GETTLER-RYAN INC.

September 2, 2003

Ms. Marie Schweickert
515 South Livermore Avenue
Livermore, CA

Subject: **Compliance Sampling During Heating Oil UST Removal, Marie Schweickert Property, 515 South Livermore Avenue, Livermore, California**

Ms. Schweickert:

At your request, Gettler-Ryan Inc. (GR) conducted compliance sampling during the removal of one 350-gallon home heating oil underground storage tank (UST) at the subject site (Figure 1). This work was conducted in order to determine if the soil beneath the UST had been impacted by petroleum hydrocarbons. The scope of work included: collecting and analyzing a compliance soil sample from beneath the UST, collecting one four-part composite sample from the soil stockpile and preparing a report documenting the work.

SITE DESCRIPTION

The subject site is located at 515 South Livermore Avenue in Livermore, California (Figure 2). Topography in the vicinity of the subject site is relatively flat at an elevation of approximately 500 feet above mean sea level. Below ground facilities consisted of one 350-gallon heating oil UST. Pertinent site features and the location of the excavation are shown on Figure 2.

FIELD WORK

Soil sampling was performed in accordance with GR's Field Methods and Procedures (attached), and the GR Site Safety Plan. Mr. Paul Smith of the Livermore – Pleasanton Fire Department was present at the site to witness the UST removal and sampling activities. Soil samples collected during this investigation were delivered under Chain-of-Custody to Severn Trent Laboratories (STL) in Pleasanton California (ELAP #2496).

Compliance Soil Sampling – UST Excavation

On July 29, 2003, GR conducted compliance soil sampling during removal of one 350-gallon steel home heating oil UST (Figure 3). Upon removal, the UST was visually inspected by GR personnel for evidence of failure. No holes or cracks were observed in the UST. Groundwater was not encountered during removal of the UST. Native soil encountered during sampling consisted primarily of dark brown silty sand with gravel and cobbles.

At the request of Mr. Smith, one soil sample, labeled TP-1(5), was collected at the base of the UST excavation at approximately 5 feet bgs (Figure 2). In addition, one four part composite sample, designated as COMP-1(A,B,C,D), was collected from the stockpile. Upon completion of sampling, the UST excavation was backfilled with the soil from the stockpile and approximately 4 yards of clean, imported fill as approved by Mr. Smith.

6747 Sierra Court, Suite J • Dublin, California 94568 • (925) 551-7555

Laboratory Analyses

Soil samples TP-1(5) and COMP-1(A,B,C,D), were analyzed for Total Petroleum Hydrocarbons as diesel (TPHd) by Environmental Protection Agency (EPA) Method 8015M, Benzene, Toluene, Ethylbenzene and Xylene (BTEX) by EPA Method 8021B and Oil and Grease (O&G) by EPA Method 1664. Soil sample analytical results are summarized in Table 1. The laboratory analytical report and Chain-of-Custody records are included in the attachments to this report.

Soil Analytical Results

BTEX and O&G were not detected in soil samples TP-1(5) or COMP-1(A,B,C,D). TPHd was detected in soil sample TP-1(5) at 36 parts per million (ppm), however the laboratory reported that the hydrocarbon reported does not match the pattern of their diesel standard. Soil sample COMP-1(A,B,C,D) contained TPHd at 29 ppm. Soil analytical results are summarized in Tables 1.

UST Disposal

The UST was removed from the site by Ecology Control Industries (ECI) and transported to their facility in Richmond California, where it was properly destroyed. A copy of the ECI Uniform Hazardous Waste Manifest for the diesel UST is included in the attachments of this report.

If you should have any questions regarding this report, please feel free to call GR at (925) 551-7555.

Sincerely,
Gettler-Ryan Inc.

FOR

Andrew Smith
Staff Geologist

Douglas J. Lee
Project Manager
R.G. 6882

REGISTERED GEOLOGIST
DOUGLAS J. LEE
No. 6882
STATE OF CALIFORNIA

Alameda County
OCT 0 3 2003
Environmental Health

Attachments: Table 1. Soil Chemical Analytical Data
Figure 1. Vicinity Map
Figure 2. Site Plan
GR Field Methods and Procedures
ECI Uniform Hazardous Waste Manifest
Laboratory Analytical Report and Chain-of-Custody Record

cc. Mr. Paul M. Smith, Livermore – Pleasanton Fire Department, Hazardous Materials Inspector, 3560 Nevada Street, Pleasanton, CA 94566.

TABLE 1 - SOIL CHEMICAL ANALYTICAL DATA

Marie Schweickert Property
515 South Livrmore Avenue
Livermore, California

Sample No.	Sample Depth (feet)	Date Collected	TPHd (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Total Xylenes (ppm)	O&G (ppm)
Grab Soil Sample								
TP-1(5)	5	7/29/2003	**36**[1]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Stockpile Sample								
COMP-1(A,B,C,D)	NA	7/29/2003	**29**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

EXPLANATION:

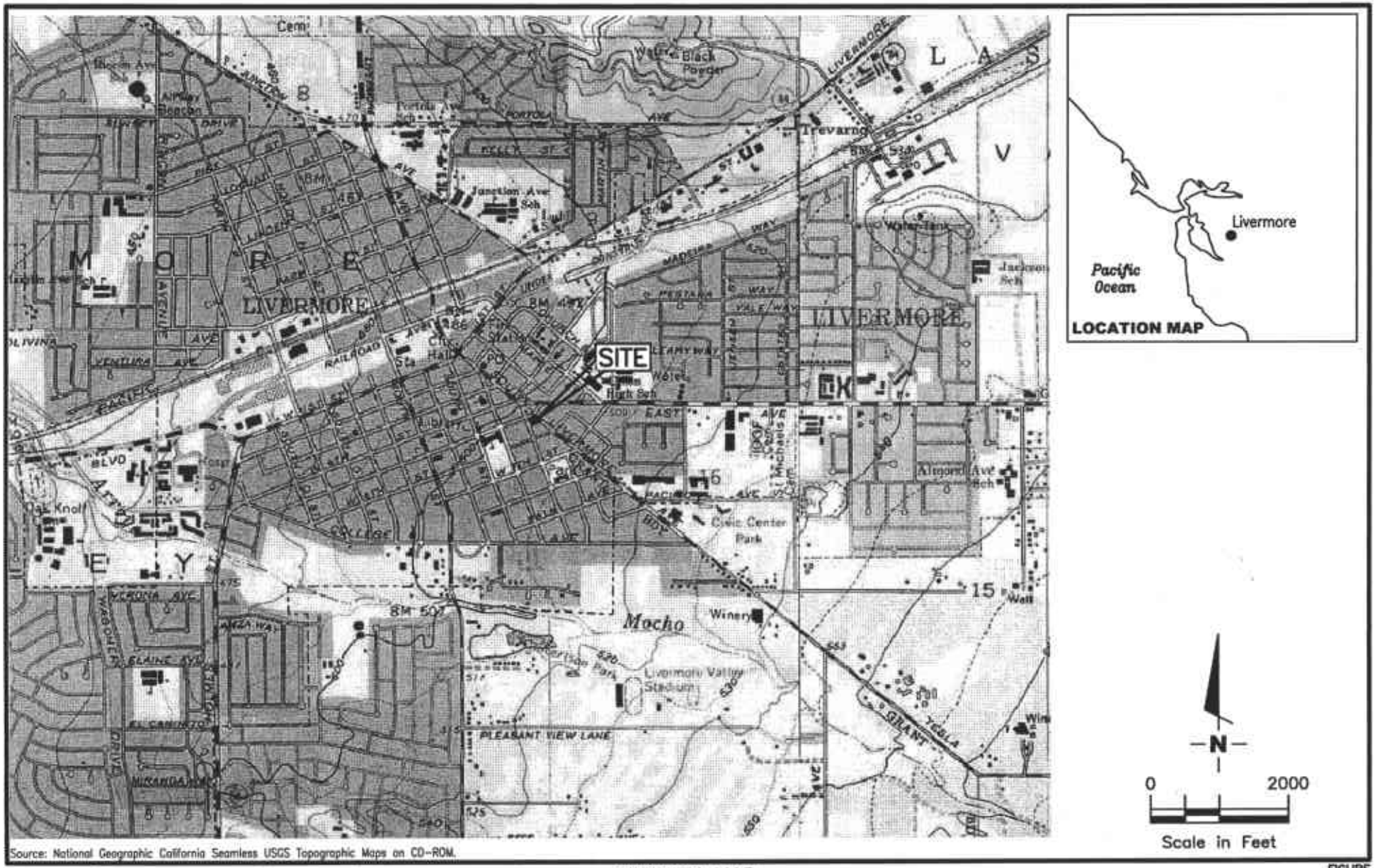
sample depth is in feet below ground surface
NA = Not Applicable
ppm = parts per million
[1] = Hydrocarbon reported does not match the pattern of our diesel standard.

ANALYTICAL LABORATORY:

Severn Trent Laboratories (ELAP #2496)

ANALYTICAL METHODS:

TPHd = Total Petroleum Hydrocarbons as diesel according to Environmental Protection Agency (EPA) Method 8015M
Benzene, Toluene, Ethylbenzene, and Total Xylenes according to EPA Method 8021B
O&G = Oil and Grease by EPA Method 1664



Source: National Geographic California Seamless USGS Topographic Maps on CD-ROM.

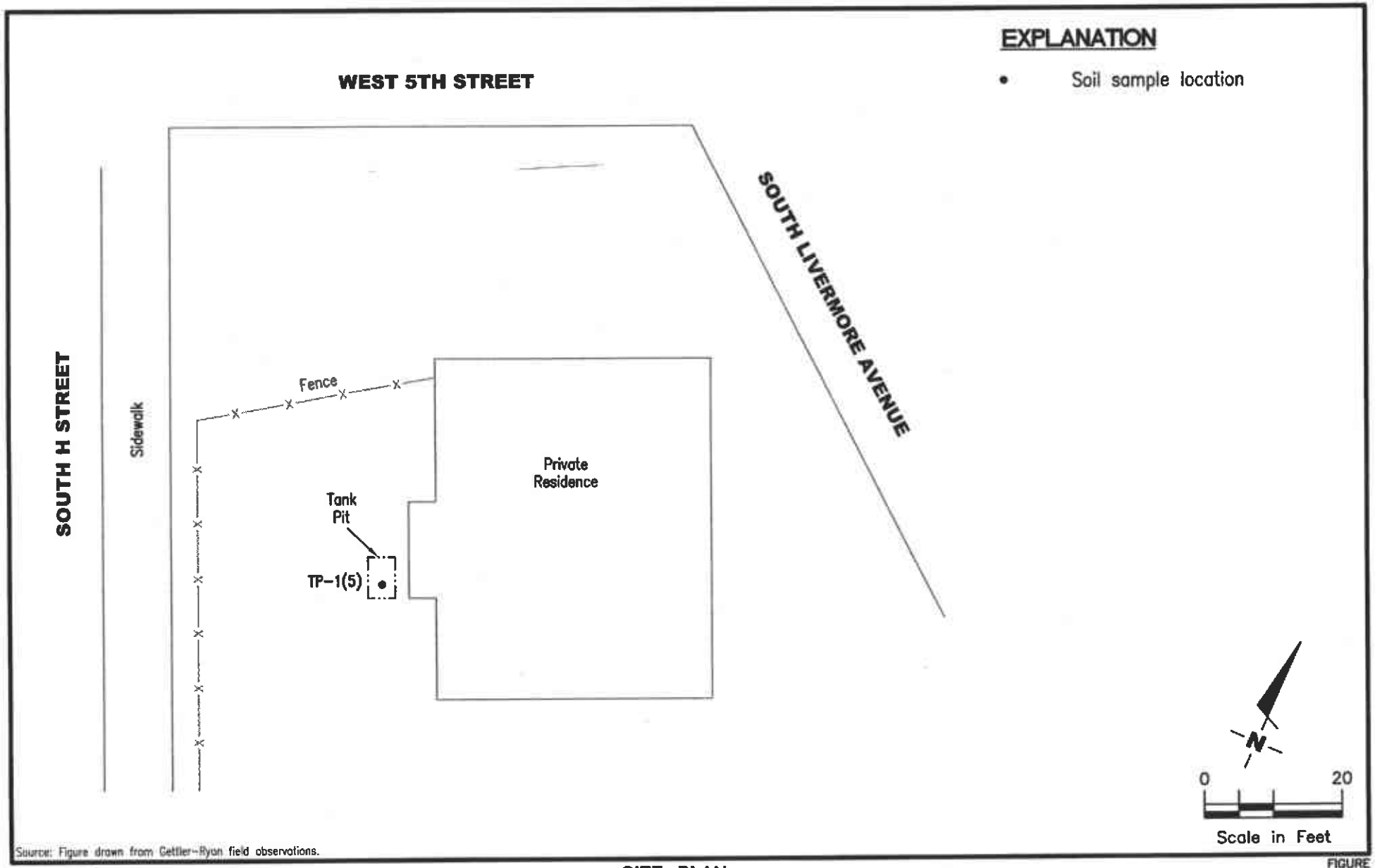
GETTLER - RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568 (925) 551-7555

VICINITY MAP
Marie Schweickert Party
515 South Livermore Avenue
Livermore, California

FIGURE
1

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
51171		8/03	

FILE NAME: P:\ENVIRO\MARIE SCHWEICKERT PROPERTY\VIC-515.DWG | Layout Tab: Vic Map



Source: Figure drawn from Gettler-Ryan field observations.

GETTLER - RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568
(925) 551-7555

SITE PLAN
Marie Schweikert Property
515 South Livermore Avenue
Livermore, California

FIGURE
2

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
51171		8/03	

FILE NAME: P:\ENVIRO\MARIE SCHWEICKERT PROPERTY\AD3-MARIE SCHWEICKERT.DWG | Layout Tab: Site Plan

GETTLER-RYAN INC.

FIELD METHODS AND PROCEDURES

Site Safety Plan

Field work performed by Gettler-Ryan Inc. (GR) is conducted in accordance with GR's Health and Safety Plan and the Site Safety Plan. GR personnel and subcontractors who perform work at the site are briefed on the contents of these plans prior to initiating site work. The GR geologist or engineer at the site when the work is performed acts as the Site Safety Officer. GR utilizes a photoionization detector (PID) to monitor ambient conditions as part of the Health and Safety Plan.

Collection of Samples

Soil samples are collected from the wall or base of the excavation with a hand-driven sampling device fitted with a 2-inch-diameter, clean brass tube or stainless steel liner. If safety considerations preclude collection of the samples with the drive sampler, the excavating equipment is used to bring soil from the pit wall to the surface, where a sample tube is filled by driving it into the soil in the excavator's bucket. After removal from the sampling device, sample tubes are covered on both ends with teflon sheeting, capped, labeled, and place in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory.

If it is necessary to collect a sample of groundwater standing in the UST pit, the sample is collected by lowering a new, clean teflon bailer into the pit from a safe position along the pit wall. Once filled and retrieved, the groundwater in the bailer is carefully decanted into the appropriate containers supplied by the analytical laboratory. If required, preservative is added to the sample bottles by the laboratory prior to delivery. The samples are then labeled and place in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the State-certified analytical laboratory.

Field Screening of Soil Samples

A PID is used to perform head-space analysis in the field for the presence of organic vapors from soil samples. This test procedure involves placing a small amount of the soil to be screened in a sealable plastic bag. The bag is warmed in the sun to allow organic compounds in the soil sample to volatilize. The PID probe is inserted through the wall of the bag and into the headspace inside, and the meter reading is recorded in the field notes. An alternative method involves placing a plastic cap over the end of the sample tube. The PID probe is placed through a hole in the plastic cap, and vapors with the covered tube measured. Head-space screening is performed and results recorded as reconnaissance data only. GR does not consider field screening techniques to be verification of the presence or absence of hydrocarbons.

Storing and Sampling of Soil Stockpiles

Excavated material is stockpiled on and covered with plastic sheeting. Stockpile samples are collected and analyzed for disposal classification on the basis of one composite sample per 100 cubic yards of soil. Stockpile samples are composed of four discrete soil samples, each collected from an arbitrary location on the stockpile. The four discrete samples are then composited in the laboratory prior to analysis. Each discrete stockpile sample is collected by removing the upper 12 to 18 inches of soil, and then driving the stainless steel or brass sample tube into the stockpiled material with a mallet or drive sampler. The sample tubes are then covered on both ends with teflon sheeting, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the State-certified analytical laboratory. Stockpiled soils are covered with plastic sheeting after completion of sampling.

Environmental Protection Agency
OMB No. 2050-0039 (Expires 9-30-99)
Type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of p[illegible] 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAC002568119	Manifest Document No. 9 0 6 0 9	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Marie Schweickert, 515 S. Livermore Ave, Livermore CA 94550

4. Generator's Phone (925) 447-5669

A. State Manifest Document Number 22490609

B. State Generator's ID

5. Transporter 1 Company Name: ECOLOGY CONTROL INDUSTRIES

6. US EPA ID Number: CAD982030173

C. State Transporter's ID [Reserved.]

D. Transporter's Phone (510) 235-1393

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID [Reserved.]

F. Transporter's Phone

9. Designated Facility Name and Site Address
ECOLOGY CONTROL INDUSTRIES
255 PARR BLVD
RICHMOND , CA 94801

10. US EPA ID Number: CAD009466392

G. State Facility's ID

H. Facility's Phone (510) 235-1393

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. NON RCRA HAZARDOUS WASTE SOLID WASTE EMPTY STORAGE TANK	001	TP	00350	P	State 512; EPA/Other NONE
b.					State; EPA/Other
c.					State; EPA/Other
d.					State; EPA/Other

GR Job# 51171.01

J. Additional Descriptions for Materials Listed Above
QTY 1 EMPTY STORAGE TANK # 30868 TANKS HAVE BEEN INERTED WITH 15 LBS DRY ICE PER 1000 GALLONS CAPACITY

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information
WEAR PROPER PROTECTIVE EQUIPMENT WHILE HANDLING. WEIGHTS OR VOLUMES ARE APPROXIMATE.
24 HOUR EMERGENCY CONTACT: Marie Schweickert Job# 5240651
24 HOUR EMERGENCY TELEPHONE NUMBER: (925) 447-5669 Site: RS 515 S. Livermore

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
Marie Schweickert	Marie Schweickert	7	29	03

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
NAomi Chapel	Nai Chapl	07	29	03

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802: WITHIN CALIFORNIA, CALL 1-800-852-7550

GENERATOR / TRANSPORTER / FACILITY

DO NOT WRITE BELOW THIS LINE.

Blue: GENERATOR SENDS THIS COPY TO DTSC WITHIN 30 DAYS.
To: P.O. Box 400, Sacramento, CA 95812-0400

DTSC 8022A (1/99)
EPA 8700—22

SEVERN TRENT STL

Submission#: 2003-07-0840

Gettler Ryan

August 06, 2003

6747 Sierra Court Suite 3
Dublin, CA 94568

Attn.: Andrew Smith

Project#: 51171.02
Project: Marie Schweickert

Attached is our report for your samples received on 07/29/2003 14:10
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 09/12/2003 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: tgranicher@stl-inc.com

Sincerely,

Tod Granicher
Project Manager

SEVERN TRENT STL

Submission #: 2003-07-0840

Gas/BTEX Compounds by 8015M/8021

Gettler Ryan
Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
TP-1(5)	07/29/2003 10:50	Soil	1
COMP-1(A,B,C,D)	07/29/2003 11:30	Soil	2

Gas/BTEX Compounds by 8015M/8021

Gettler Ryan

Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Prep(s): 5035
Sample ID: **TP-1(5)**
Sampled: 07/29/2003 10:50
Matrix: Soil

Test(s): 8021B
Lab ID: 2003-07-0840 - 1
Extracted: 7/30/2003 13:59
QC Batch#: 2003/07/30-01.04

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Benzene	ND	0.0050	mg/Kg	1.00	07/30/2003 13:59	
Toluene	ND	0.0050	mg/Kg	1.00	07/30/2003 13:59	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	07/30/2003 13:59	
Xylene(s)	ND	0.0050	mg/Kg	1.00	07/30/2003 13:59	
Surrogates(s)						
Trifluorotoluene	106.0	53-125	%	1.00	07/30/2003 13:59	

Gas/BTEX Compounds by 8015M/8021

Gettler Ryan

Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Prep(s):	5035	Test(s):	8021B
Sample ID:	**COMP-1(A,B,C,D)**	Lab ID:	2003-07-0840 - 2
Sampled:	07/29/2003 11:30	Extracted:	7/30/2003 14:25
Matrix:	Soil	QC Batch#:	2003/07/30-01.04

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Benzene	ND	0.0050	mg/Kg	1.00	07/30/2003 14:25	
Toluene	ND	0.0050	mg/Kg	1.00	07/30/2003 14:25	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	07/30/2003 14:25	
Xylene(s)	ND	0.0050	mg/Kg	1.00	07/30/2003 14:25	
Surrogates(s)						
Trifluorotoluene	100.0	53-125	%	1.00	07/30/2003 14:25	

Gas/BTEX Compounds by 8015M/8021

Gettler Ryan

Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Batch QC Report

Prep(s): 5035 Test(s): 8015M

Method Blank **Soil** **QC Batch # 2003/07/30-01.04**

MB: 2003/07/30-01.04-007 Date Extracted: 07/30/2003 09:58

Compound	Conc.	RL	Unit	Analyzed	Flag
Benzene	ND	0.0050	mg/Kg	07/30/2003 09:58	
Toluene	ND	0.0050	mg/Kg	07/30/2003 09:58	
Ethyl benzene	ND	0.0050	mg/Kg	07/30/2003 09:58	
Xylene(s)	ND	0.0050	mg/Kg	07/30/2003 09:58	
Surrogates(s)					
Trifluorotoluene	101.2	53-125	%	07/30/2003 09:58	

Gas/BTEX Compounds by 8015M/8021

Gettler Ryan
Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Batch QC Report

Prep(s): 5035

Test(s): 8021B

Laboratory Control Spike | **Soil** | **QC Batch # 2003/07/30-01.04**

LCS 2003/07/30-01.04-009 Extracted: 07/30/2003 Analyzed: 07/30/2003 11:09
LCSD 2003/07/30-01.04-006 Extracted: 07/30/2003 Analyzed: 07/30/2003 09:32

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	0.0916	0.0980	0.1000	91.6	98.0	6.8	77-123	35		
Toluene	0.0964	0.0993	0.1000	96.4	99.3	3.0	78-122	35		
Ethyl benzene	0.0969	0.0990	0.1000	96.9	99.0	2.1	70-130	35		
Xylene(s)	0.283	0.291	0.300	94.3	97.0	2.8	75-125	35		
Surrogates(s)										
Trifluorotoluene	496	509	500	99.2	101.8		53-125			

Gas/BTEX Compounds by 8015M/8021

Gettler Ryan

Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Batch QC Report

Prep(s): 5030

Test(s): 8021B

Matrix Spike (MS / MSD) **Soil** **QC Batch # 2003/07/30-01.04**

TP-1(5) >> MS

Lab ID: 2003-07-0840 - 001

MS: 2003/07/30-01.04-035 Extracted: 07/30/2003

Analyzed: 07/30/2003 23:01

Dilution: 1.00

MSD: 2003/07/30-01.04-036 Extracted: 07/30/2003

Analyzed: 07/30/2003 23:27

Dilution: 1.00

Compound	Conc. mg/Kg			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	mg/Kg	MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	0.0916	0.0894	ND	0.0947	96.7	95.6	1.1	65-135	35		
Toluene	0.0912	0.0888	ND	0.0947	96.3	95.0	1.4	65-135	35		
Ethyl benzene	0.0876	0.0852	ND	0.0947	92.5	91.1	1.5	65-135	35		
Xylene(s)	0.251	0.247	ND	0.2841	88.3	88.2	0.1	65-135	20		
Surrogate(s)											
Trifluorotoluene	512	503		500	102.5	100.6		53-125			

SEVERN TRENT STL

Submission #: 2003-07-0840

Diesel

Gettler Ryan
Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
TP-1(5)	07/29/2003 10:50	Soil	1
COMP-1(A,B,C,D)	07/29/2003 11:30	Soil	2

Diesel

Gettler Ryan

Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Prep(s):	3550/8015M	Test(s):	8015M
Sample ID:	**TP-1(5)**	Lab ID:	2003-07-0840 - 1
Sampled:	07/29/2003 10:50	Extracted:	7/31/2003 13:19
Matrix:	Soil	QC Batch#:	2003/07/31-03.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	36	1.0	mg/Kg	1.00	07/31/2003 17:19	ndp
Surrogates(s)						
o-Terphenyl	92.6	60-130	%	1.00	07/31/2003 17:19	

Diesel

Gettler Ryan
Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Prep(s):	3550/8015M	Test(s):	8015M
Sample ID:	**COMP-1(A,B,C,D)**	Lab ID:	2003-07-0840 - 2
Sampled:	07/29/2003 11:30	Extracted:	7/31/2003 13:19
Matrix:	Soil	QC Batch#:	2003/07/31-03.10

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Diesel	29	1.0	mg/Kg	1.00	08/04/2003 22:25	ndp
Surrogates(s)						
o-Terphenyl	87.3	60-130	%	1.00	08/04/2003 22:25	

Diesel

Gettler Ryan

Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Batch QC Report

Prep(s): 3550/8015M
Method Blank
MB: 2003/07/31-03.10-001

Soil

Test(s): 8015M
QC Batch # 2003/07/31-03.10
Date Extracted: 07/31/2003 13:19

Compound	Conc.	RL	Unit	Analyzed	Flag
Diesel	ND	1	mg/Kg	07/31/2003 18:54	
Surrogates(s)					
o-Terphenyl	89.6	60-130	%	07/31/2003 18:54	

Diesel

Gettler Ryan

Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Batch QC Report

Prep(s): 3550/8015M

Test(s): 8015M

Laboratory Control Spike **Soil** **QC Batch # 2003/07/31-03.10**

LCS 2003/07/31-03.10-002 Extracted: 07/31/2003 Analyzed: 07/31/2003 17:53

LCSD 2003/07/31-03.10-003 Extracted: 07/31/2003 Analyzed: 07/31/2003 18:24

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Diesel	39.0	39.1	41.6	93.8	94.4	0.6	60-130	25		
Surrogates(s)										
o-Terphenyl	20.4	20.3	20.0	102.0	101.6		60-130	0		

Diesel

Gettler Ryan
Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Legend and Notes

Result Flag

ndp

Hydrocarbon reported does not match the pattern of our Diesel standard

SEVERN TRENT STL

Submission #: 2003-07-0840

Oil & Grease (Petroleum) by EPA 1664

Gettler Ryan
Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
TP-1(5)	07/29/2003 10:50	Soil	1
COMP-1(A,B,C,D)	07/29/2003 11:30	Soil	2

Oil & Grease (Petroleum) by EPA 1664

Gettler Ryan

Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Prep(s): 1664
Sample ID: **TP-1(5)**
Sampled: 07/29/2003 10:50
Matrix: Soil

Test(s): 1664
Lab ID: 2003-07-0840 - 1
Extracted: 7/30/2003 00:00
QC Batch#: 2003/07/30-02.23

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Oil & Grease (Petroleum)	ND	50	mg/Kg	1.00	07/30/2003	

Oil & Grease (Petroleum) by EPA 1664

Gettler Ryan

Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Prep(s):	1664	Test(s):	1664
Sample ID:	**COMP-1(A,B,C,D)**	Lab ID:	2003-07-0840 - 2
Sampled:	07/29/2003 11:30	Extracted:	7/30/2003 00:00
Matrix:	Soil	QC Batch#:	2003/07/30-02.23

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Oil & Grease (Petroleum)	60	50	mg/Kg	1.00	07/30/2003	

Oil & Grease (Petroleum) by EPA 1664

Gettler Ryan
Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Batch QC Report

Prep(s): 1664
Method Blank
MB: 2003/07/30-02.23-001

Soil

Test(s): 1664
QC Batch # 2003/07/30-02.23
Date Extracted: 07/30/2003

Compound	Conc.	RL	Unit	Analyzed	Flag
Oil & Grease (Petroleum)	ND	50	mg/Kg	07/30/2003	

Oil & Grease (Petroleum) by EPA 1664

Gettler Ryan

Attn.: Andrew Smith

6747 Sierra Court Suite 3
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7888

Project: 51171.02
Marie Schweickert

Received: 07/29/2003 14:10

Batch QC Report

Prep(s): 1664

Test(s): 1664

Laboratory Control Spike **Soil** **QC Batch # 2003/07/30-02.23**

LCS 2003/07/30-02.23-002 Extracted: 07/30/2003 Analyzed: 07/30/2003

LCSD 2003/07/30-02.23-003 Extracted: 07/30/2003 Analyzed: 07/30/2003

Compound	Conc. mg/Kg		Exp.Conc.	Recovery %		RPD	Ctrl Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Oil & Grease (Petroleum)	344	372	400	86.0	93.0	7.8	66-114	20		

SEVERN TRENT

STL San Francisco Chain of Custody

1220 Quarry Lane • Pleasanton CA 94566-4756
Phone: (925) 484-1919 Fax: (925) 484-1096
Email: info@stlsanfrancisco.com

Reference #: 76440

2003-07-0840

Date _____ Page _____ of _____

Report To

Attn: Andrew Smith
Company: Getter - Ryan Inc.
Address: 6747 Sierra ct, Suite J
Phone: 925-551-7441 Email: asmith@GRIC.com
Ext 127
Bill To: Getter-Ryan Inc
Sampled By: Andrew Smith
Attn: Andrew Smith
Phone: Same

Analysis Request

Sample ID	Date	Time	Matrix	Preserv.	TPH EPA 8015/8021 ☐ 8260B ☐ Gas w/ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M: ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other	Fuel Tests EPA 8260B: ☐ Gas ☐ BTEX ☐ Fire Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum ☐ Total (EPA 1664)	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals: (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other	W.E.T (STLC) ☐ TCLP	Hexavalent Chromium pH (24h hold time for H_2O)	Spec Cond ☐ Alkalinity TSS ☐ TDS	Anions: ☐ Cl ☐ SO_4 ☐ NO_2 ☐ F ☐ Br ☐ NO_3 ☐ PO_4				Number of Containers
TP-1 (5)	7/27/03	1050	Soil	ICE	X		X					X													4
Comp-1 (A,B,C,D)	4	1130	Soil	"	X		X					X											Comp-1 (A,B,C,D)		1
																							4 Part Composite Sample		

Project Info.

Project Name: Marie Schweicker
Project#: 5117102
PO#:
Credit Card#:

TAT: (5 Day) 72h 48h 24h Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF ☐ Global ID
Special Instructions / Comments:

Sample Receipt

of Containers: 5
Head Space:
Temp: 11.0
Conforms to record:

1) Relinquished by:

Signature: [signature] Time: 1410
Printed Name: Andrew Smith Date: 7/29/03
Company: Getter-Ryan Inc.

2) Relinquished by:

Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

3) Relinquished by:

Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

1) Received by:

Signature: [signature] Time: 1410
Printed Name: M. VILLANUEVA Date: 7/29/03
Company: STL SF

2) Received by:

Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

3) Received by:

Signature: _____ Time: _____
Printed Name: _____ Date: _____
Company: _____

Rev

GETTLER-RYAN INC.

FACSIMILE COVER SHEET

DATE: 11-6-03

TO: Ms. Roseanne Garcia-La Grille
COMPANY: Alameda County Environmental Health
FAX: (510) 337-9335

RE: Marie Schwieckert, 515 S. Livermore Ave., Livermore, California

FROM: Doug Lee

PHONE: (925) 551-7444 Ext. 123
FAX: (925) 551-7888

10 PAGES INCLUDING COVER

Attached is a brief work plan as requested in your October 27, 2003 correspondence regarding the referenced site. I will send you a hardcopy via overnight service. I was hoping you could review it within the next couple of days. Our client is in bind with the escrow on the sale her property being extended for this work. This has placed her in a very bad position, so GR is trying to help expedite the work. We are tentatively scheduled, pending your approval, to drill the proposed soil boring on Thursday, November 13, 2003.

If there are any problems with this transmission, please call (925) 551-7555.

GETTLER-RYAN INC.

November 6, 2003

Alameda County

NOV 0 6 2003

Environmental Health

Ms. Marie Schweickert
515 South Livermore Avenue
Livermore, California 94550

Subject: **WORK PLAN FOR LIMITED SUBSURFACE INVESTIGATION**
Marie Schweickert Property, 515 South Livermore Avenue, Livermore, California

Ms. Schweickert:

At your request, Gettler-Ryan Inc. (GR), has prepared this Work Plan for the installation of one Geoprobe® soil boring at the subject site. The purpose of this work is to determine if soil and groundwater beneath the former heating oil underground storage tank (UST) pit have been impacted by petroleum hydrocarbons. This Work Plan was prepared in response to the Alameda County Environmental Health Services (ACEHS) in a letter dated October 27, 2003. The proposed work includes:

- preparing a site safety plan;
- obtaining the required drilling permit from the Alameda County Flood Control and Water Conservation District (Zone 7 Water Agency);
- installing one Geoprobe® soil boring;
- collecting and submitting selected soil and grab groundwater samples for chemical analysis; and
- preparing a report presenting the observations and analytical data associated with the investigation.

The scope of work proposed in this Work Plan is intended to comply with the State of California Water Resources Control Board's *Leaking Underground Fuel Tanks (LUFT) Manual* and *California Underground Storage Tank Regulations*, the California Regional Water Quality Control Board (CRWQCB) *Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites*, and the ACEHS guidelines.

SITE DESCRIPTION

The subject site is a single-family residence located at 515 South Livermore Avenue in Livermore, California (Figure 1). One 350-gallon heating oil UST was located in the rear portion of the property. Pertinent site features and the location of the former UST are shown on Figure 2.

The site is situated at approximately 500 feet above mean sea level on very gently sloping, northwest-trending topography. The closest surface water is Arroyo Mocho Creek, which is located 2,700 feet south of the site. Arroyo Las Positas is located 7,700 feet northwest of the site. Based on the topography, the regional groundwater flow direction is inferred to be to the northwest.

6747 Sierra Court, Suite J • Dublin, CA 94568 • (925) 551-7555 • Fax (925) 551-7888
3140 Gold Camp Drive, Suite 170 • Rancho Cordova, CA 95670 • (916) 631-1300 • Fax (916) 631-1317
1364 N. McDowell Blvd., Suite B2 • Petaluma, CA 94954 • (707) 789-3255 • Fax (707) 789-3218

PREVIOUS ENVIROMENTAL WORK

On July 29, 2003, GR conducted compliance soil sampling during removal of one 350-gallon steel home heating oil UST (Figure 2). Upon removal, the UST was visually inspected by GR personnel for evidence of failure. No holes or cracks were observed in the UST.

One soil sample, labeled TP-1(5), was collected at the base of the UST excavation at approximately 5 feet bgs (Figure 2). In addition, one four part composite sample, designated as COMP-1(A,B,C,D), was collected from the stockpile. Total Petroleum Hydrocarbons as diesel (TPHd) range hydrocarbons were detected in soil sample TP-1(5) at 36 parts per million (ppm). Soil sample COMP-1(A,B,C,D) contained TPHd at 29 ppm. Benzene, Toluene, ethylbenzene, and total xylenes (BTEX) and Total Oil and Grease (O&G) were not detected in soil samples TP-1(5) or COMP-1(A,B,C,D).

The analytical results of the soil samples were submitted to Mr. Paul Smith of the Livermore – Pleasanton Fire Department. Based on the analytical results of the soil samples, Mr. Smith approved the backfilling of the excavation with the soil from the stockpile and approximately 4 yards of clean, imported fill.

PROPOSED SCOPE OF WORK

In order to determine if soil and groundwater beneath the former UST pit have been impacted by petroleum hydrocarbons, GR proposes to install one Geoprobe® at the location shown on Figure 2. Soil and a grab groundwater sample will be collected from the Geoprobe. All fieldwork will be conducted in accordance with GR's Field Methods and Procedures (Appendix A).

The proposed Geoprobe soil boring will be advanced within the confines of the fenced backyard at the subject site. To accomplish this task, a track-mounted, limited access Geoprobe rig will be brought in through an existing gate and positioned over the proposed boring location. The soil boring will be advanced initially using the direct-push method. If the direct-push method is unsuccessful due to difficult drilling conditions or excessive depth to groundwater, the rig will be converted to drill with hollow-stem augers in an effort to achieve the target depth of the first encountered groundwater. To perform this scope of work, GR proposes the following tasks:

Task 1 Pre-Field Activities

GR will prepare a site-specific safety plan, and obtain the necessary drilling permit from the Zone 7 Water Agency. The proposed Geoprobe location will be marked and Underground Service Alert (USA) will be notified a minimum of 48 hours prior to drilling.

Task 2 Geoprobe® Installation

One geoprobe will be installed at the location shown on Figure 2. Drilling activities will be performed by a California-licensed driller (C-57 license). A GR geologist will observe drilling, collect soil samples for lithologic description and chemical analysis, prepare a boring log, and collect a groundwater sample for chemical analyses. The soil boring will be advanced using a Geoprobe® rig utilizing direct-push technology. If difficult drilling conditions prevent the advancement of the Geoprobe tools to the desired depth, hollow-stem augers will be used to complete the soil boring.

Soil samples for lithologic description and possible chemical analysis will be collected continuously to develop an accurate profile of subsurface hydrogeologic conditions. If drilling with hollow-stem augers is required, then soil samples will be collected at 5-foot intervals at a minimum. Soil from selected sample intervals will be screened in the field for the presence of volatile organic compounds using a photoionization detector (PID). These data will be collected for reconnaissance purposes only, and will not be used as verification of the presence or absence of petroleum hydrocarbons. Screening data will be recorded on the boring logs.

Selected soil samples will be submitted for chemical analyses. Although the actual number of samples submitted for chemical analysis will depend on site conditions and field screening data, we anticipate a minimum of three soil samples will be submitted for chemical analysis as described in Task 4.

Task 3 Groundwater Sampling

A grab groundwater sample will be collected from the Geoprobe boring. Groundwater sampling will be performed using a hydropunch groundwater sampling tool or by installing a temporary 1-inch diameter PVC slotted casing into the boring. The grab groundwater sample will be collected using a stainless steel bailer and decanted into the appropriate laboratory supplied containers, as described in GR's Field Methods and Procedures (Appendix A). The groundwater sample will be analyzed as described in Task 4.

Task 4 Laboratory Analyses

All samples will be submitted to a California-certified Hazardous Materials Testing Laboratory. Soil and groundwater samples will be analyzed for Total Petroleum Hydrocarbons as diesel (TPHd) by Environmental Protection Agency (EPA) Method 8015/Modified, benzene, toluene, ethylbenzene, total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8260B.

Task 5 Reporting

Following receipt and analysis of all data, a report will be prepared which summarizes the procedures and the findings associated with this investigation. This report will be submitted to Tri-Valley Transportation for their use and distribution.

PROJECT STAFF

Mr. Douglas J. Lee, Project Manager (California Registered Geologist No. 6882) will provide technical oversight and review of the work and will supervise and direct field and office operations. GR employs a staff of geologist, engineers, and technicians who will assist with the project.

SCHEDULE

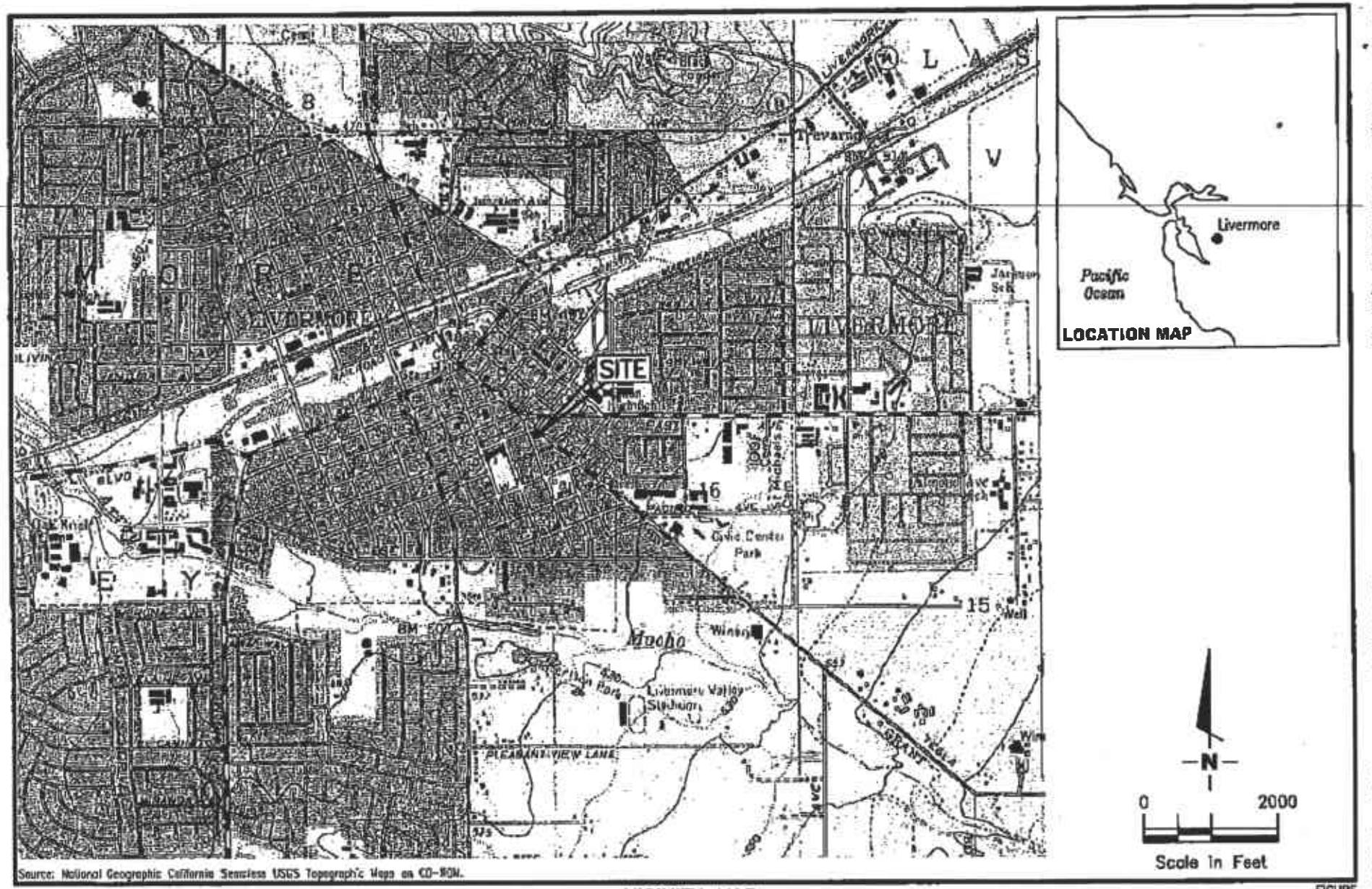
Implementation of the proposed scope of work will commence upon receipt of regulatory approval and the drilling permit from the Zone 7 Water Agency.

If you should have any questions regarding this report, please feel free to call GR at (925) 551-7555.

Sincerely,
Gettler-Ryan Inc.

Douglas J. Lee
Project Manager
R.G. 6882

Attachments: Figure 1 - Vicinity Map
Figure 2 - Site Plan
GR Field Methods and Procedures



Source: National Geographic California Seamless USGS Topographic Maps on CD-ROM.

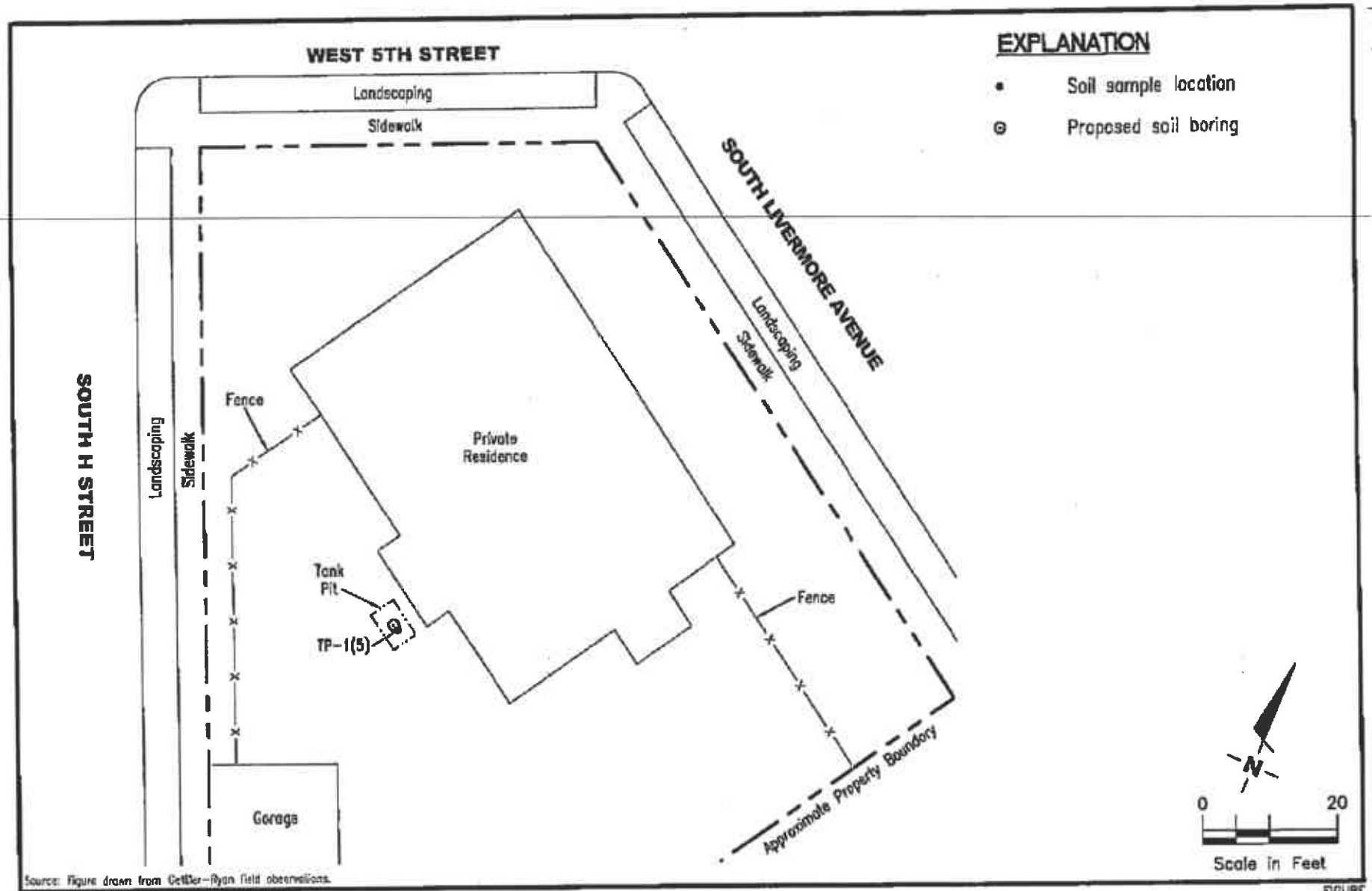
GETTLER - RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568
(925) 551-7555

VICINITY MAP
Marie Schweickert Property
515 South Livermore Avenue
Livermore, California

FIGURE 1

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
948209		11/03	

FILE NAME: P:\ENVIRO\MARIE SCHWEICKERT PROPERTY\VIC-MARIE SCHWEICKERT.DWG | Layout Tab: Vic Map



Source: Figure drawn from Gettler-Ryan field observations.

FIGURE 2

GETTLER - RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568 (925) 551-7555

SITE PLAN
Marie Schweickert Property
515 South Livermore Avenue
Livermore, California

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
948209.1		11/03	

FILE NAME: P:\ENVRO\MARIE SCHWEICKERT PROPERTY\A03-MARIE SCHWEICKERT.DWG | Layout Tab: Tank Rem. 11-03

GETTLER - RYAN
FIELD METHODS AND PROCEDURES

Site Safety Plan

Field work performed by Gettler-Ryan, Inc. (GR) is conducted in accordance with GR's Health and Safety Plan and the Site Safety Plan. GR personnel and subcontractors who perform work at the site are briefed on the of these plans contents prior to initiating site work. The GR geologist or engineer at the site when the work is performed acts as the Site Safety Officer. GR utilizes a photoionization detector (PID) to monitor ambient conditions as part of the Health and Safety Plan.

Collection of Soil Samples

Exploratory soil borings are drilled by a California-licensed well driller. A GR geologist is present to observe the drilling, collect soil samples for description, physical testing, and chemical analysis, and prepare a log of the exploratory soil boring. Soil samples are collected from the exploratory soil boring with a split-barrel sampler or other appropriate sampling device fitted with clean brass or stainless steel liners. The sampling device is driven approximately 18 inches with a 140-pound hammer falling 30 inches. The number of blows required to advance the sampler each successive 6 inches is recorded on the boring log. The encountered soil is described using the Unified Soil Classification System (ASTM 2488-84) and the Munsell Soil Color Chart.

After removal from the sampling device, soil samples for chemical analysis are covered on both ends with teflon sheeting or aluminum foil, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Samples are selected for chemical analysis based on:

a. depth relative to underground storage tanks and existing ground surface
b. depth relative to known or suspected groundwater
c. presence or absence of contaminant migration pathways
d. presence or absence of discoloration or staining
e. presence or absence of obvious gasoline hydrocarbon odors
f. presence or absence of organic vapors detected by headspace analysis

Field Screening of Soil Samples

A PID is used to perform head-space analysis in the field for the presence of organic vapors from the soil sample. This test procedure involves removing some soil from one of the sample tubes not retained for chemical analysis and immediately covering the end of the tube with a plastic cap. The PID probe is inserted into the headspace inside the tube through a hole in the plastic cap. Head-space screening results are recorded on the boring log. Head-space screening procedures are performed and results recorded as reconnaissance data. GR does not consider field screening techniques to be verification of the presence or absence of hydrocarbons.

Stockpile Sampling

Stockpile samples consist of four individual sample liners collected from each 100 cubic yards (yd^3) of stockpiled soil material. Four arbitrary points on the stockpiled material are chosen, and discrete soil sample is collected at each of these points. Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and then driving the stainless steel or brass tube into the stockpiled material with a wooden mallet or hand driven soil sampling device. The sample tubes are then covered on both ends with teflon sheeting or aluminum foil, capped, labeled, placed in the cooler

with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Stockpiled soils are covered with plastic sheeting after completion of sampling.

Construction of Monitoring Wells

Monitoring wells are constructed in the exploratory borings with Schedule 40 polyvinyl Chloride (PVC) casing. All joints are thread-joined; no glues, cements, or solvents are used in well construction. The screened interval is constructed of machine-slotted PVC well screen which generally extends from the total well depth to a point above the groundwater. An appropriately-sized sorted sand is placed in the annular space adjacent to the entire screened interval. A bentonite transition seal is placed in the annular space above the sand, and the remaining annular space is sealed with neat cement or cement grout.

Wellheads are protected with water-resistant traffic rated vault boxes placed flush with the ground surface. The top of the well casing is sealed with a locking cap. A lock is placed on the well cap to prevent vandalism and unintentional introduction of materials into the well.

Storing and Sampling of Drill Cuttings

Drill cuttings are stockpiled on plastic sheeting or stored in drums depending on site conditions and regulatory requirements. Stockpile samples are collected and analyzed on the basis of one composite sample per 50 cubic yards of soil. Stockpile samples are composed of four discrete soil samples, each collected from an arbitrary location on the stockpile. The four discrete samples are then composited in the laboratory prior to analysis.

Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and then driving the stainless or brass sample tube into the stockpiled material with a hand, mallet, or drive sampler. The sample tubes are then covered on both ends with teflon sheeting or aluminum foil, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Stockpiled soils are covered with plastic sheeting after completion of sampling.

Wellhead Survey

The top of the newly-installed well casing is surveyed by a California-licensed Land Surveyor to mean sea level (M.S.L.).

Well Development

The purpose of well development is to improve hydraulic communication between the well and surrounding aquifer. Prior to development, each well is monitored for the presence of separate-phase hydrocarbons and the depth-to-water is recorded. Wells are then developed by alternately surging the well with the bailer, then purging the well with a pump to remove accumulated sediments and draw groundwater into the well. Development continues until the groundwater parameters (temperature, pH, and conductivity) have stabilized.

Grab Groundwater Sampling

A Hydropunch® groundwater sampling tool or temporary PVC casing installed in the boring may be used to facilitate grab groundwater sample collection. Samples of groundwater are collected from the surface of the water in the Hydropunch® or temporary casing using a teflon bailer. The water samples are then gently poured into laboratory-cleaned containers and sealed with teflon-lined caps, and inspected for air bubbles to check for headspace. The samples

are then labeled by an adhesive label, noted in permanent ink, and promptly placed in an ice storage. A Chain-of-Custody Record is initiated and updated throughout handling of the samples, and accompanies the samples to the laboratory certified by the State of California for analyses requested.

Groundwater Sampling

Gettler-Ryan Inc. field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using a MMC flexi-dip (or comparable) interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

After water levels are collected and prior to sampling, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or polyvinyl chloride bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging. Purging continues until these parameters stabilize.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used when possible. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. For sampling sets greater than 20 samples, 5% trip blanks are included. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by Tosco Marketing Company, the purge water and decontamination water generated during sampling activities is transported to Tosco - San Francisco Area Refinery, located in Rodeo, California.