Weiss Associates *Environmental and Geologic Services*

5801 Christie Avenue, Suite 600, Emeryville, CA 94608-1827 *Fax: 510-547-5043* ***Phone: 510-450-6000***

November 21, 1999

Brett Hunter
Chevron Products Company
P.O. Box 5004
San Ramon, California 94583-0804

[redacted]
revised report

RE: [redacted] Report
Former Chevron Service Station #9-5607
5269 Crow Canyon Road
Castro Valley, California
WA Job #4-1129-3

Dear Mr. Hunter:

Weiss Associates (WA) is submitting the results of the vapor sample collection activities at the above referenced site. This report superceeds a February 5, 1999, report submitted by WA for this sampling activity. Please retract the earlier report. On July 30, 1998, WA collected 8 soil vapor samples in the vicinity of the Forrest Creek Townhomes property as shown in Figure 1. Three vapor samples were collected from 3 feet below ground surface (bgs) and five vapor samples were collected from within the sand backfill for the existing sanitary sewer piping at approximately 6 feet bgs. Sewer backfill sample collection began at the northern terminus of the sewer line near well C-12, and extended southward beyond well C-11. The scope of work included:

- Obtaining Drilling Permits from the Alameda County Public Works Department,
- Requesting a 1 week pause in irrigation from the Forrest Creek Townhomes gardening service prior to sample collection and notifying the residents of drilling activities,
- Marking the drilling locations, notifying USA, and contracting a line locator to clear the drilling locations,
- Collecting 3 soil vapor samples from 3 feet bgs,
- Locating the sand backfill adjacent to the sanitary sewer service conduit with a Geoprobe and probing stake,
- Collecting 5 soil vapor samples from the sand backfill,
- Submitting the vapor samples to Air Toxics for analysis, and;
- Reporting the results.

The site preparation, drilling and sampling activities are described in detail below.

Drilling Permit

A drilling permit for the eight boring locations was obtained from Alameda County Public Works Agency. A copy of the approved drilling permit application is attached.

Notifying Involved Parties

As requested by Alameda County, WA contacted the Forrest Creek Townhomes gardening service and requested a 1 week pause in irrigation activities in the vicinity of the sample locations prior to sample collection. On July 24, 1998, the irrigation system was shut off except for the flower box at the front of the Townhomes complex.

On July 27, 1998, WA placed drilling notices on the doors of the Townhomes units that were near the drilling locations.

Field Preparation and Job Coordination

On July 27, 1998, WA marked sample locations SV-9, SV-10, and SV-11 in front of Townhome units 2, 3 and 6, respectively. WA located the sewer main, marked the sewer backfill sample locations, and notified Underground Services Alert of the drilling activities. WA marked the location of the sewer main by running a span of string between each sewer manhole/piping intersection and marking the ground below the string. Sample locations SV-12, SV-13, SV-14, SV-15 and SV-16 were placed 1 foot east of the sewer main.

On July 28, 1998, Subtronic Corporation of Concord, California cleared the sample locations and verified the sewer main location.

Soil Vapor Sample Collection

Sample Collection Date: July 30, 1998

Parties Present: William McConihe of WA, Scott Souza of Vironex, and Scott Seery of Alameda County Health Care Services Agency. Mr. McConihe collected the samples, Mr. Souza operated the drilling equipment, and Mr. Seery witnessed drilling and sampling activities for boring SV-16.

Special Sewer Conduit Drilling Precautions: Special precautions were taken to prevent rupture of the sewer service piping during drilling activities. The depth to the sewer service piping was determined from survey information included in the City of Castro Valley Building Department drawings. The Geoprobe rod was offset approximately 1 foot east of the piping centerline and

advanced to approximately 1 foot above the piping (5 feet bgs) using a truck mounted Geoprobe hammer. The Geoprobe rod was withdrawn from the hole and a hand-operated probing stake was inserted into the hole to the depth of the sewer piping to ensure that rupture of the piping would not occur. A vapor-sampling rod was then driven to the depth of the sewer piping and the vapor sample collected as described below.

Sample Collection Technique: Soil vapor samples were collected by advancing a vapor sampling rod with a hydraulically powered GeoProbe, inserting post run tubing (PRT) and connecting the tubing to the vapor sample collection assembly (Figure 2).

The vapor sample lines were purged using a Geoprobe vacuum/volume system. The vacuum/volume system evacuates an 11-liter tank until 21" Hg gage pressure is achieved. The vacuum pump is shut off and the pump shut off valve is closed. The operator then opens the tank valve to draw purge air in under the tank vacuum, thus, purging the vapor sampling lines. WA allowed the tank to draw purge air in for 5 minutes before closing the tank valve.

The samples were collected by opening the sample collection valve on the 1-liter Summa canister while monitoring the vacuum gauge. The Summa canister valve was closed after approximately three minutes. After sample collection, the configuration was disconnected and the summa canister was labeled and stored for shipment. Before collecting the next vapor sample, the tubing and tee were replaced, the probe rod assembly was cleaned, the vacuum gauge and ball valve were purged with ambient air and a new Summa canister was connected.

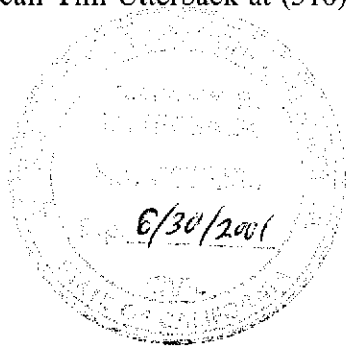
Laboratory Sample Analysis Method

Soil vapor samples were sent to Air Toxics Ltd. of Folsom, California and analyzed for benzene, toluene, ethylbenzene and xylenes by EPA method TO-14.

Sample Results

The concentration of benzene and toluene in soil vapor was near or below detection limits for all samples collected. The only detected concentration of benzene in soil vapor was 0.0069 parts per million by volume (ppmv) in sample SV-10 collected at 3 feet bgs. The only detected concentration of toluene was 0.0047 ppmv in sample SV-9 at 3 feet bgs. No ethylbenzene or xylenes were detected in any of the soil vapor samples. In addition, BTEX vapor concentrations were below lowest laboratory detection limits in all of the sewer backfill samples. The laboratory results are summarized in Table 1 and copies of the laboratory report and chain of custody form are attached in Appendix A.

Please call Tim Utterback at (510) 450-6193 if you have any technical questions about this report.



Sincerely,
Weiss Associates

Tim Utterback PE
Project Engineer

Attachments: Figure 1. Soil Vapor Survey Sample Locations
Figure 2. Vapor Sample Collection Configuration
Table 1. Analytical Results for Vapor Samples
Copy of Drilling Permit
Attachment A. Laboratory Data and Chain of Custody Form

TRU/all
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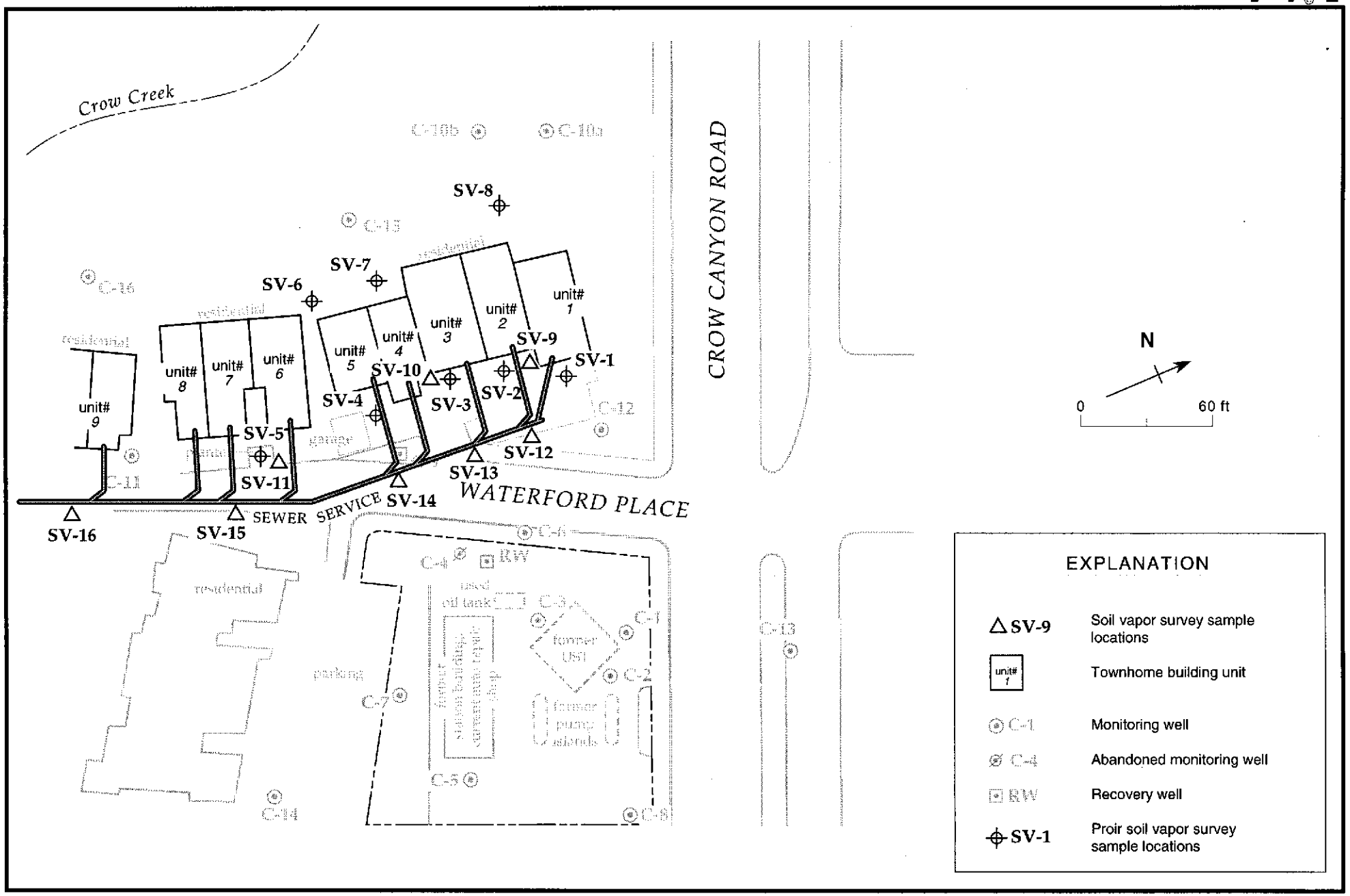

Figure 1. Plan View of Sewer Service Conduits and Soil Vapor Survey Sample Locations- Chevron Station 9-5607, 5269 Crow Canyon Road, Castro Valley, California

Table 1. Analytical Laboratory Results for Vapor Samples – Former Chevron Service Station, 9-5607, 5269 Crow Canyon Road, Castro Valley, California

Sample ID	Sample Depth (ft)	B	T	E	X
		← parts per million by volume (ppmv) →			
SV-9	3	<0.004	0.0047	<0.004	<0.004
SV-10	3	0.0069	<0.0039	<0.0039	<0.0039
SV-11	3	<0.004	<0.004	<0.004	<0.004
SV-12	6	<0.0039	<0.0039	<0.0039	<0.0039
SV-13	6.5	<0.004	<0.004	<0.004	<0.004
SV-14	6	<0.004	<0.004	<0.004	<0.004
SV-15	6	<0.004	<0.004	<0.004	<0.004
SV-16	6	<0.004	<0.004	<0.004	<0.004

Abbreviations:

B = Benzene by EPA Method TO-14.
E = Ethylbenzene by EPA Method TO-14.
T = Toluene by EPA Method TO-14.
X = Xylenes by EPA Method TO-14.
<n = Not detected at detection limit of n ppmv

Notes:

Samples collected on 7/30/98 by Weiss Associates and analyzed by Air Toxics, Folsom, California

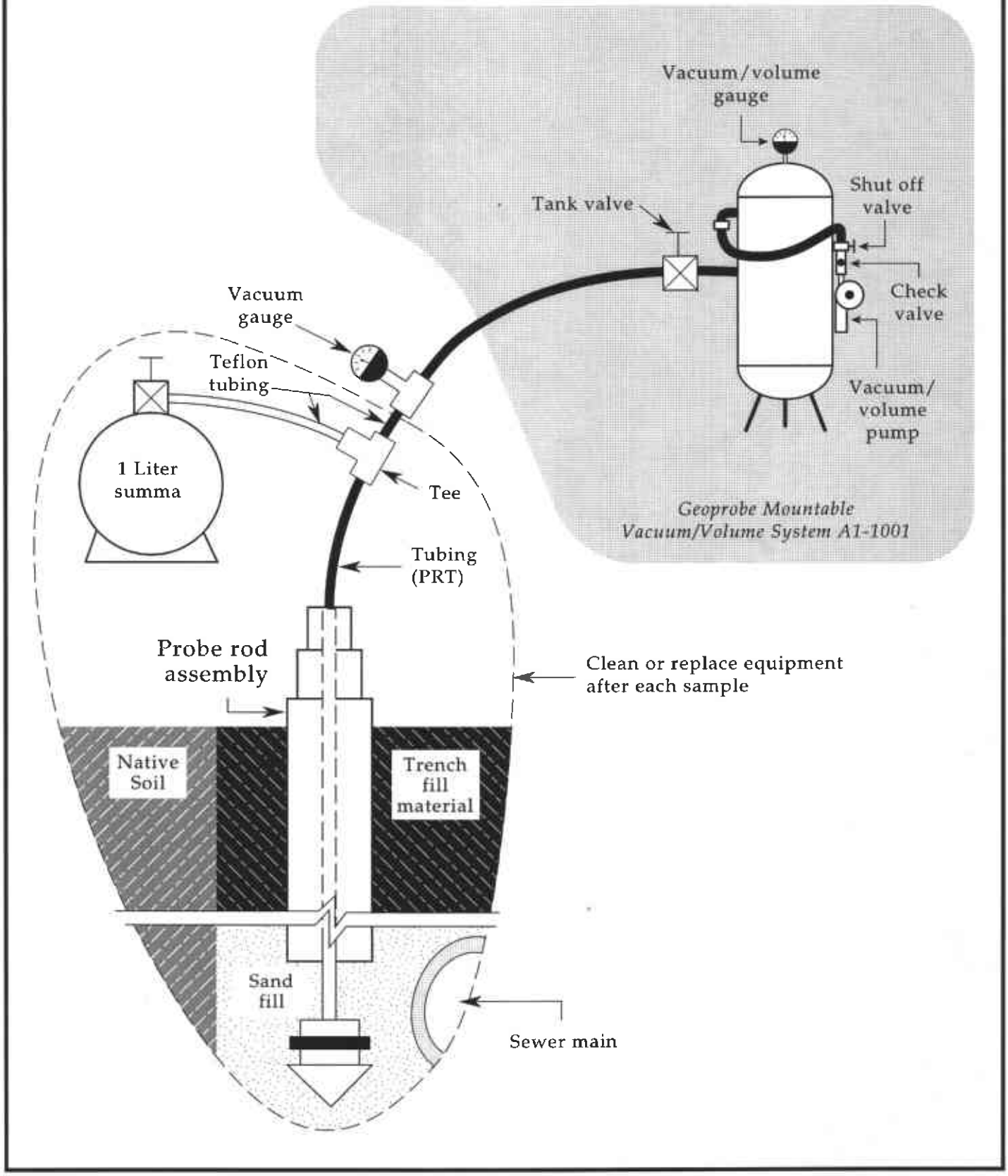

Figure 2. Vapor Sample Collection Configuration - Former Chevron Service Station #9-5607,5269 Crow Canyon Road, Castro Valley, California

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5248 ALVEN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 5269 Crow Canyon Road, Castro Valley, Ca.

California Coordinates Source _____ ft. Accuracy ± 50 ft.
OCN 13,691,850 ft. CCE 1,916,000 ft.
APN 85-5-100-3-6

CLIENT
Name Chevron Products Company
Address P.O. Box 4004 Phone 842-9500
City San Ramon Zip 94583-0804

APPLICANT
Name Tim Urreabeck, Weiss Associates Fax 547-8043
Address 5500 Shellmound St. Phone 510-450-6193
City Emeryville Zip 94608

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☑
Monitoring	☐	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other N/A	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☐
Cable	☐	Other	☑ Geoprobe		

DRILLER'S LICENSE NO C57-582696

WELL PROJECTS
Drill Hole Diameter N/A in. Maximum Depth N/A ft.
Casing Diameter N/A in. Number N/A
Surface Seal Depth N/A ft.

GEOTECHNICAL PROJECTS
Number of Borings 8 Maximum Depth 6 ft.
Hole Diameter 2 in.

ESTIMATED STARTING DATE 5/14/98
ESTIMATED COMPLETION DATE 5/14/98

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 4/28/98

FOR OFFICE USE

PERMIT NUMBER 98WR186
WELL NUMBER _____
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A) GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
(2) Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
(3) Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(D) GEOTECHNICAL
Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

E. CATHODIC
Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
See attached.

G. SPECIAL CONDITIONS

APPROVED [signature] DATE 5/4/98

@AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 9808015

Work Order Summary

CLIENT: Mr. Tim Utterback
Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608

BILL TO: Same

PHONE: 510-450-6193
FAX: 510-547-5043
DATE RECEIVED: 8/3/98
DATE COMPLETED: 8/17/98

P.O. # 4-1129-73
PROJECT # 4-1129-73 Chevron CVII

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	SV-9 @3'	TO-14	0.2 psi
02A	SV-10 @3'	TO-14	0.4 psi
03A	SV-11 @3'	TO-14	0.2 psi
04A	SV-12 @6'	TO-14	0.4 psi
05A	SV-13 @6.5'	TO-14	0.2 psi
06A	SV-14 @6'	TO-14	0.2 psi
07A	SV-15 @6'	TO-14	0.2 psi
08A	SV-16 @6'	TO-14	0.2 psi
09A	Lab Blank	TO-14	NA

CERTIFIED BY: Linda K. Truman
Laboratory Director

DATE: 8/17/98

Certification numbers: CA ELAP - 1149, NY ELAP - 11291, UT ELAP - E-217

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630
(916) 985-1000 • (800) 985-5955 • FAX (916) 985-1020

AIR TOXICS LTD.

SAMPLE NAME : SV-9 @3'

ID#: 9808015-01A

EPA METHOD TO-14 GC/MS Full Scan

File Name:	p081013	Date of Collection:	7/30/98
Dil. Factor:	7.96	Date of Analysis:	8/10/98

Compound	Rpt. Limit (ppbv)	Amount (ppbv)
Benzene	4.0	Not Detected
Toluene	4.0	4.7
Ethyl Benzene	4.0	Not Detected
m,p-Xylene	4.0	Not Detected
o-Xylene	4.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	113	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	92	70-130

AIR TOXICS LTD.

SAMPLE NAME : SV-10 @3'

ID#: 9808015-02A

EPA METHOD TO-14 GC/MS Full Scan

File Name:	p081014	Date of Collection:	7/30/98
Dil. Factor:	7.88	Date of Analysis:	8/10/98

Compound	Rpt. Limit (ppbv)	Amount (ppbv)
Benzene	3.9	6.9
Toluene	3.9	Not Detected
Ethyl Benzene	3.9	Not Detected
m,p-Xylene	3.9	Not Detected
o-Xylene	3.9	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	115	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	93	70-130

AIR TOXICS LTD.

SAMPLE NAME : SV-11 @3'

ID#: 9808015-03A

EPA METHOD TO-14 GC/MS Full Scan

File Name:	p081015	Date of Collection:	7/30/98
Dil. Factor:	7.96	Date of Analysis:	8/10/98

Compound	Rpt. Limit (ppbv)	Amount (ppbv)
Benzene	4.0	Not Detected
Toluene	4.0	Not Detected
Ethyl Benzene	4.0	Not Detected
m,p-Xylene	4.0	Not Detected
o-Xylene	4.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	114	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	89	70-130

AIR TOXICS LTD.

SAMPLE NAME : SV-12 @6'

ID#: 9808015-04A

EPA METHOD TO-14 GC/MS Full Scan

File Name:	p081016	Date of Collection:	7/30/98
Dil. Factor:	7.88	Date of Analysis:	8/10/98

Compound	Rpt. Limit (ppbv)	Amount (ppbv)
Benzene	3.9	Not Detected
Toluene	3.9	Not Detected
Ethyl Benzene	3.9	Not Detected
m,p-Xylene	3.9	Not Detected
o-Xylene	3.9	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	114	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	91	70-130

AIR TOXICS LTD.

SAMPLE NAME : SV-13 @6.5'

ID#: 9808015-05A

EPA METHOD TO-14 GC/MS Full Scan

File Name:	p081017	Date of Collection:	7/30/98
Dil. Factor:	7.96	Date of Analysis:	8/10/98

Compound	Rpt. Limit (ppbv)	Amount (ppbv)
Benzene	4.0	Not Detected
Toluene	4.0	Not Detected
Ethyl Benzene	4.0	Not Detected
m,p-Xylene	4.0	Not Detected
o-Xylene	4.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	112	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	88	70-130

AIR TOXICS LTD.

SAMPLE NAME : SV-14 @6'

ID#: 9808015-06A

EPA METHOD TO-14 GC/MS Full Scan

File Name:	p081018	Date of Collection:	7/30/98
Dil. Factor:	7.96	Date of Analysis:	8/11/98

Compound	Rpt. Limit (ppbv)	Amount (ppbv)
Benzene	4.0	Not Detected
Toluene	4.0	Not Detected
Ethyl Benzene	4.0	Not Detected
m,p-Xylene	4.0	Not Detected
o-Xylene	4.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	114	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	88	70-130

AIR TOXICS LTD.

SAMPLE NAME : SV-15 @6'

ID#: 9808015-07A

EPA METHOD TO-14 GC/MS Full Scan

File Name:	p081019	Date of Collection:	7/30/98
Dil. Factor:	7.96	Date of Analysis:	8/11/98

Compound	Rpt. Limit (ppbv)	Amount (ppbv)
Benzene	4.0	Not Detected
Toluene	4.0	Not Detected
Ethyl Benzene	4.0	Not Detected
m,p-Xylene	4.0	Not Detected
o-Xylene	4.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	114	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	88	70-130

AIR TOXICS LTD.

SAMPLE NAME : SV-16 @6'

ID#: 9808015-08A

EPA METHOD TO-14 GC/MS Full Scan

File Name:	p081020	Date of Collection:	7/30/98
Dil. Factor:	7.96	Date of Analysis:	8/11/98

Compound	Rpt. Limit (ppbv)	Amount (ppbv)
Benzene	4.0	Not Detected
Toluene	4.0	Not Detected
Ethyl Benzene	4.0	Not Detected
m,p-Xylene	4.0	Not Detected
o-Xylene	4.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	% Recovery	Method Limits
Octafluorotoluene	112	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	89	70-130

AIR TOXICS LTD.

SAMPLE NAME : Lab Blank

ID#: 9808015-09A

EPA METHOD TO-14 GC/MS Full Scan

File Name:	p081004	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/10/98	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)
Benzene	0.50	Not Detected
Toluene	0.50	Not Detected
Ethyl Benzene	0.50	Not Detected
m,p-Xylene	0.50	Not Detected
o-Xylene	0.50	Not Detected

Container Type: NA

Surrogates	% Recovery	Method Limits
Octafluorotoluene	116	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	98	70-130