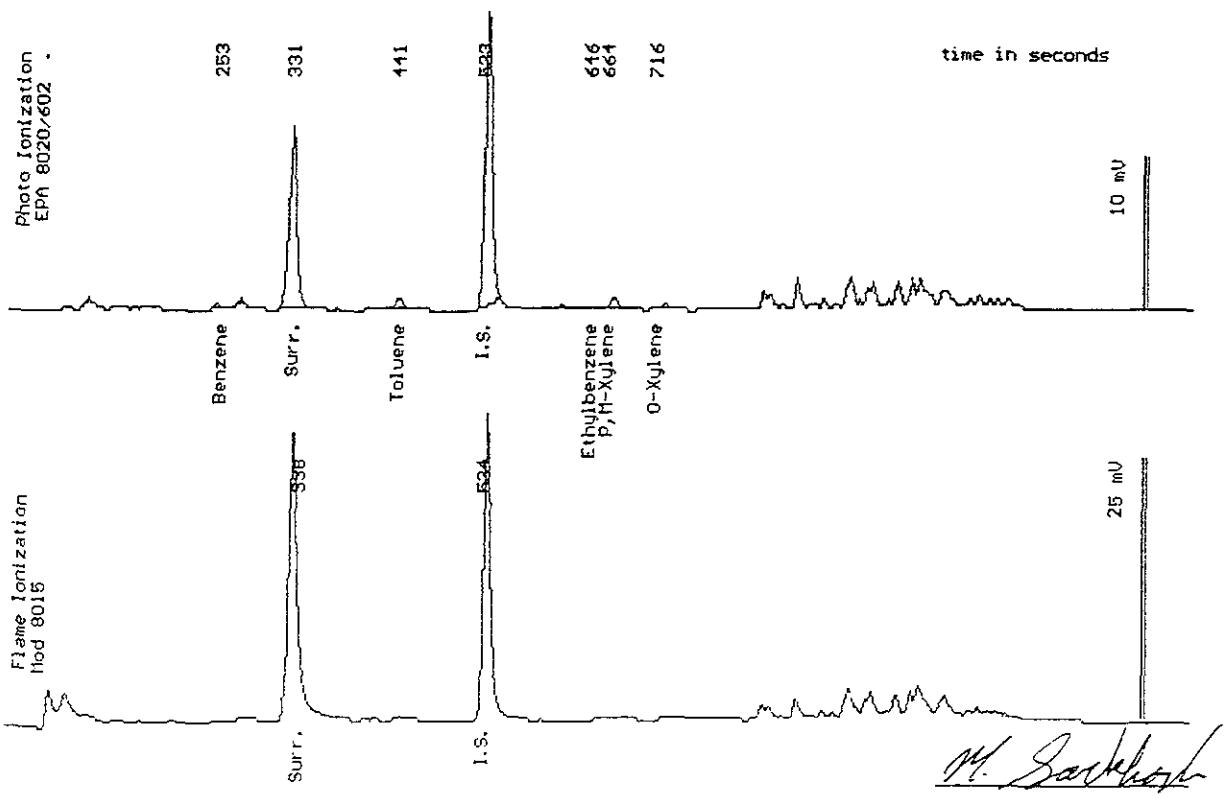
M. Sarkhosh
Mitra Sarkhosh
Senior Chemist

Sample Log 8186
8186-8

Sample: A3-8.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Dilution : 1:1 QC Batch : 6075a
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		103 %



Date Analyzed: 12-22-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

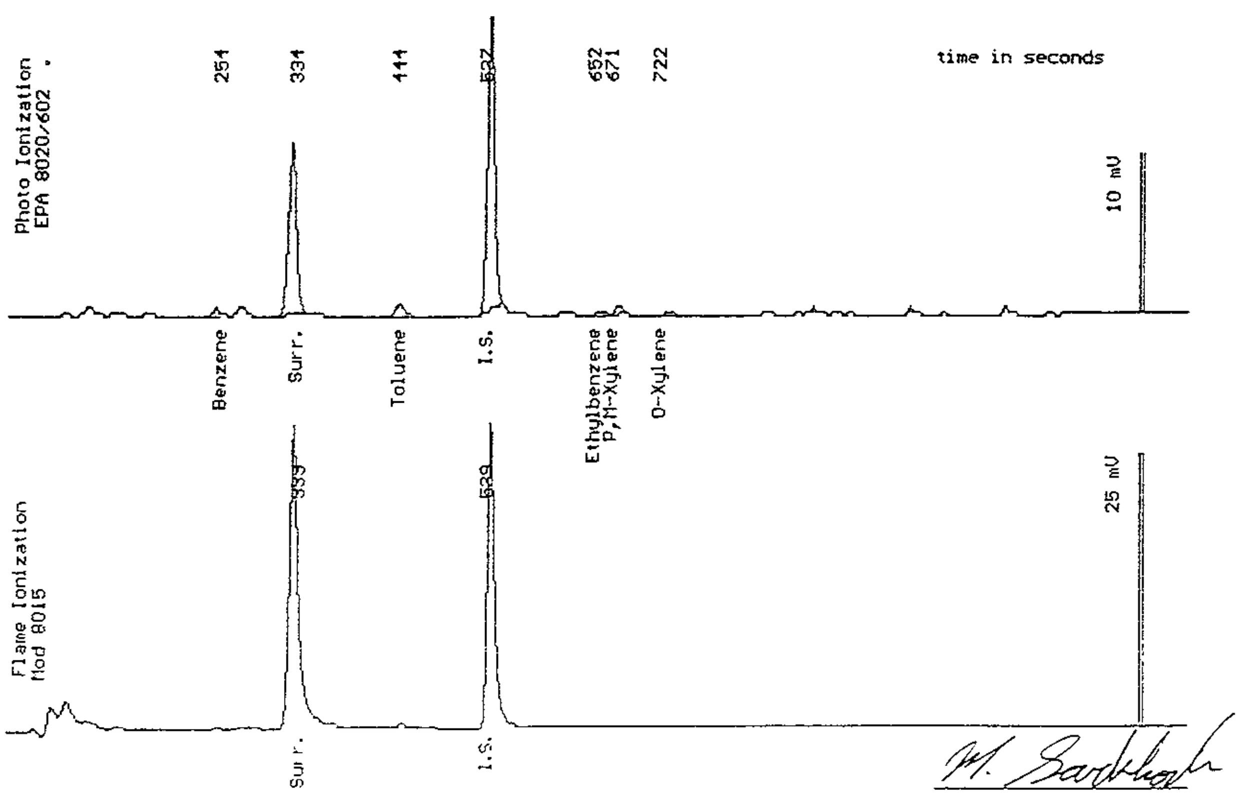
Sample Log 8186

8186-9

Sample: A3-16

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Dilution : 1:1 QC Batch : 6075a
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		103 %



M. Sarkhosh

Date Analyzed: 12-22-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

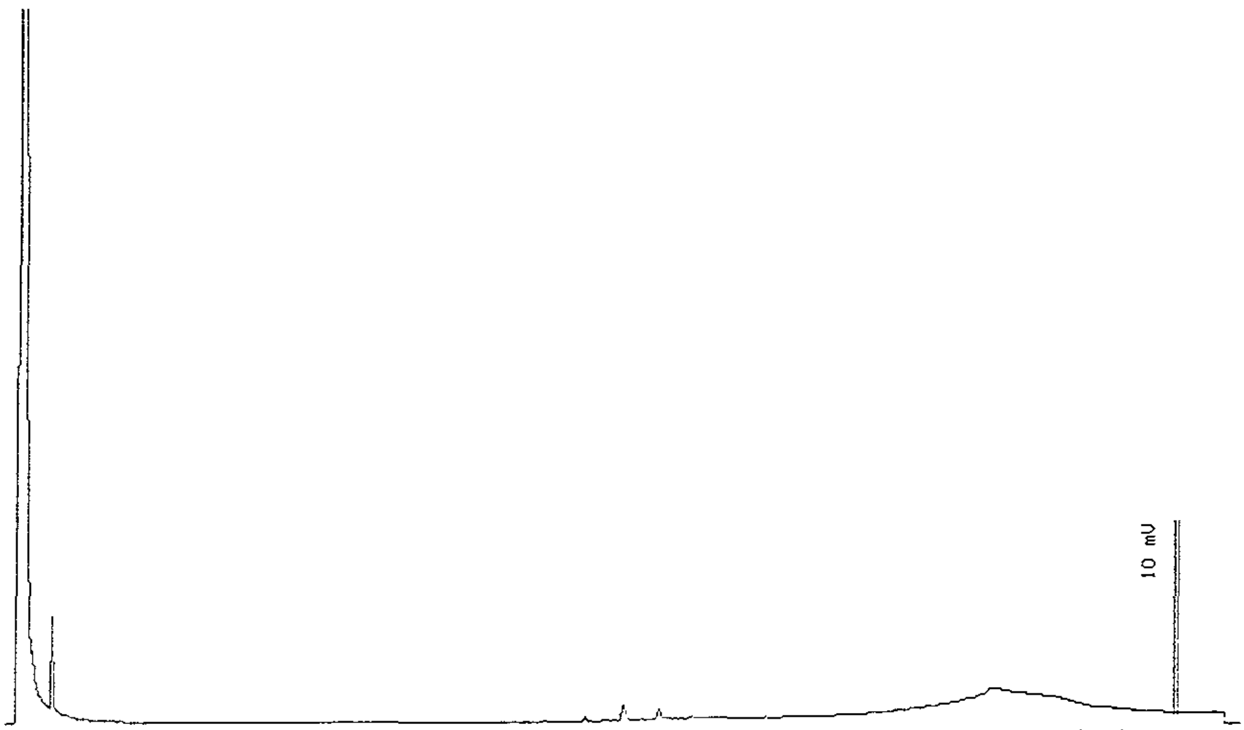
Sample Log 8186

8186-1

Sample: A1-5.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Extracted: 12/22/93 QC Batch : DS931208
Dilution : 1:1 Run Log : 8141D
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10



EPA Mod 8015

Date: 12-23-93 Time: 04:05:12
Column : 0.53mm ID x 15m DB1 (J&W Scientific)

Steward Podolsky
Senior Chemist

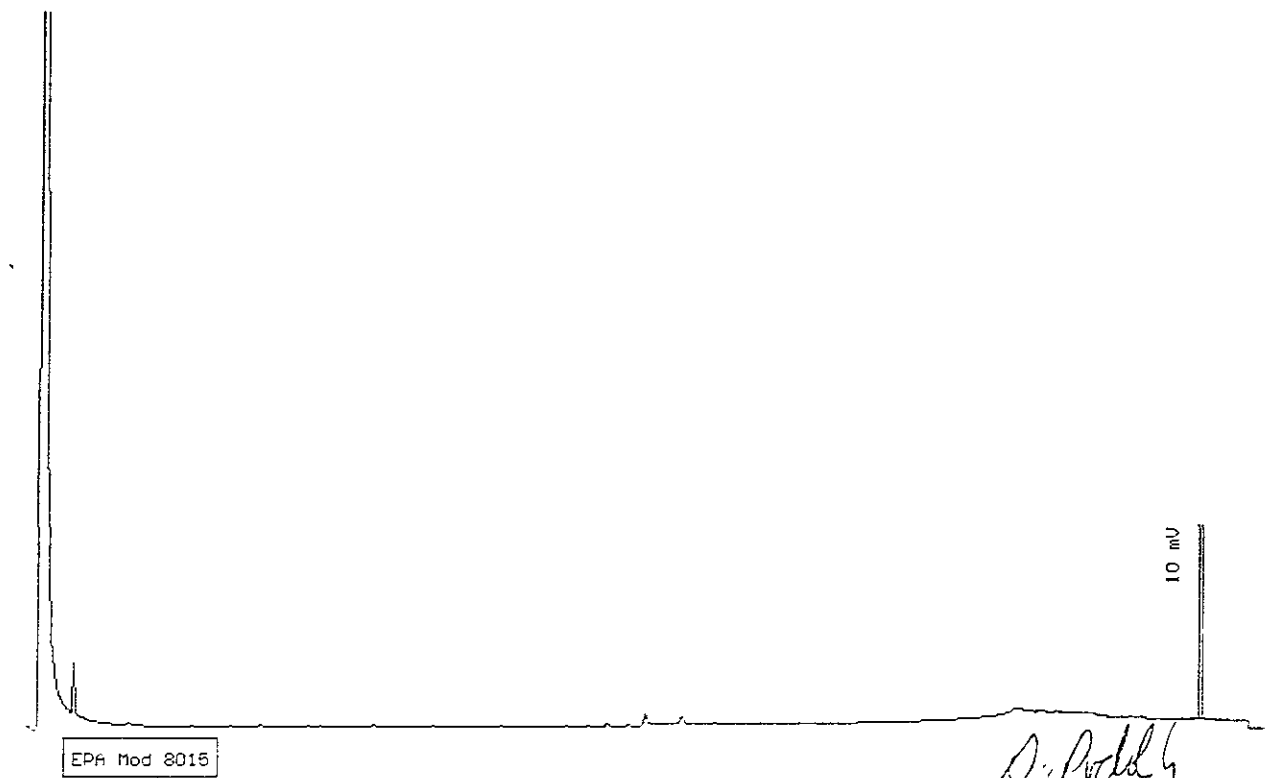
Sample Log 8186

8186-2

Sample: A1-7.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Extracted: 12/22/93 QC Batch : DS931208
Dilution : 1:1 Run Log : 8141D
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10



Date: 12-29-93 Time: 04:36:54
Column : 0.53mm ID x 15m DB1 (J&W Scientific)

Steuart Podolsky
Senior Chemist

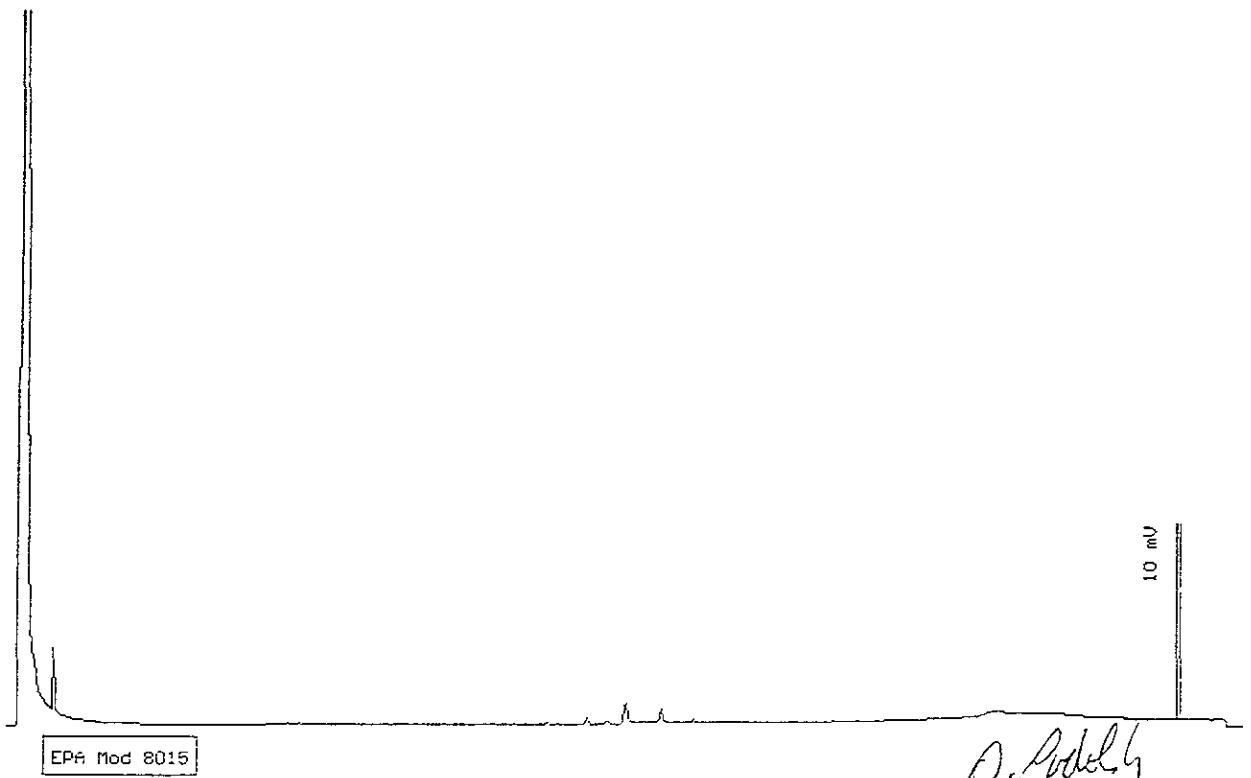
Sample Log 8186

8186-3

Sample: A1-16

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Extracted: 12/22/93 QC Batch : DS931208
Dilution : 1:1 Run Log : 8141D
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10



EPA Mod 8015

Date: 12-23-93 Time: 05:09:04
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

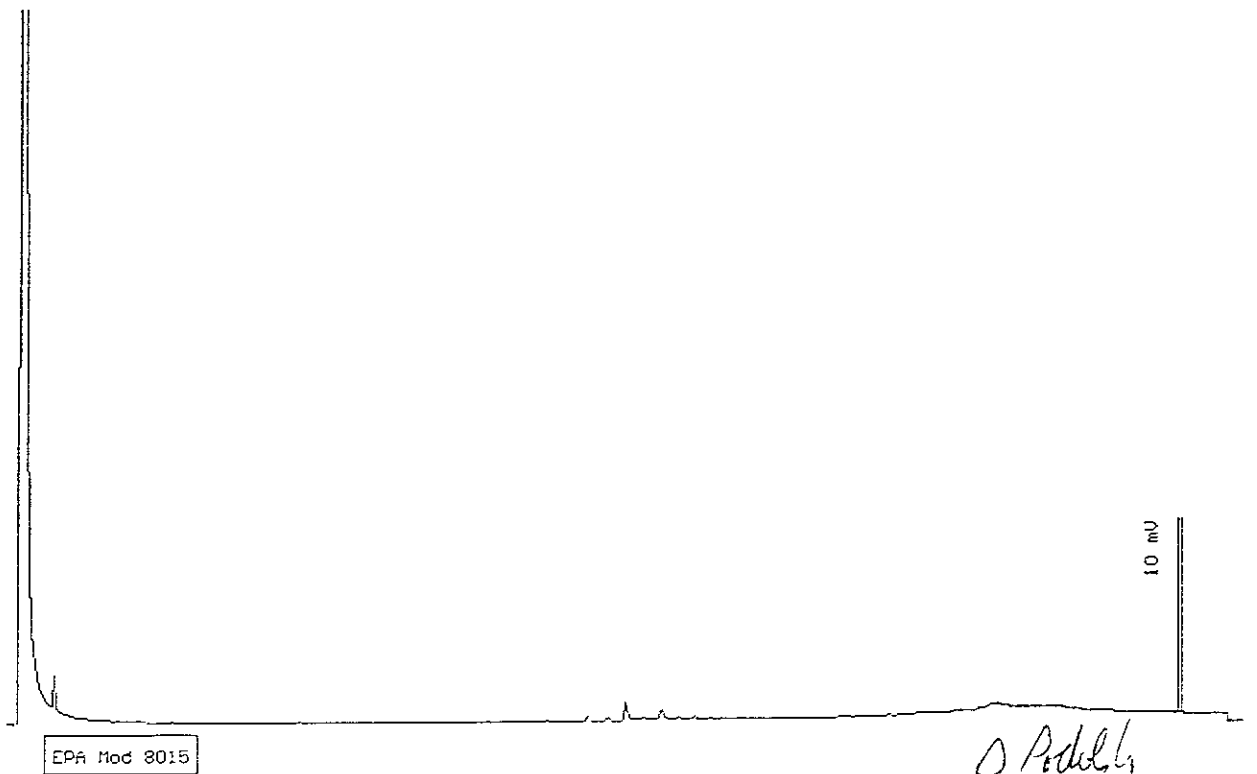
Sample Log 8186

8186-4

Sample: A2-5.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Extracted: 12/22/93 QC Batch : DS931208
Dilution : 1:1 Run Log : 8141D
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10



EPA Mod 8015

Date: 12-23-93 Time: 05:41:14
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Poolsby
Senior Chemist

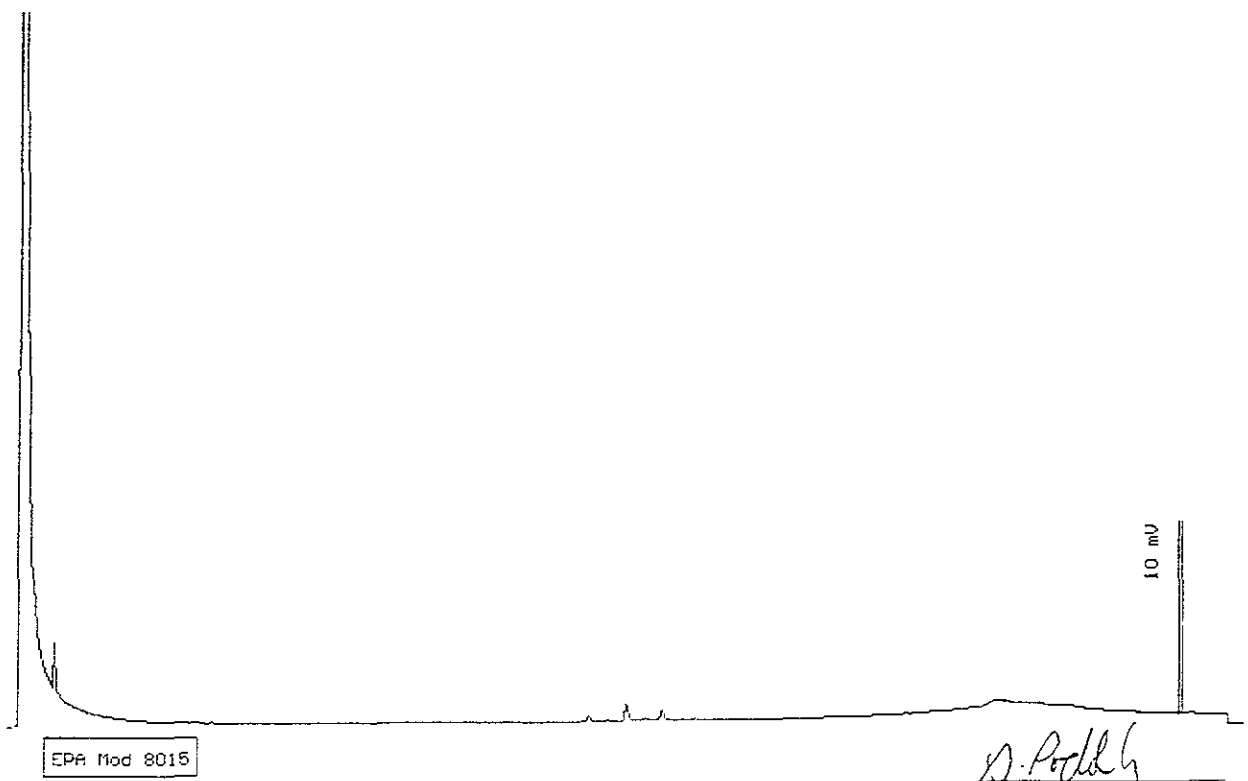
Sample Log 8186

8186-5

Sample: A2-8.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Extracted: 12/22/93 QC Batch : DS931208
Dilution : 1:1 Run Log : 8141D
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10



Date: 12-29-93 Time: 06:12:47
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

Sample Log 8186

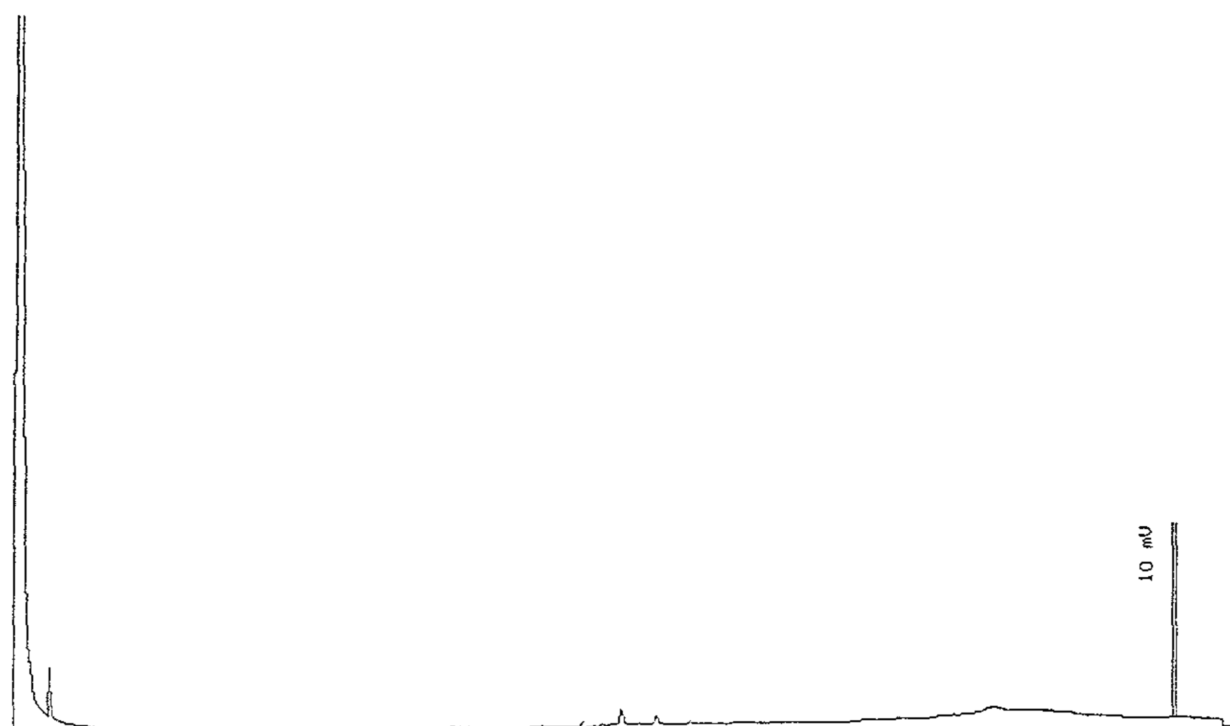
8186-6

Sample: A2-17.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Extracted: 12/22/93
Dilution : 1:1
Matrix : Soil

QC Batch : DS931208
Run Log : 8141D

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10



EPA Mod 8015

Date: 12-23-93 Time: 06:45:59
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

D Podolsky

Stewart Podolsky
Senior Chemist

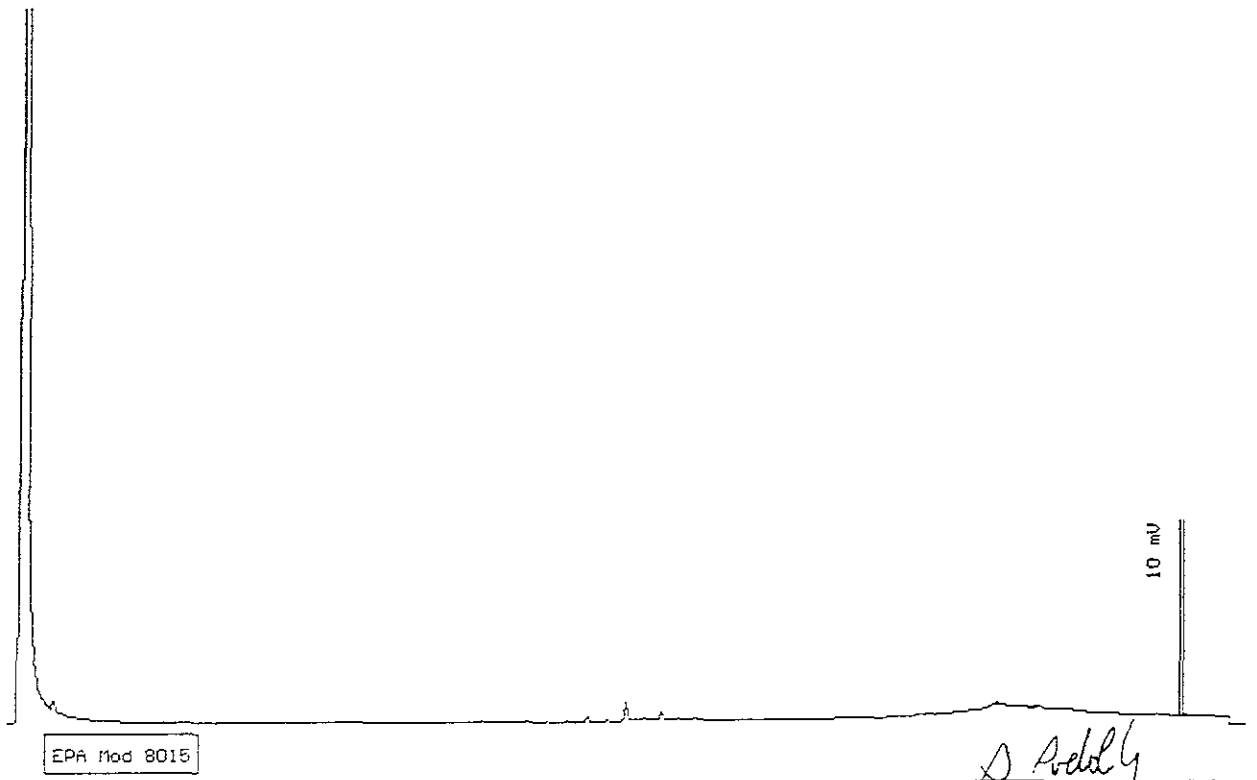
Sample Log 8186

8186-?

Sample: A3-5.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Extracted: 12/22/93 QC Batch : DS931208
Dilution : 1:1 Run Log : 8141D
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10



Date: 12-23-93 Time: 07:18:37
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

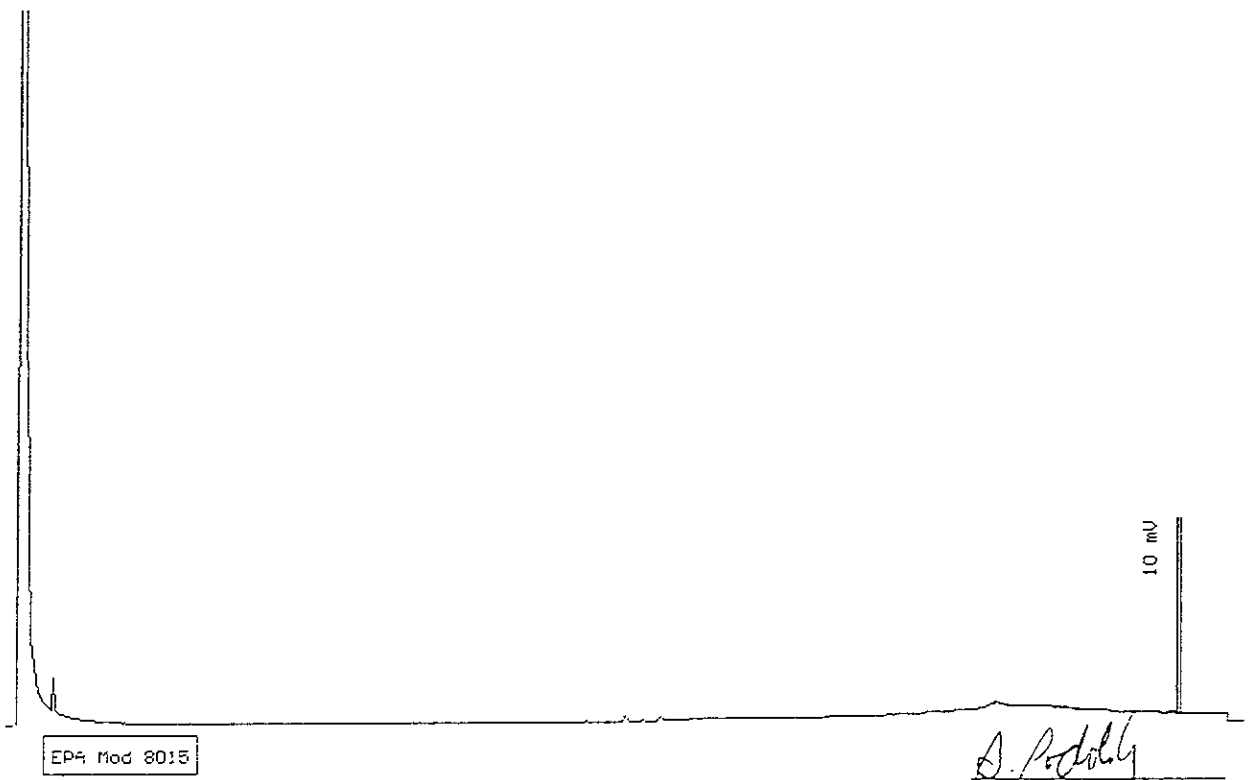
Sample Log 8186

8186-8

Sample: A3-8.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Extracted: 12/22/93 QC Batch : DS931208
Dilution : 1:1 Run Log : 8141D
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10



Date: 12-23-93 Time: 07:51:09
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

Sample Log 8186

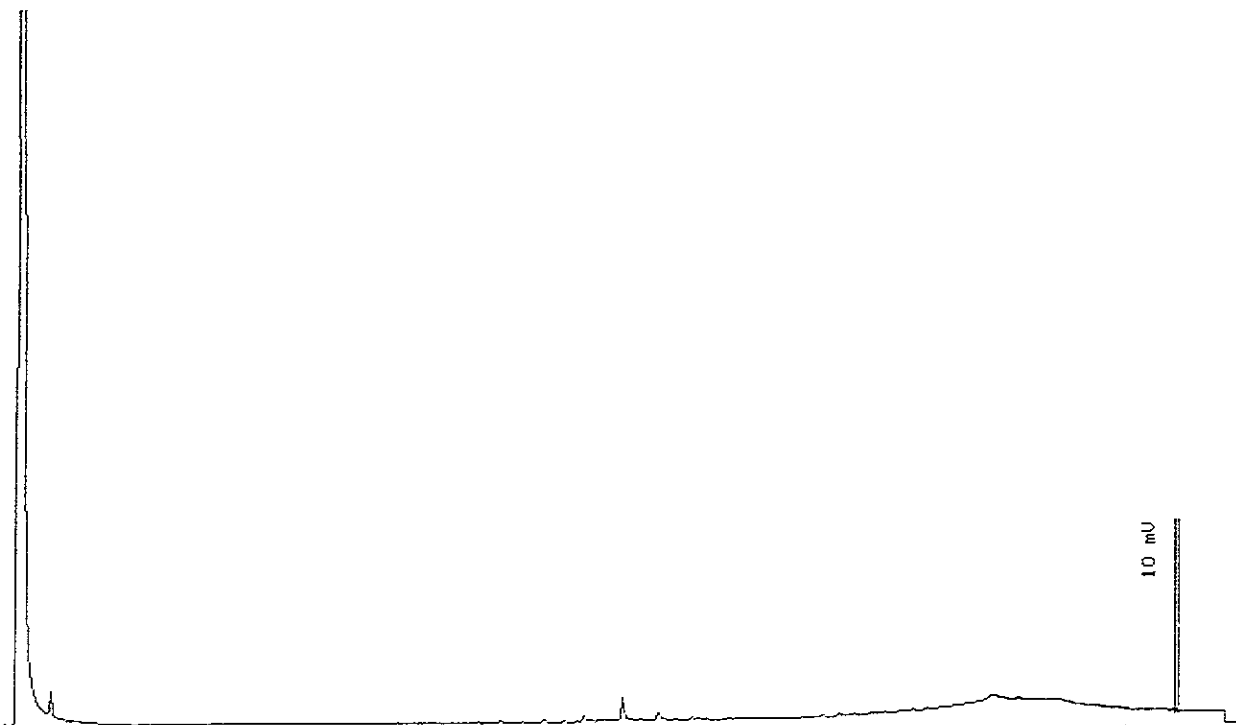
8186-9

Sample: A3-16

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Extracted: 12/22/93
Dilution : 1:1
Matrix : Soil

QC Batch : DS931208
Run Log : 8141D

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10



EPA Mod 8015

Date: 12-23-93 Time: 09:28:57
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

December 29, 1993
Sample Log 8186

Sample: A1-5.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93 Received : 12/20/93
Matrix : Soil Analyzed : 12/23/93

8240 - Volatile Organic Priority Pollutants

Parameter	(MRL) mg/kg	Measured Value mg/kg	Flag
Chloromethane	(0.01)	<0.01	
Bromomethane	(0.01)	<0.01	
cis-1,2-Dichloroethene	(.005)	<.005	
trans-1,2-Dichloroethene	(.005)	<.005	
Vinyl Chloride	(0.01)	<0.01	
Chloroethane	(0.01)	<0.01	
Methylene Chloride	(.005)	<.005	
Acetone	(0.10)	<0.10	
Carbon Disulfide	(.005)	<.005	
1,1-Dichloroethene	(.005)	<.005	
1,1-Dichloroethane	(.005)	<.005	
Chloroform	(.005)	<.005	
1,2-Dichloroethane	(.005)	<.005	
2-Butanone	(0.10)	<0.10	
1,1,1-Trichloroethane	(.005)	<.005	
Carbon Tetrachloride	(.005)	<.005	
Bromodichloromethane	(.005)	<.005	
1,2-Dichloropropane	(.005)	<.005	
cis-1,3-Dichloropropene	(.005)	<.005	
Trichloroethene	(.005)	<.005	
Dibromochloromethane	(.005)	<.005	
1,1,2-Trichloroethane	(.005)	<.005	
Benzene	(.005)	<.005	
trans-1,3-Dichloropropene	(.005)	<.005	
Bromoform	(.005)	<.005	
4-Methyl-2-Pentanone	(0.05)	<0.05	
1,3-Dichlorobenzene	(.005)	<.005	
1,2-Dichlorobenzene	(.005)	<.005	
1,4-Dichlorobenzene	(.005)	<.005	
2-Hexanone	(0.05)	<0.05	
Tetrachloroethene	(.005)	<.005	
1,1,2,2-Tetrachloroethane	(.005)	<.005	
Toluene	(.005)	<.005	
Chlorobenzene	(.005)	<.005	
Ethylbenzene	(.005)	<.005	
Styrene	(.005)	<.005	
P,M-Xylene	(.005)	<.005	
O-Xylene	(.005)	<.005	

Joel Kiff
Senior Chemist

December 29, 1993
Sample Log 8186

Sample: A1-7.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93 Received : 12/20/93
Matrix : Soil Analyzed : 12/23/93

8240 - Volatile Organic Priority Pollutants

Parameter	(MRL) mg/kg	Measured Value mg/kg	Flag
Chloromethane	(0.01)	<0.01	
Bromomethane	(0.01)	<0.01	
cis-1,2-Dichloroethene	(.005)	<.005	
trans-1,2-Dichloroethene	(.005)	<.005	
Vinyl Chloride	(0.01)	<0.01	
Chloroethane	(0.01)	<0.01	
Methylene Chloride	(.005)	<.005	
Acetone	(0.10)	<0.10	
Carbon Disulfide	(.005)	<.005	
1,1-Dichloroethene	(.005)	<.005	
1,1-Dichloroethane	(.005)	<.005	
Chloroform	(.005)	<.005	
1,2-Dichloroethane	(.005)	<.005	
2-Butanone	(0.10)	<0.10	
1,1,1-Trichloroethane	(.005)	<.005	
Carbon Tetrachloride	(.005)	<.005	
Bromodichloromethane	(.005)	<.005	
1,2-Dichloropropane	(.005)	<.005	
cis-1,3-Dichloropropene	(.005)	<.005	
Trichloroethene	(.005)	<.005	
Dibromochloromethane	(.005)	<.005	
1,1,2-Trichloroethane	(.005)	<.005	
Benzene	(.005)	<.005	
trans-1,3-Dichloropropene	(.005)	<.005	
Bromoform	(.005)	<.005	
4-Methyl-2-Pentanone	(0.05)	<0.05	
1,3-Dichlorobenzene	(.005)	<.005	
1,2-Dichlorobenzene	(.005)	<.005	
1,4-Dichlorobenzene	(.005)	<.005	
2-Hexanone	(0.05)	<0.05	
Tetrachloroethene	(.005)	<.005	
1,1,2,2-Tetrachloroethane	(.005)	<.005	
Toluene	(.005)	<.005	
Chlorobenzene	(.005)	<.005	
Ethylbenzene	(.005)	<.005	
Styrene	(.005)	<.005	
P,M-Xylene	(.005)	<.005	
O-Xylene	(.005)	<.005	

Joel Kiff
Senior Chemist

December 29, 1993
Sample Log 8186

Sample: A1-16

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93 Received : 12/20/93
Matrix : Soil Analyzed : 12/23/93

8240 - Volatile Organic Priority Pollutants

Parameter	(MRL) mg/kg	Measured Value mg/kg	Flag
Chloromethane	(0.01)	<0.01	
Bromomethane	(0.01)	<0.01	
cis-1,2-Dichloroethene	(.005)	<.005	
trans-1,2-Dichloroethene	(.005)	<.005	
Vinyl Chloride	(0.01)	<0.01	
Chloroethane	(0.01)	<0.01	
Methylene Chloride	(.005)	<.005	
Acetone	(0.10)	<0.10	
Carbon Disulfide	(.005)	<.005	
1,1-Dichloroethene	(.005)	<.005	
1,1-Dichloroethane	(.005)	<.005	
Chloroform	(.005)	<.005	
1,2-Dichloroethane	(.005)	<.005	
2-Butanone	(0.10)	<0.10	
1,1,1-Trichloroethane	(.005)	<.005	
Carbon Tetrachloride	(.005)	<.005	
Bromodichloromethane	(.005)	<.005	
1,2-Dichloropropane	(.005)	<.005	
cis-1,3-Dichloropropene	(.005)	<.005	
Trichloroethene	(.005)	<.005	
Dibromochloromethane	(.005)	<.005	
1,1,2-Trichloroethane	(.005)	<.005	
Benzene	(.005)	<.005	
trans-1,3-Dichloropropene	(.005)	<.005	
Bromoform	(.005)	<.005	
4-Methyl-2-Pentanone	(0.05)	<0.05	
1,3-Dichlorobenzene	(.005)	<.005	
1,2-Dichlorobenzene	(.005)	<.005	
1,4-Dichlorobenzene	(.005)	<.005	
2-Hexanone	(0.05)	<0.05	
Tetrachloroethene	(.005)	<.005	
1,1,2,2-Tetrachloroethane	(.005)	<.005	
Toluene	(.005)	<.005	
Chlorobenzene	(.005)	<.005	
Ethylbenzene	(.005)	<.005	
Styrene	(.005)	<.005	
P,M-Xylene	(.005)	<.005	
O-Xylene	(.005)	<.005	

Joel Kiff
Senior Chemist

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December 29, 1993
Sample Log 8186

Sample: A2-5.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93 Received : 12/20/93
Matrix : Soil Analyzed : 12/23/93

8240 - Volatile Organic Priority Pollutants

Parameter	(MRL) mg/kg	Measured Value mg/kg	Flag
Chloromethane	(0.01)	<0.01	
Bromomethane	(0.01)	<0.01	
cis-1,2-Dichloroethene	(.005)	<.005	
trans-1,2-Dichloroethene	(.005)	<.005	
Vinyl Chloride	(0.01)	<0.01	
Chloroethane	(0.01)	<0.01	
Methylene Chloride	(.005)	<.005	
Acetone	(0.10)	<0.10	
Carbon Disulfide	(.005)	<.005	
1,1-Dichloroethene	(.005)	<.005	
1,1-Dichloroethane	(.005)	<.005	
Chloroform	(.005)	<.005	
1,2-Dichloroethane	(.005)	<.005	
2-Butanone	(0.10)	<0.10	
1,1,1-Trichloroethane	(.005)	<.005	
Carbon Tetrachloride	(.005)	<.005	
Bromodichloromethane	(.005)	<.005	
1,2-Dichloropropane	(.005)	<.005	
cis-1,3-Dichloropropene	(.005)	<.005	
Trichloroethene	(.005)	<.005	
Dibromochloromethane	(.005)	<.005	
1,1,2-Trichloroethane	(.005)	<.005	
Benzene	(.005)	<.005	
trans-1,3-Dichloropropene	(.005)	<.005	
Bromoform	(.005)	<.005	
4-Methyl-2-Pentanone	(0.05)	<0.05	
1,3-Dichlorobenzene	(.005)	<.005	
1,2-Dichlorobenzene	(.005)	<.005	
1,4-Dichlorobenzene	(.005)	<.005	
2-Hexanone	(0.05)	<0.05	
Tetrachloroethene	(.005)	<.005	
1,1,2,2-Tetrachloroethane	(.005)	<.005	
Toluene	(.005)	<.005	
Chlorobenzene	(.005)	<.005	
Ethylbenzene	(.005)	<.005	
Styrene	(.005)	<.005	
P,M-Xylene	(.005)	<.005	
O-Xylene	(.005)	<.005	

Joel Kiff
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December 29, 1993
Sample Log 8186

Sample: A2-8.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93 Received : 12/20/93
Matrix : Soil Analyzed : 12/23/93

8240 - Volatile Organic Priority Pollutants

Parameter	(MRL) mg/kg	Measured Value mg/kg	Flag
Chloromethane	(0.01)	<0.01	
Bromomethane	(0.01)	<0.01	
cis-1,2-Dichloroethene	(.005)	<.005	
trans-1,2-Dichloroethene	(.005)	<.005	
Vinyl Chloride	(0.01)	<0.01	
Chloroethane	(0.01)	<0.01	
Methylene Chloride	(.005)	<.005	
Acetone	(0.10)	<0.10	
Carbon Disulfide	(.005)	<.005	
1,1-Dichloroethene	(.005)	<.005	
1,1-Dichloroethane	(.005)	<.005	
Chloroform	(.005)	<.005	
1,2-Dichloroethane	(.005)	<.005	
2-Butanone	(0.10)	<0.10	
1,1,1-Trichloroethane	(.005)	<.005	
Carbon Tetrachloride	(.005)	<.005	
Bromodichloromethane	(.005)	<.005	
1,2-Dichloropropane	(.005)	<.005	
cis-1,3-Dichloropropene	(.005)	<.005	
Trichloroethene	(.005)	<.005	
Dibromochloromethane	(.005)	<.005	
1,1,2-Trichloroethane	(.005)	<.005	
Benzene	(.005)	<.005	
trans-1,3-Dichloropropene	(.005)	<.005	
Bromoform	(.005)	<.005	
4-Methyl-2-Pentanone	(0.05)	<0.05	
1,3-Dichlorobenzene	(.005)	<.005	
1,2-Dichlorobenzene	(.005)	<.005	
1,4-Dichlorobenzene	(.005)	<.005	
2-Hexanone	(0.05)	<0.05	
Tetrachloroethene	(.005)	<.005	
1,1,2,2-Tetrachloroethane	(.005)	<.005	
Toluene	(.005)	<.005	
Chlorobenzene	(.005)	<.005	
Ethylbenzene	(.005)	<.005	
Styrene	(.005)	<.005	
P,M-Xylene	(.005)	<.005	
O-Xylene	(.005)	<.005	

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December 29, 1993
Sample Log 8186

Sample: A2-17.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93 Received : 12/20/93
Matrix : Soil Analyzed : 12/23/93

8240 - Volatile Organic Priority Pollutants

Parameter	(MRL) mg/kg	Measured Value mg/kg	Flag
Chloromethane	(0.01)	<0.01	
Bromomethane	(0.01)	<0.01	
cis-1,2-Dichloroethene	(.005)	<.005	
trans-1,2-Dichloroethene	(.005)	<.005	
Vinyl Chloride	(0.01)	<0.01	
Chloroethane	(0.01)	<0.01	
Methylene Chloride	(.005)	<.005	
Acetone	(0.10)	<0.10	
Carbon Disulfide	(.005)	<.005	
1,1-Dichloroethene	(.005)	<.005	
1,1-Dichloroethane	(.005)	<.005	
Chloroform	(.005)	<.005	
1,2-Dichloroethane	(.005)	<.005	
2-Butanone	(0.10)	<0.10	
1,1,1-Trichloroethane	(.005)	<.005	
Carbon Tetrachloride	(.005)	<.005	
Bromodichloromethane	(.005)	<.005	
1,2-Dichloropropane	(.005)	<.005	
cis-1,3-Dichloropropene	(.005)	<.005	
Trichloroethene	(.005)	<.005	
Dibromochloromethane	(.005)	<.005	
1,1,2-Trichloroethane	(.005)	<.005	
Benzene	(.005)	<.005	
trans-1,3-Dichloropropene	(.005)	<.005	
Bromoform	(.005)	<.005	
4-Methyl-2-Pentanone	(0.05)	<0.05	
1,3-Dichlorobenzene	(.005)	<.005	
1,2-Dichlorobenzene	(.005)	<.005	
1,4-Dichlorobenzene	(.005)	<.005	
2-Hexanone	(0.05)	<0.05	
Tetrachloroethene	(.005)	<.005	
1,1,2,2-Tetrachloroethane	(.005)	<.005	
Toluene	(.005)	<.005	
Chlorobenzene	(.005)	<.005	
Ethylbenzene	(.005)	<.005	
Styrene	(.005)	<.005	
P,M-Xylene	(.005)	<.005	
O-Xylene	(.005)	<.005	

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December 29, 1993
Sample Log 8186

WEST

Sample: A3-5.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Matrix : Soil

Received : 12/20/93
Analyzed : 12/23/93

8240 - Volatile Organic Priority Pollutants

Parameter	(MRL) mg/kg	Measured Value mg/kg	Flag
Chloromethane	(0.01)	<0.01	
Bromomethane	(0.01)	<0.01	
cis-1,2-Dichloroethene	(.005)	<.005	
trans-1,2-Dichloroethene	(.005)	<.005	
Vinyl Chloride	(0.01)	<0.01	
Chloroethane	(0.01)	<0.01	
Methylene Chloride	(.005)	<.005	
Acetone	(0.10)	<0.10	
Carbon Disulfide	(.005)	<.005	
1,1-Dichloroethene	(.005)	<.005	
1,1-Dichloroethane	(.005)	<.005	
Chloroform	(.005)	<.005	
1,2-Dichloroethane	(.005)	<.005	
2-Butanone	(0.10)	<0.10	
1,1,1-Trichloroethane	(.005)	<.005	
Carbon Tetrachloride	(.005)	<.005	
Bromodichloromethane	(.005)	<.005	
1,2-Dichloropropane	(.005)	<.005	
cis-1,3-Dichloropropene	(.005)	<.005	
Trichloroethene	(.005)	<.005	
Dibromochloromethane	(.005)	<.005	
1,1,2-Trichloroethane	(.005)	<.005	
Benzene	(.005)	<.005	
trans-1,3-Dichloropropene	(.005)	<.005	
Bromoform	(.005)	<.005	
4-Methyl-2-Pentanone	(0.05)	<0.05	
1,3-Dichlorobenzene	(.005)	<.005	
1,2-Dichlorobenzene	(.005)	<.005	
1,4-Dichlorobenzene	(.005)	<.005	
2-Hexanone	(0.05)	<0.05	
Tetrachloroethene	(.005)	<.005	
1,1,2,2-Tetrachloroethane	(.005)	<.005	
Toluene	(.005)	<.005	
Chlorobenzene	(.005)	<.005	
Ethylbenzene	(.005)	<.005	
Styrene	(.005)	<.005	
P,M-Xylene	(.005)	<.005	
O-Xylene	(.005)	<.005	

Joel Kiff
Senior Chemist

December 29, 1993
Sample Log 8186

Sample: A3-8.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93 Received : 12/20/93
Matrix : Soil Analyzed : 12/23/93

8240 - Volatile Organic Priority Pollutants

Parameter	(MRL) mg/kg	Measured Value mg/kg	Flag
Chloromethane	(0.01)	<0.01	
Bromomethane	(0.01)	<0.01	
cis-1,2-Dichloroethene	(.005)	<.005	
trans-1,2-Dichloroethene	(.005)	<.005	
Vinyl Chloride	(0.01)	<0.01	
Chloroethane	(0.01)	<0.01	
Methylene Chloride	(.005)	<.005	
Acetone	(0.10)	<0.10	
Carbon Disulfide	(.005)	<.005	
1,1-Dichloroethene	(.005)	<.005	
1,1-Dichloroethane	(.005)	<.005	
Chloroform	(.005)	<.005	
1,2-Dichloroethane	(.005)	<.005	
2-Butanone	(0.10)	<0.10	
1,1,1-Trichloroethane	(.005)	<.005	
Carbon Tetrachloride	(.005)	<.005	
Bromodichloromethane	(.005)	<.005	
1,2-Dichloropropane	(.005)	<.005	
cis-1,3-Dichloropropene	(.005)	<.005	
Trichloroethene	(.005)	<.005	
Dibromochloromethane	(.005)	<.005	
1,1,2-Trichloroethane	(.005)	<.005	
Benzene	(.005)	<.005	
trans-1,3-Dichloropropene	(.005)	<.005	
Bromoform	(.005)	<.005	
4-Methyl-2-Pentanone	(0.05)	<0.05	
1,3-Dichlorobenzene	(.005)	<.005	
1,2-Dichlorobenzene	(.005)	<.005	
1,4-Dichlorobenzene	(.005)	<.005	
2-Hexanone	(0.05)	<0.05	
Tetrachloroethene	(.005)	<.005	
1,1,2,2-Tetrachloroethane	(.005)	<.005	
Toluene	(.005)	<.005	
Chlorobenzene	(.005)	<.005	
Ethylbenzene	(.005)	<.005	
Styrene	(.005)	<.005	
P,M-Xylene	(.005)	<.005	
O-Xylene	(.005)	<.005	

Joel Kiff
Senior Chemist

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December 29, 1993
Sample Log 8186

Sample: A3-16

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93 Received : 12/20/93
Matrix : Soil Analyzed : 12/23/93

8240 - Volatile Organic Priority Pollutants

Parameter	(MRL) mg/kg	Measured Value mg/kg	Flag
Chloromethane	(0.01)	<0.01	
Bromomethane	(0.01)	<0.01	
cis-1,2-Dichloroethene	(.005)	<.005	
trans-1,2-Dichloroethene	(.005)	<.005	
Vinyl Chloride	(0.01)	<0.01	
Chloroethane	(0.01)	<0.01	
Methylene Chloride	(.005)	<.005	
Acetone	(0.10)	<0.10	
Carbon Disulfide	(.005)	<.005	
1,1-Dichloroethene	(.005)	<.005	
1,1-Dichloroethane	(.005)	<.005	
Chloroform	(.005)	<.005	
1,2-Dichloroethane	(.005)	<.005	
2-Butanone	(0.10)	<0.10	
1,1,1-Trichloroethane	(.005)	<.005	
Carbon Tetrachloride	(.005)	<.005	
Bromodichloromethane	(.005)	<.005	
1,2-Dichloropropane	(.005)	<.005	
cis-1,3-Dichloropropene	(.005)	<.005	
Trichloroethene	(.005)	<.005	
Dibromochloromethane	(.005)	<.005	
1,1,2-Trichloroethane	(.005)	<.005	
Benzene	(.005)	<.005	
trans-1,3-Dichloropropene	(.005)	<.005	
Bromoform	(.005)	<.005	
4-Methyl-2-Pentanone	(0.05)	<0.05	
1,3-Dichlorobenzene	(.005)	<.005	
1,2-Dichlorobenzene	(.005)	<.005	
1,4-Dichlorobenzene	(.005)	<.005	
2-Hexanone	(0.05)	<0.05	
Tetrachloroethene	(.005)	<.005	
1,1,2,2-Tetrachloroethane	(.005)	<.005	
Toluene	(.005)	<.005	
Chlorobenzene	(.005)	<.005	
Ethylbenzene	(.005)	<.005	
Styrene	(.005)	<.005	
P,M-Xylene	(.005)	<.005	
O-Xylene	(.005)	<.005	

Joel Kiff
Senior Chemist

December 30, 1993
Sample Log 8186

Total Oil and Grease (Standard Methods 5520 E,F)
From : Project # 6130.01 (Shamrock Ford)
Received : 12/20/93
Matrix : Soil

--all concentrations are units of mg/kg--

Sample	Date Sampled	Date Analyzed	RDL	(5520 E,F) Oil and Grease
A1-5.5	12/17/93	12/28/93	(50)	<50
A1-7.5	12/17/93	12/28/93	(50)	<50
A1-16	12/17/93	12/28/93	(50)	<50
A2-5.5	12/17/93	12/28/93	(50)	<50
A2-8.5	12/17/93	12/28/93	(50)	<50
A2-17.5	12/17/93	12/28/93	(50)	<50
A3-5.5	12/17/93	12/28/93	(50)	<50
A3-8.5	12/17/93	12/28/93	(50)	77 *
A3-16	12/17/93	12/28/93	(50)	<50

QC Batch: KS931203
QC Batch: KS931205

* Sample was extracted twice. Both extracts yielded a white non-petroleum residue.

P. Podolsky

Stewart Podolsky
Senior Chemist

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December 29, 1993
Sample Log 8186

Sample: A1-5.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Received : 12/20/93
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Cadmium	(0.4)	1.3
Chromium	(0.7)	39
Lead	(10)	<10
Zinc	(1.0)	50
Nickel	(1.5)	34

Joel Kiff
Senior Chemist

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December 29, 1993
Sample Log 8186

Sample: A1-7.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Received : 12/20/93
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Cadmium	(0.4)	1.5
Chromium	(0.7)	48
Lead	(10)	<10
Zinc	(1.0)	61
Nickel	(1.5)	40

Joel Kiff
Senior Chemist

December 29, 1993
Sample Log 8186

Sample: A1-16

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Received : 12/20/93
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Cadmium	(0.4)	1.3
Chromium	(0.7)	43
Lead	(10)	<10
Zinc	(1.0)	52
Nickel	(1.5)	33

Joel Kiff
Senior Chemist

December 29, 1993
Sample Log 8186

Sample: A2-5.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Received : 12/20/93
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Cadmium	(0.4)	1.7
Chromium	(0.7)	40
Lead	(10)	<10
Zinc	(1.0)	49
Nickel	(1.5)	35

Joel Kiff
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December 29, 1993
Sample Log 8186

Sample: A2-8.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Received : 12/20/93
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Cadmium	(0.4)	1.6
Chromium	(0.7)	48
Lead	(10)	<10
Zinc	(1.0)	57
Nickel	(1.5)	35

Joel Kiff
Senior Chemist

December 29, 1993
Sample Log 8186

Sample: A2-17.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Received : 12/20/93
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Cadmium	(0.4)	1.7
Chromium	(0.7)	41
Lead	(10)	<10
Zinc	(1.0)	52
Nickel	(1.5)	36

Joel Kiff
Senior Chemist

December 29, 1993
Sample Log 8186

Sample: A3-5.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Received : 12/20/93
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Cadmium	(0.4)	1.9
Chromium	(0.7)	41
Lead	(10)	<10
Zinc	(1.0)	51
Nickel	(1.5)	51

Joel Kiff
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December 29, 1993
Sample Log 8186

Sample: A3-8.5

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Received : 12/20/93
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Cadmium	(0.4)	1.6
Chromium	(0.7)	48
Lead	(10)	<10
Zinc	(1.0)	58
Nickel	(1.5)	38

Joel Kiff
Senior Chemist

December 29, 1993
Sample Log 8186

Sample: A3-16

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Received : 12/20/93
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Cadmium	(0.4)	1.8
Chromium	(0.7)	48
Lead	(10)	<10
Zinc	(1.0)	56
Nickel	(1.5)	42

Joel Kiff
Senior Chemist

December 30, 1993
Sample Log 8186

Total Recoverable Petroleum Hydrocarbons (EPA 418.1)
From : Project # 6130.01 (Shamrock Ford)
Received : 12/20/93
Matrix : Soil

--all concentrations are units of mg/kg--

Sample	Date Sample	Date Extract	Date Analyzed	RDL	(EPA 418.1) TRPH
S-1217-SPABCD	12/17/93	12/22/93	12/29/93	(30)	490

QC Batch: JS931202

D. Podolsky

Stewart Podolsky
Senior Chemist

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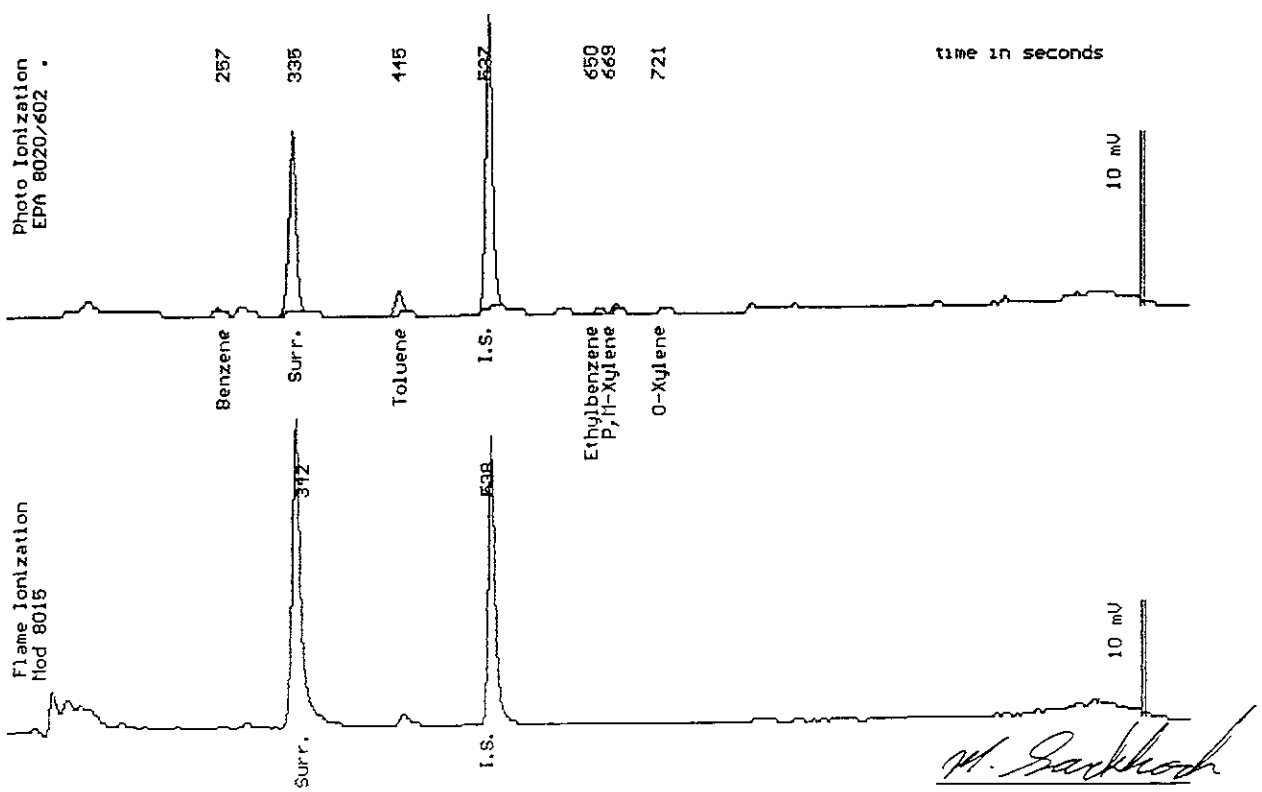
Sample Log 8186

8186-10

Sample: S-1217-SPABCD

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Dilution : 1:1 QC Batch : 6075b
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		103 %



Date Analyzed: 12-24-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

M. Sarkhosh

Mitra Sarkhosh
Senior Chemist

Sample Log 8186

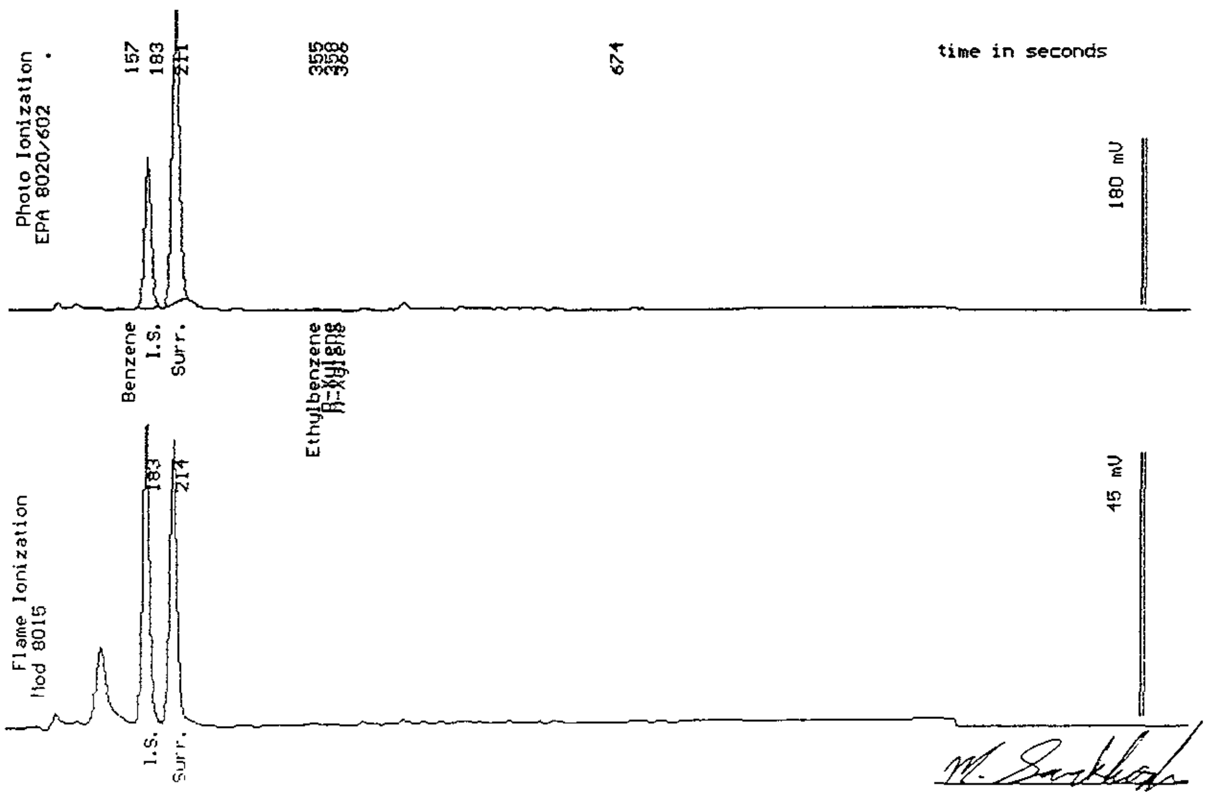
8186-10

Sample: S-1217-SPABCD

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Dilution : 1:1 QC Batch : 2041D
Matrix : TCLP Extract

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	<.50

Surrogate Recovery 97 %



Date Analyzed: 12-23-93
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

WEST

December 29, 1993
Sample Log 8186

Sample: S-1217-SPABCD

From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Matrix : Soil

Received : 12/20/93
Analyzed : 12/23/93

8240 - Volatile Organic Priority Pollutants

Parameter	(MRL) mg/kg	Measured Value mg/kg	Flag
Chloromethane	(0.01)	<0.01	
Bromomethane	(0.01)	<0.01	
cis-1,2-Dichloroethene	(.005)	<.005	
trans-1,2-Dichloroethene	(.005)	<.005	
Vinyl Chloride	(0.01)	<0.01	
Chloroethane	(0.01)	<0.01	
Methylene Chloride	(.005)	<.005	
Acetone	(0.10)	<0.10	
Carbon Disulfide	(.005)	<.005	
1,1-Dichloroethene	(.005)	<.005	
1,1-Dichloroethane	(.005)	<.005	
Chloroform	(.005)	<.005	
1,2-Dichloroethane	(.005)	<.005	
2-Butanone	(0.10)	<0.10	
1,1,1-Trichloroethane	(.005)	<.005	
Carbon Tetrachloride	(.005)	<.005	
Bromodichloromethane	(.005)	<.005	
1,2-Dichloropropane	(.005)	<.005	
cis-1,3-Dichloropropene	(.005)	<.005	
Trichloroethene	(.005)	<.005	
Dibromochloromethane	(.005)	<.005	
1,1,2-Trichloroethane	(.005)	<.005	
Benzene	(.005)	<.005	
trans-1,3-Dichloropropene	(.005)	<.005	
Bromoform	(.005)	<.005	
4-Methyl-2-Pentanone	(0.05)	<0.05	
1,3-Dichlorobenzene	(.005)	<.005	
1,2-Dichlorobenzene	(.005)	<.005	
1,4-Dichlorobenzene	(.005)	<.005	
2-Hexanone	(0.05)	<0.05	
Tetrachloroethene	(.005)	<.005	
1,1,2,2-Tetrachloroethane	(.005)	<.005	
Toluene	(.005)	<.005	
Chlorobenzene	(.005)	<.005	
Ethylbenzene	(.005)	<.005	
Styrene	(.005)	<.005	
P,M-Xylene	(.005)	<.005	
O-Xylene	(.005)	<.005	

Joel Kiff
Senior Chemist

December 30, 1993
Sample Log 8186

Sample : S-1217-SP A->D
From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Matrix : Soil
Units : mg/kg

Reported as: Wet Weight

Title 22 Metals

Parameter	EPA Method	Date Digested	Date Analyzed	MRL*	Conc.
Antimony	6010	12/22/93	12/28/93	(3.2)	<3.2
Arsenic	7060	12/22/93	12/30/93	(4.0)	6.8
Barium	6010	12/22/93	12/28/93	(0.20)	130
Beryllium	6010	12/22/93	12/28/93	(0.10)	0.90
Cadmium	6010	12/22/93	12/28/93	(0.40)	1.6
Chromium	6010	12/22/93	12/28/93	(0.70)	45
Cobalt	6010	12/22/93	12/28/93	(0.70)	11
Copper	6010	12/22/93	12/28/93	(0.60)	26
Lead	7421	12/22/93	12/29/93	(1.0)	8.0
Mercury	7471	12/28/93	12/28/93	(0.50)	<0.50
Molybdenum	6010	12/22/93	12/28/93	(0.80)	<0.80
Nickel	6010	12/22/93	12/28/93	(1.5)	44
Selenium	7740	12/22/93	12/30/93	(4.0)	<4.0
Silver	6010	12/22/93	12/28/93	(0.70)	0.90
Thallium	7841	12/22/93	12/29/93	(1.0)	<1.0
Vanadium	6010	12/22/93	12/28/93	(0.50)	41
Zinc	6010	12/22/93	12/28/93	(1.0)	54

* MRL = Method Reporting Limit

Joel Kiff
Senior Chemist

January 19, 1994
Sample Log 8186

Sample : S-1217-SP A->D
From : Project # 6130.01 (Shamrock Ford)
Sampled : 12/17/93
Matrix : Soil
Units : mg/L of WET Extract

STLC Metals

Parameter	EPA Method	Date Digested	Date Analyzed	MRL*	Conc.
Arsenic	7060	01/12/94	01/13/94	(0.020)	0.16
Beryllium	6010	01/12/94	01/19/94	(0.0020)	0.0068
Chromium	6010	01/12/94	01/19/94	(0.014)	0.10
Mercury	7471	01/12/94	01/12/94	(0.0050)	<0.0050

* MRL = Method Reporting Limit

Joel Kiff
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Western Environmental Science & Technology · 45133 County Road 32B · Davis CA 95616 · 916 753-9500 · FAX 916 757-4652

WEST

December 29, 1993
Sample Log 8186

EPA 8240 System Monitoring Compound Recovery

Sample	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
A1-5.5	109	100	106		0
A1-7.5	110	96	105		0
A1-16	109	93	105		0
A2-5.5	109	94	104		0
A2-8.5	113	98	105		0
A2-17.5	115	98	109		0
A3-5.5	112	100	105		0
A3-8.5	114	102	111		0
A3-16	109	91	103		0
S-1217-SPABCD	123	85	108		0

	QC Limits
SMC1 (TOL) = Toluene-d8	(84-138)
SMC2 (BFB) = Bromofluorobenzene	(59-113)
SMC3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of QC limits

D System Monitoring Compound diluted out

Joel Kiff
Senior Chemist

Gettler - Ryan Inc. ENVIRONMENTAL DIVISION

2082 Chain of Custod

COMPANY Shamrock Ford

JOB NO 6130.01

JOB LOCATION 7499 Dublin Blvd., Dublin

CITY Dublin

PHONE NO

AUTHORIZED Craig Caldwell

DATE

P.O. NO.

SAMPLE ID	NO OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
A1-5.5	1	Soil	12/17/93	TPH-G (EPA 8015)	
A1-7.5	1	Soil	12/17/93	BTEX (EPA 8020)	
A1-16	1	Soil	12/17/93	TPH-D and TPH as	
A2-5.5	1	Soil	12/17/93	Motor Oil (EPA 8015/Extr.)	
A2-8.5	1	Soil	12/17/93	O&G (EPA 5520E,F)	
A2-17.5	1	Soil	12/17/93	VOC (EPA 8240)	
A3-5.5	1	Soil	12/17/93	Metals: Cd Cr Pb	
A3-8.5	1	Soil	12/17/93	Ni, Zn (EPA 6010)	
A3-16	1	Soil	12/17/93		

RELINQUISHED BY: Barbara Sieminski

RECEIVED BY: [signature] 12/20 1506

RELINQUISHED BY: [signature] 12/20/93 1657

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY LAB: D. Cantrell 1657 12/20

DESIGNATED LABORATORY: Western Environmental Science & Technology DHS #: 1346

REMARKS: 2 week turnaround time

DATE COMPLETED

FOREMAN

Gettler - Ryan Inc. ENVIRONMENTAL DIVISION

2083 **Chain of Custod**

COMPANY Shamrock Ford JOB NO 6130.01

JOB LOCATION 7499 Dublin Blvd.

CITY Dublin PHONE NO.

AUTHORIZED Craig Caldwell DATE P.O. NO.

SAMPLE ID	NO OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
S-1217-SPA	1 (composite)	soil	12/17/93	VOCs using EPA 8240;	
S-1217-SPB	1	soil	12/17/93	TPH-G; TCLP BTEX;	
S-1217-SPC	1	soil	12/17/93	TRPH using EPA 418.1	
S-1217-SPD	1	soil	12/17/93	Metals (CAM 17)	

RELINQUISHED BY: Bonjoue Sienkiewski

RECEIVED BY: [signature] 12/20/93 1150

RELINQUISHED BY: [signature] 12/20/93 1653

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY LAB: DiCantrell 12/20/93 1654

DESIGNATED LABORATORY: Western Env Science & Techn DHS #: 1346

REMARKS: 2 week turnaround time, composite sample

DATE COMPLETED FOREMAN