

# P & D ENVIRONMENTAL

A Division of Paul H. King, Inc.  
4020 Panama Court  
Oakland, CA 94611  
(510) 658-6916

January 14, 2000  
Report 0047.R23

Mr. L.B. Patel  
Mr. P. Gupta  
VIP Service  
385 Century Circle  
Danville, CA 94526

SUBJECT: SOIL GAS INVESTIGATION REPORT  
VIP Service Site Vicinity  
3889 Castro Valley Blvd.  
Castro Valley, CA

Gentlemen:

P&D Environmental a division of Paul H. King, Inc. (P&D) is pleased to present this report documenting the drilling of twelve off-site exploratory boreholes, designated B1 through B6, B8, B10 through B12, and B1-Duplicate and B8-Duplicate in the vicinity of the subject site. A total of twelve soil gas samples, two of which were duplicate soil gas samples, and four groundwater grab samples were collected from the boreholes. This work was performed in accordance with recommendations set forth in P&D's Report 0047.R21, dated May 20, 1998 and conditions set forth in a letter dated July 21, 1998 from Mr. Scott Seery of the Alameda County Department of Environmental Health (ACDEH) which approved and amended the report recommendations.

A Site Location Map (Figure 1) and a Site Vicinity Map (Figure 2) showing the soil boring and soil gas and water sample collection locations are attached with this report.

All work was performed under the direct supervision of an appropriately registered professional. This report is prepared in accordance with guidelines set forth in the document "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" dated August 10, 1990 and "Appendix A - Workplan for Initial Subsurface Investigation" dated August 20, 1991.

## BACKGROUND

It is P&D's understanding that the site was purchased by VIP Service in December, 1984. Prior to purchase of the property by VIP Service, the site was operated as a retail gasoline station for an undetermined period of time. The site was operated as a retail gasoline station from the time of purchase by VIP Service until the tanks were removed by Accutite on April 26, 1993. The underground tank system consisted of three 10,000 gallon capacity gasoline tanks, two dispenser islands, and one 550 gallon waste oil tank. It is P&D's understanding that the fuel tanks contained leaded and unleaded gasoline while in use by VIP Service. In addition, VIP Service reported that diesel fuel was not stored at the site at any time.

It is P&D's understanding that at the time of tank removal, eight soil samples were collected from the sidewalls of the fuel tank pit, and one soil sample was collected from the waste oil tank pit. Groundwater was reported to have been encountered in the fuel tank pit at a depth of approximately 11 feet. One water sample was collected from the water in the fuel tank pit. On April 28, 1993 Accutite returned to the site and collected seven soil samples from beneath the dispenser islands.

All of the samples were analyzed at Sequoia Analytical in Redwood City, California for Total Petroleum Hydrocarbons as Gasoline (TPH-G); Benzene, Toluene, Ethylbenzene and Xylenes (BTEX); and for Total Lead. In addition, the samples from the waste oil tank were analyzed for Total Petroleum Hydrocarbons

as Diesel (TPH-D); Total Oil and Grease (TOG); Halogenated Volatile Organic Compounds using EPA Method 8010; Semi-Volatile Organic Compounds using EPA Method 8270; and for the metals Cadmium, Chromium, Lead, Nickel and Zinc.

The results of the soil samples collected from the fuel tank pit showed TPH-G concentrations ranging from 120 to 6,200 parts per million (ppm), and total lead results ranging from not detected to 13 ppm. The results of the water sample from the fuel tank pit showed 140 ppm TPH-G, and 0.095 ppm total lead.

The results of the soil samples collected from beneath the fuel dispensers showed TPH-G values ranging from not detected to 4.7 ppm, and total lead values ranging from not detected to 7.6 ppm.

The results of the sample collected from the waste oil tank pit showed 670 ppm TPH-G; 410 ppm TPH-D; 1,300 ppm TOG; 0.023 ppm 1,2-Dichloroethane and 0.0094 ppm Tetrachloroethylene in the EPA Method 8010 analysis; 2.7 ppm 2-Methylnaphthalene and 3.8 ppm Naphthalene in the EPA Method 8270 analysis; and various metals concentrations, none of which exceeded ten times their respective STLC values. The laboratory identified the TPH-D results as being a "non-diesel mix," and indicated that the compounds reported as diesel were diesel-range gasoline and diesel-range oil compounds.

Between August 27 and November 1, 1993 P&D personnel collected stockpiled soil samples for stockpiled soil disposal characterization and oversaw the excavation of approximately 680 cubic yards of soil from the vicinity of the fuel tank pit in an effort to remove petroleum hydrocarbon-impacted soil. In addition, during this time the soil which was stockpiled by Accutite during the tank removal activities and during the subsequent soil excavation activities was disposed of at an appropriate disposal facility, and the tank pit backfilled and compacted. A total of eight confirmation soil samples were collected from the sidewalls of the tank pit on November 19, 1993 at a depth of 10 feet after over-excavation and prior to backfilling. The analytical results of the samples ranged from 33 to 3,200 ppm TPH-G. Documentation of excavation, stockpiled soil characterization and disposal, and backfilling of the pit are provided in P&D's report 0047.R1 dated January 24, 1994. The samples results associated with the removal of the tanks by Accutite are also summarized in P&D's report 0047.R1.

On November 10, 1993 P&D personnel oversaw the installation of three groundwater monitoring wells, designated as MW1 through MW3, and one exploratory soil boring, designated as B1, at the subject site. The wells were developed on November 12 and sampled on November 16, 1993. The results of the water samples showed that TPH-G was not detected in wells MW1 and MW2, and that BTEX was not detected in MW2. In well MW1, 0.0022 ppm of benzene was detected. In well MW3, TPH-G was detected at 12 ppm; BTEX was detected with benzene detected at 3.3 ppm; TRPH was not detected; EPA Method 8010 compounds were not detected except for 0.027 ppm 1,2-Dichloroethane; and EPA Method 8270 compounds were not detected except for 0.009 ppm Phenol, 0.006 ppm Benzyl Alcohol, 0.006 2-Methylphenol, 0.007 ppm 2,4-Dimethylphenol, 0.088 ppm Benzoic Acid, 0.042 ppm Naphthalene, and 0.015 2-Methylnaphthalene.

Documentation of the monitoring well and soil boring installation and associated sample results are presented in P&D's report 0047.R2 dated January 24, 1994. The locations of the monitoring wells are shown in Figure 2.

In response to a letter dated March 18, 1994 from Mr. Scott Seery ACDEH which commented upon the results of the initial groundwater sampling associated with the installation of the monitoring wells at the subject site, a quarterly groundwater monitoring and sampling program was initiated.

### FIELD ACTIVITIES

On July 8, 1999, underground utility trenches for three properties near the subject site were identified by California Underground Surveys personnel. On September 8 and 9, 1999, P&D personnel hand augered twelve off-site boreholes to depths of between 2.5 and 12.5 feet in the underground utility trenches in the vicinity of the subject site. The boreholes were designated as B1 through B6, B8, B10 through B12, and B1-Duplicate (originally borehole B7) and B8-Duplicate (originally borehole B9). Based upon discussions with the CVSD, the sanitary sewer trenches were reported to have been backfilled with the native material initially excavated from the trenches. For this reason, it was not possible to positively determine if the boreholes for the sanitary sewer main were in trench backfill material.

Soil gas samples were collected from the boreholes in or near the underground utility trenches. Groundwater samples were collected in the four boreholes where adequate quantities of water were encountered to allow sample collection. The locations of the boreholes are shown on the attached Site Vicinity Map, Figure 2.

Prior to performing field work, an encroachment permit and a drilling permit were obtained from the Alameda County Public Works Agency (ACPWA); notification was provided to the ACDEH and ACPWA of the scheduled drilling dates; Underground Service Alert was notified for buried utility location; off site property access was requested from offsite property owners; and a site health and safety plan was prepared.

### Underground Utility Trench Location

On July 8, 1999, personnel from P&D and from California Utility Surveys (C. U. Surveys) of San Ramon, California attempted to gain access to three properties near the subject site for location of underground utility trenches. The properties were 3875 Castro Valley Boulevard (a mobile home park), 21100 Aspen Avenue, and 21106 Aspen Avenue (both private residences). At the Castro Valley Blvd. property, access was granted on the condition of a liability release being submitted to the property manager. The release was submitted prior to the start of soil boring. At the 21106 Aspen property, access was granted for the utility location and for sample collection. At the 21100 Aspen property, access was denied repeatedly for both utility location and for sample collection. Based on landscaping limitations at 21106 Aspen Avenue and discussions with ACDEH, the boreholes for these properties were placed in Aspen Avenue adjacent to the curb.

At the Castro Valley Boulevard property, the following utility trenches were identified as they entered the permanent structure at the property located adjacent to Castro Valley Boulevard: sanitary sewer, electrical, water, and telephone. At the properties on Aspen Avenue, the sanitary sewer lines were located as they entered the properties of 21100 Aspen and 21106 Aspen. Additionally, the Castro Valley Sanitary District (CVSD) provided maps of local sanitary sewer main locations. The depth of the sanitary sewer main was determined from manhole invert depths on maps provided by the CVSD. The depth of the sanitary sewer laterals on Aspen Avenue was estimated by interpolating the known sanitary sewer main depth in Aspen Avenue, and a burial depth of 2 to 3 feet at each house.

### Soil Boring

On September 8 and 9, 1999, P&D personnel drilled boreholes in the underground utility trench locations marked by C. U. Surveys and the sanitary sewer main locations as noted in CVSD maps of the area. One final attempt was made to gain access to the property at 21100 Aspen, but was unsuccessful. As

discussed with Mr. Scott Seery of ACDEH, the boring locations for both Aspen Avenue properties were subsequently moved to the edge of the street.

A total of twelve borings were drilled: one as the sanitary sewer lines entered each of the Aspen Avenue properties (B1 and B2), two in the sanitary sewer main trench in Aspen Avenue (B3 and B4), three in the Castro Valley Boulevard sanitary sewer main trench (B5, B6, and B8), and one each where the sanitary sewer line (B10), the water line (B11), and the electrical and phone lines together (B12) entered the permanent structure at 3875 Castro Valley Boulevard. Two borings for duplicate soil gas samples (B1-Duplicate, located 3 feet from boring B1, and B8-Duplicate, located 4 feet from boring B8). The boring and sample collection locations are shown on the attached Site Vicinity Map, Figure 2.

All of the boreholes were drilled using a 3.5 inch diameter hand auger. The total borehole depth was determined by the depth of the utility or groundwater, whichever was encountered first. Borehole B1 was drilled to a total depth of 5.5 feet; borehole B1-Duplicate was drilled to a total depth of 8.0 feet; borehole B2 was drilled to a total depth of 6.0 feet; B3 was drilled to 9.0 feet; B4 was drilled to 8.5 feet; B5 was drilled to 12.0 feet; B6 was drilled to 11.5 feet; B8 was drilled to 10.5 feet; B8-Duplicate was drilled to 10.0 feet; and boreholes B10, B11, and B12 were each drilled to 2.5 feet.

During drilling activities, soil gas readings of the excavated soil were recorded with a Photo Ionization Detector (PID). No organic vapors were detected with the PID, however petroleum hydrocarbon (PHC) odors were noted in borings B5 and B6. Groundwater was encountered in boreholes B1, B1-Duplicate, B2, B3, B4, B6, and B8 at depths of 5.5 feet, 4.0 feet, 6.0 feet, 8.0 feet, 6.5 feet, 10.5 feet, and 10.5 feet, respectively. In borings that were drilled to a depth of at least one foot beyond first encountered groundwater (B3, B4, B6, and B8), groundwater samples were collected.

The drilling equipment was cleaned with an Alconox solution wash followed by a clean water rinse prior to use in each borehole. Soil cuttings were stockpiled on visqueen and later transferred to 55-gallon drums and stored at the subject site pending appropriate disposal.

#### Water Sample Collection

Water samples were collected in the boreholes which were drilled to a depth of at least one foot beyond first encountered groundwater (borings B3, B4, B6, and B8). These samples were designated samples B3-GW, B4-GW, B6-GW, and B8-GW. The samples were collected using a Teflon bailer. The water samples were transferred to 40-milliliter glass Volatile Organic Analysis (VOA) vials which were sealed with Teflon-lined screw caps. The VOA vials were overturned and tapped to assure that no air bubbles were present. The VOA vials were then transferred to a cooler with ice, and later were transported to McCampbell Analytical, Inc. in Pacheco, California. McCampbell Analytical, Inc. is a State-certified hazardous waste testing laboratory. Chain of custody procedures were observed for all sample handling.

#### Soil Gas Sample Collection

The twelve boreholes for soil gas sample collection were all drilled to the approximate depth of the respective underground utility in the trench. Following the drilling of the boreholes, a Teflon tube for soil gas sample collection was placed into each borehole at a depth of approximately 1 to 2 feet above the bottom of the borehole or groundwater level in the borehole. After installation of the tube in the borehole, the lower portion of the borehole immediately above the end of the tube was sealed with bentonite pellets, which were hydrated to prevent the entrance of air from the ground surface into the borehole. In the

remaining space between the top of the bentonite and the ground surface, the borehole was further sealed with a layer of neat cement grout.

Following hydration of the bentonite pellets, the soil gas in each borehole was evacuated using a vacuum pump for several minutes prior to sample collection. Vacuum in each borehole was monitored to determine that the air pressure in the borehole was approximately equivalent to atmospheric pressure prior to sample collection. Soil gas was then drawn into a Summa canister by opening the valve on the canister, which was connected to the tube in the borehole with a tee.

Vacuum was evaluated in each Summa canister before each sample was collected. The vacuum in each Summa canister prior to sample collection was measured to be between 27 and 29 inches of mercury. At the time of sample collection, the vacuum in each Summa canister was observed to decay until the vacuum in the canister was approximately 2.0 inches of mercury, which generally took less than one minute.

The soil gas samples were designated by their respective boring names with the suffix "-SG". For instance, the soil gas sample from boring B1 was designated sample B1-SG, the sample from boring B2 was designated sample B2-SG, and the sample from boring B1-Duplicate was designated sample B1-Duplicate-SG, and so forth. After their collection, the samples were shipped for analysis to Air Toxics, Limited (ATL) in Folsom, California. Chain of custody procedures were observed for all sample handling.

It was noted that one canister (the 13th, labeled B8-Duplicate-SG-NV) showed no decay and no vacuum at all when its valve was opened for sampling. That sample was not analyzed, and a repeat sample of the soil gas in that boring was taken (sample B8-Duplicate-SG). Additionally, sample B5-SG showed only a few inches of mercury vacuum as the sample was being collected, but it was the opinion of ATL that this sample was still representative.

Following sample collection, the top layer of each of the boreholes were backfilled with neat cement and resurfaced with cold-patch asphaltic concrete.

#### GEOLOGY AND HYDROGEOLOGY

Based on review of regional geologic maps from U.S. Geological Survey Professional Paper 943, "Flatland Deposits - Their Geology and Engineering Properties and Their Importance to Comprehensive Planning," by E.J. Helley and K.R. Lajoie, 1979 the subject site is underlain by Late Pleistocene alluvium (Qpa). The alluvium is described as typically consisting of weakly consolidated, slightly weathered, poorly sorted, irregularly interbedded clay, silt, sand and gravel and is considered to overlie bedrock on the alluvial plain marginal to San Francisco Bay.

The subsurface materials encountered in the boreholes consisted of either fine-grained sand (B1 and B2) or brown to gray silty clay or clay. The subsurface materials encountered in the boreholes were consistent with subsurface conditions encountered and documented during previous subsurface investigations in the vicinity of the site.

Groundwater was encountered in borings B1, B1-Duplicate, B2, B3, B4, B6, and B8 at depths of approximately 5.5 feet, 4.0 feet, 6.0 feet, 8.0 feet, 6.5 feet, 10.5 feet, and 10.5 feet, below the ground surface, respectively. Historically, water levels at the monitoring wells at the subject site have ranged approximately from 6 to 10 feet. Historical groundwater flow direction at the subject site, as calculated from groundwater elevation data from the on-site monitoring wells, has ranged from southwesterly to northwesterly.

### LABORATORY ANALYTICAL RESULTS

The water samples from boreholes B3, B4, B6, and B8 (samples B3-GW, B4-GW, B6-GW, and B8-GW, respectively) were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G) using EPA Method 5030 in conjunction with Modified EPA Method 8015 (GC/FID); and for benzene, toluene, ethylbenzene and xylenes (BTEX) and methyl tert-butyl ether (MTBE) using EPA Method 8020. The soil gas samples were all analyzed for TPH-G, BTEX, and MTBE by EPA Method TO-3.

The laboratory analytical results of the water samples show that none of the analytes (TPH-G, BTEX, or MTBE) were detected in any of the samples except for sample B6-GW, where TPH-G was detected at a concentration of 4.3 ppm, benzene was detected at a concentration of 0.026 ppm, and MTBE was not detected. The water sample results are summarized in Table 1.

The laboratory analytical results of the soil gas samples show that TPH-G was detected in all samples, with detected concentrations ranging from 53 to 94 ppmv (parts per million by volume) in samples B1-SG, B2-SG, B4-SG, B8-Duplicate-SG, and B12-SG, and from 130 to 560 ppmv in samples B1-Duplicate-SG, B3-SG, B5-SG, B6-SG, B8-SG, B10-SG, and B11-SG. Benzene was detected in the following samples: B3-SG at 3.7 ppmv, B5-SG at 11 ppmv, B6-SG at 10 ppmv, B10-SG at 1.6 ppmv, B11-SG at 0.41 ppmv, and B12-SG at 0.035 ppmv. Similarly, MTBE was detected in the following samples: B3-SG at 0.74 ppmv, B4-SG at 0.84 ppmv, B5-SG at 5.2 ppmv, B6-SG at 2.6 ppmv, B10-SG at 0.068 ppmv, B11-SG at 0.045 ppmv, and B12-SG at 0.018 ppmv. It was noted on the laboratory report form that the result for MTBE on sample B4-SG and the results for benzene on samples B5-SG, B6-SG, B10-SG, B11-SG, and B12-SG may be biased due to apparent matrix interference. The soil gas sample results are summarized in Table 2.

Copies of the laboratory analytical reports and chain of custody documentation for the soil and groundwater grab samples are attached with this report.

### DISCUSSION AND RECOMMENDATIONS

Based upon discussions with the CVSD, the sanitary sewer trenches were reported to have been backfilled with the native material initially excavated from the trenches. For this reason, it was not possible to positively determine if the boreholes for the sanitary sewer main were in trench backfill material, or in undisturbed native soil material located immediately adjacent to the utility trenches.

\* Boreholes B3, B4, B5, B6 and B8 were located in the trench for the sanitary sewer main to evaluate if petroleum hydrocarbons are preferentially migrating in this trench. The groundwater grab sample results indicate that petroleum hydrocarbons are present in groundwater in the trench for the sanitary sewer main immediately downgradient of the subject site, as shown by the sample results for borehole B6. However, the absence of petroleum hydrocarbons in the groundwater sample for borehole B8 indicates that the extent of groundwater contamination is limited in the downgradient direction along Castro Valley Boulevard. Similarly, the absence of petroleum hydrocarbons in the groundwater samples for boreholes B3 and B4 show that the petroleum hydrocarbons have not migrated laterally in groundwater in the utility trench along Aspen Avenue.

\* Review of the soil gas sample results for boreholes B3, B4, B5, B6 and B8 show petroleum hydrocarbons in samples B5 and B6, corresponding to the presence of petroleum hydrocarbons in groundwater in this area. The soil gas sample results for borehole B8 indicate that although TPH-G range petroleum hydrocarbons are present, MTBE and BTEX compounds are absent. In boreholes B3 and B4, TPH-G and MTBE are present, and benzene is present in borehole B3, suggesting that BTEX

compounds may be migrating downgradient along Aspen Avenue, but not as far as borehole B4.

The soil gas sample results for B1-SG and B1-DUPLICATE-SG suggest good agreement with the absence of MTBE and BTEX for both samples. These results and the B2-SG suggest that although TPH-G range compounds may be present in this area, MTBE and BTEX are not present. P&D recommends that no further investigation or evaluation be performed for these residences.

\*  
\*  
The soil gas sample results for boreholes B10, B11 and B12 all show detectable concentrations of TPH-G, MTBE and benzene. The boreholes were only approximately 2.5 feet deep because of the shallow depth of the utilities at these locations. Based on the MTBE and benzene concentrations at these shallow depths in these boreholes, P&D recommends that potential airborne MTBE and benzene concentrations be further evaluated with respect to the potential effects to occupants of the permanent structure at 3875 Castro Valley Boulevard. It should be noted that the laboratory reported that the benzene results for these samples could be biased due to apparent matrix interference.

#### DISTRIBUTION

Copies of this report should be distributed to Mr. Scott Seery at the ACDEH, and to Mr. Kevin Graves at the San Francisco Bay Regional Water Quality Control Board. Copies of the report should be accompanied by a transmittal letter signed by the principal executive officer of VIP Service.

#### LIMITATIONS

This report was prepared solely for the use of VIP Service. The content and conclusions provided by P&D in this assessment are based on information collected during our investigation, which may include, but not be limited to, visual site inspections; interviews with site owner, regulatory agencies and other pertinent individuals; review of available public documents; subsurface exploration and our professional judgement based on said information at the time of preparation of this document. Any subsurface sample results and observations presented herein are considered to be representative of the area of investigation; however, geological conditions may vary between borings and may not necessarily apply to the general site as a whole. If future subsurface or other conditions are revealed which vary from these findings, the newly-revealed conditions must be evaluated and may invalidate the findings of this report.

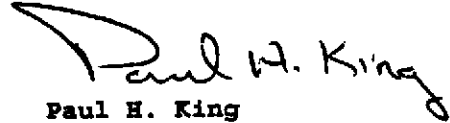
This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, where required by law. Additionally, it is the sole responsibility of the owner to properly dispose of any hazardous materials or hazardous wastes left onsite, in accordance with existing laws and regulations.

This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. P&D is not responsible for the accuracy or completeness of information provided by other individuals or entities which is used in this report. This report presents our professional judgement based upon data and findings identified in this report and interpretation of such data based upon our experience and background, and no warranty, either express or implied, is made. The conclusions presented are based upon the current regulatory climate and may require revision if future regulatory changes occur.

Should you have any questions, please do not hesitate to contact us at  
(510) 658-6916.

Sincerely,

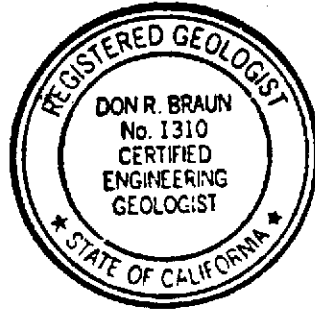
P&D Environmental



Paul H. King  
Hydrogeologist



Don R. Braun  
Certified Engineering Geologist  
Registration No. : 1310  
Expiration Date: 6/30/00



Attachments:

Tables 1 & 2  
Site Location Map (Figure 1)  
Site Vicinity Map (Figure 2)  
McC Campbell Analytical Inc. Laboratory Analytical Report  
Air Toxics Ltd. Laboratory Analytical Reports (18)  
Chain of Custody Documentation

PHK/gmb  
0047.R23



TABLE 1  
SUMMARY OF LABORATORY ANALYTICAL RESULTS  
WATER SAMPLES  
(Samples collected on September 8 and 9, 1999)

Sample No.	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
B3-GW	ND	ND	ND	ND	ND	ND
B4-GW	ND	ND	ND	ND	ND	ND
B6-GW	4.3	ND	0.026	0.0031	0.16	0.42
B8-GW	ND	ND	ND	ND	ND	ND

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

MTBE = Methyl tert-Butyl Ether.

ND = Not Detected.

NA = Not Analyzed.

Results are in parts per million (ppm), unless otherwise indicated.

TABLE 2  
SUMMARY OF LABORATORY ANALYTICAL RESULTS  
SOIL GAS SAMPLES  
(Samples collected on September 9, 1999)

Sample No.	TPH-G	MTBE	Benzene	Toluene	Ethyl-benzene	Total Xylenes
B1-SG	53	ND	ND	ND	ND	ND
B1-DUPLICATE-SG	360	ND	ND	ND	ND	ND
B2-SG	94	ND	ND	ND	ND	ND
B3-SG	130	0.74	3.7	ND	ND	ND
B4-SG	90	0.84*	ND	ND	ND	ND
B5-SG	540	5.2	1.2*	0.56	0.83	1.8
B6-SG	560	2.6	10*	1.1	2.3	6.7
B8-SG	150	ND	ND	ND	ND	ND
B8-DUPLICATE-SG	94	ND	ND	ND	ND	ND
B8-DUPLICATE-SG-NV	NA	NA	NA	NA	NA	NA
B10-SG	200	0.068	1.6*	ND	ND	ND
B11-SG	140	0.045	0.41*	ND	ND	ND
B12-SG	66	0.018	0.035*	ND	ND	ND

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

MTBE = Methyl tert-Butyl Ether.

ND = Not Detected.

NA = Not Analyzed.

\* = Laboratory report note: reported value may be biased due to apparent matrix interference.

Results are in parts per million by volume (ppmv), unless otherwise indicated.

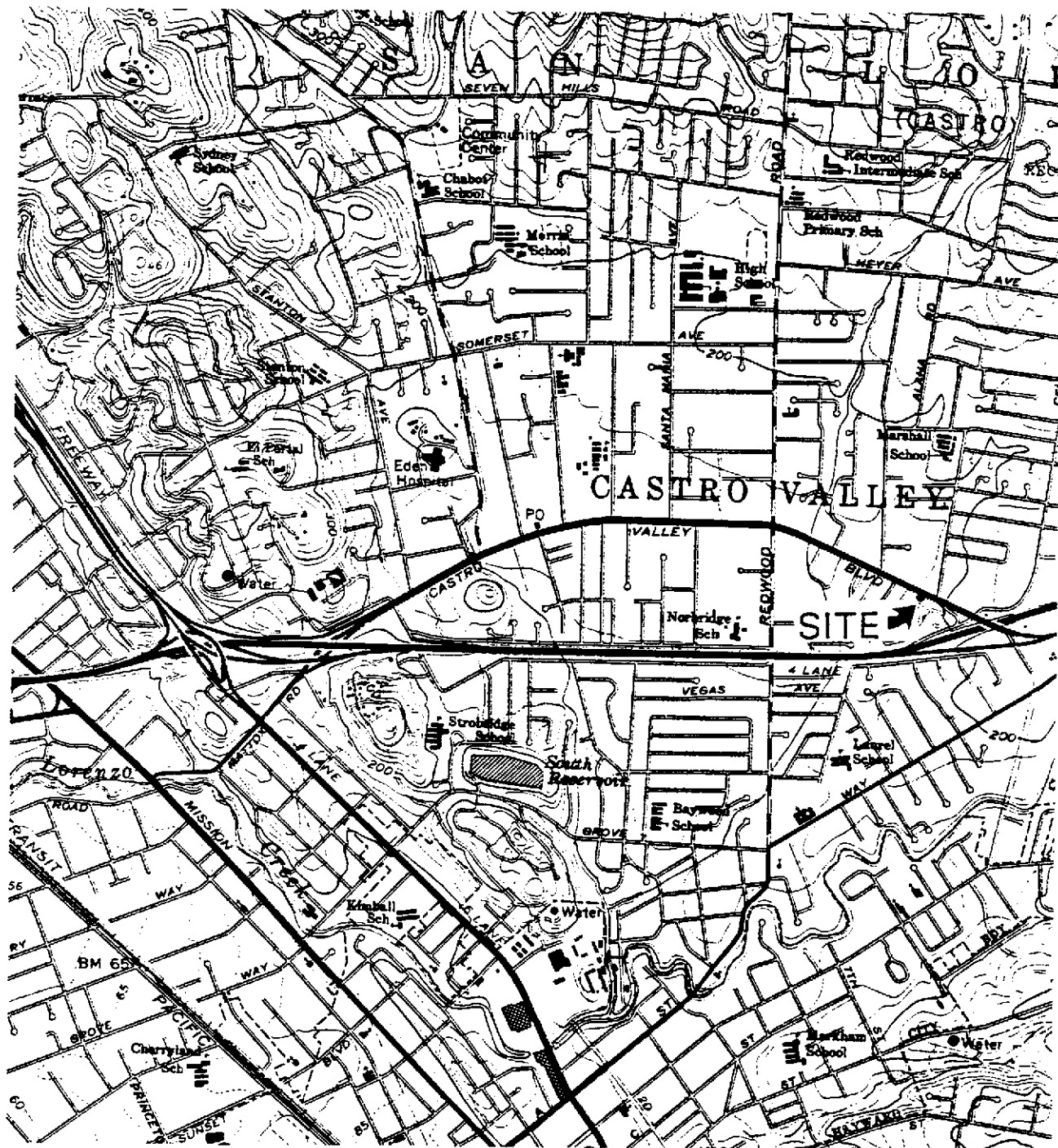
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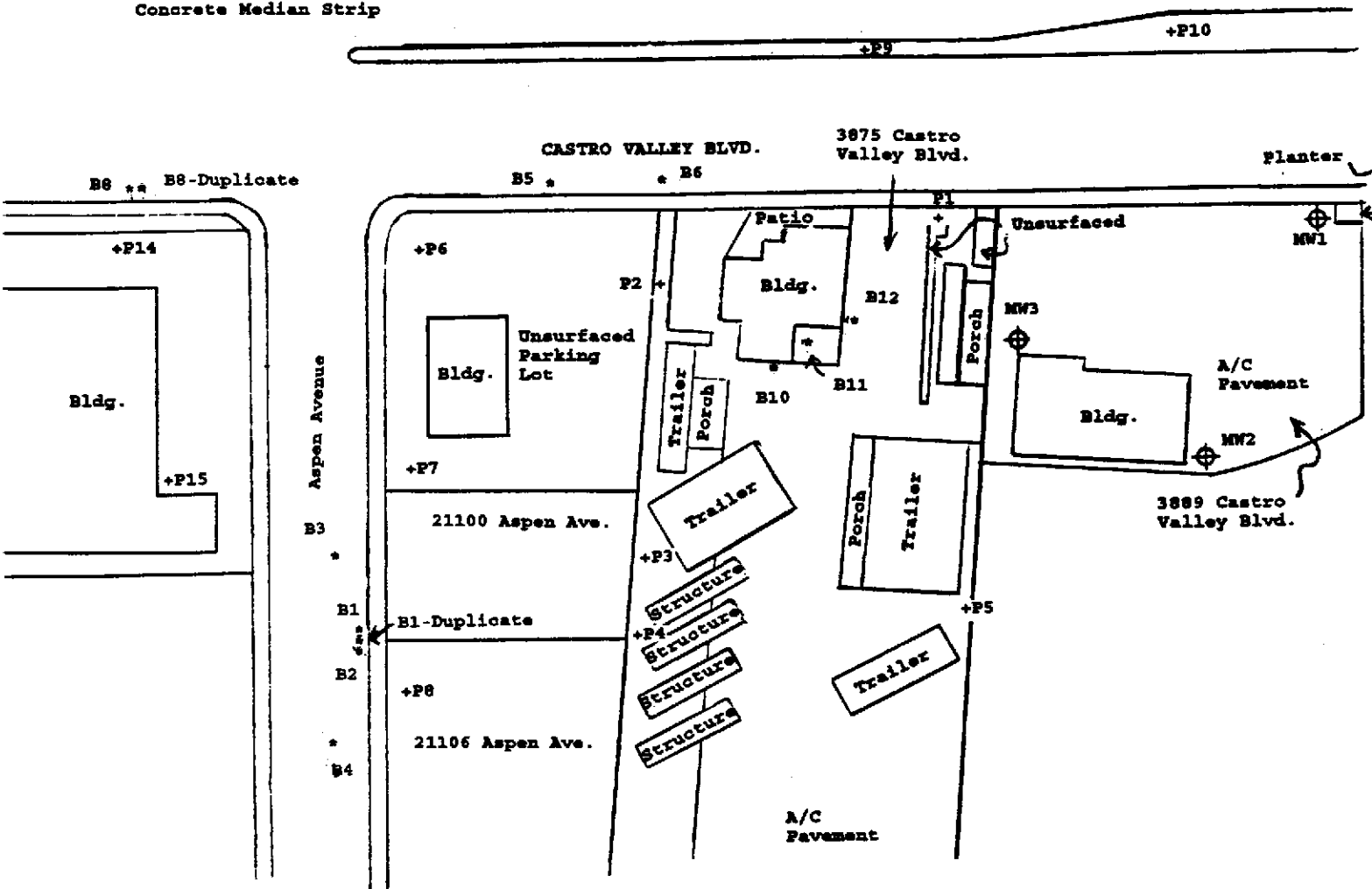
Base Map From  
U.S. Geological Survey  
Hayward, Calif.  
7.5 Minute Quadrangle  
Photorevised 1980



Figure 1  
**SITE LOCATION MAP**  
VIP Service  
3889 Castro Valley Blvd.  
Castro Valley, California

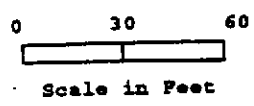
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Concrete Median Strip



- LEGEND**
- \* Soil Gas (and some Groundwater) Sample Collection Location
  - + Historical Groundwater Grab Sample Collection Location
  - ⊕ Existing Groundwater Monitoring Well

Base Map From  
 P&D Environmental  
 October, 1993  
 January, 1995  
 June, 1995, and  
 February, 1995  
 Prepared Using a  
 Rolatape



**Figure 2**  
**SITE VICINITY MAP**  
 VIP Service  
 3889 Castro Valley Blvd.  
 Castro Valley, California



**McCAMPBELL ANALYTICAL INC.**

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
 Telephone : 925-798-1620 Fax : 925-798-1622  
<http://www.mccampbell.com> E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)

P&D Environmental 4020 Panama Court Oakland, CA 94611	Client Project ID: #0047; VIP Service-Castro Valley	Date Sampled: 09/08-09/09/99
	Client Contact: Paul King	Date Received: 09/13/99
	Client P.O:	Date Extracted: 09/17/99
		Date Analyzed: 09/17/99

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*, with Methyl tert-Butyl Ether\* & BTEX\***  
 EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) <sup>+</sup>	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	% Recovery Surrogate
19069	B3-GW	W	ND	ND	ND	ND	ND	ND	102
19070	B4-GW	W	ND	ND	ND	ND	ND	ND	106
19071	B6-GW	W	4300,a	ND<20	26	3.1	160	420	110
19072	B8-GW	W	ND	ND	ND	ND	ND	ND	103
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

\* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

\* cluttered chromatogram: sample peak coelutes with surrogate peak

\*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

 Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553  
 Tele: 925-798-1620 Fax: 925-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/17/99-09/18/99

Matrix: WATER

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample (#18261)	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	102.8	100.0	100.0	102.8	100.0	2.8
Benzene	0.0	9.4	10.1	10.0	94.0	101.0	7.2
Toluene	0.0	9.5	10.2	10.0	95.0	102.0	7.1
Ethyl Benzene	0.0	9.9	10.4	10.0	99.0	104.0	4.9
Xylenes	0.0	30.0	31.0	30.0	100.0	103.3	3.3
TPH(diesel)	0.0	7622	7737	7500	102	103	1.5
TRPH (oil & grease)	0	23700	24100	23700	100	102	1.7

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = ((\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD})) \times 2 \times 100$$

# P & D ENVIRONMENTAL

A Division of Paul H. King, Inc.

4020 Panama Court

Oakland, CA 94611

(510) 658-6916

## CHAIN OF CUSTODY RECORD

116706 ZFD 15 PAGE 1 OF 1

PROJECT NUMBER: 0047		PROJECT NAME: VIP SERVICE - Castro Valley			NUMBER OF CONTAINERS	ANALYSIS(ES): TRH-9/SIX/MTSE	PRESERVATIVE	REMARKS	
SAMPLED BY: (PRINTED AND SIGNATURE) Green Brown [Signature]									
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION					
B3 - GW	9/8/99		WATER	BORING B3 - GROUNDWATER	3	X	ICE	NORMAL TURAL AROUND	
B4 - GW	"		"	" B4 - "	3	X	"	" " " "	
B6 - GW	"		"	" B6 - "	3	X	"	" " " "	
B8 - GW	9/9/99		"	" B8 - "	3	X	"	" " " "	
								19069	
								19070	
								19071	
								19072	
<input checked="" type="checkbox"/> ICE <input checked="" type="checkbox"/> GOOD CONDITION <input checked="" type="checkbox"/> HEAD SPACE ABSENT		<input checked="" type="checkbox"/> PRESERVATION APPROPRIATE <input checked="" type="checkbox"/> CONTAINERS		<input checked="" type="checkbox"/> ORGANIC METALS <input type="checkbox"/> OTHER					
RELINQUISHED BY: (SIGNATURE) [Signature]		DATE 9/13/99	TIME 9:30	RECEIVED BY: (SIGNATURE) Bill Smith		TOTAL NO. OF SAMPLES (THIS SHIPMENT) 4	LABORATORY: McAMPELL ANALYTICAL, INC.		
RELINQUISHED BY: (SIGNATURE) Bill Smith		DATE 9-13	TIME 12:4	RECEIVED BY: (SIGNATURE)		TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 12	LABORATORY CONTACT: PO HAMILTON		
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE) [Signature]		LABORATORY PHONE NUMBER: (925) 798-1620			
				REMARKS:		SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( ) YES (X) NO			

TB.MV

# AIR TOXICS LTD.

SAMPLE NAME : B1-SG

ID#: 9909170-01A

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	d091711	<b>Date of Collection:</b>	9/9/99
<b>Dil. Factor:</b>	426	<b>Date of Analysis:</b>	9/17/99

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.43	1.4	Not Detected	Not Detected
Toluene	0.43	1.6	Not Detected	Not Detected
Ethyl Benzene	0.43	1.9	Not Detected	Not Detected
Total Xylenes	0.43	1.9	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.43	1.6	Not Detected	Not Detected
TPH (C5+ Hydrocarbons) ref. to Gasoline	11	46	53	220
C2-C4 Hydrocarbons ref. to Gasoline	11	20	1700	3100

Container Type: 1 Liter Summa Canister

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	93	50-150
Fluorobenzene (FID)	81	50-150



**AIR TOXICS LTD.**  
**SAMPLE NAME : B1-DUPLICATE-SG**  
**ID#: 9909170-02A**  
**EPA Method TO-3 GC/PID/FID**

<b>File Name:</b>	<b>d091709</b>	<b>Date of Collection:</b>	<b>9/9/99</b>
<b>Dil. Factor:</b>	<b>86.4</b>	<b>Date of Analysis:</b>	<b>9/17/99</b>

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.086	0.28	Not Detected	Not Detected
Toluene	0.086	0.33	Not Detected	Not Detected
Ethyl Benzene	0.086	0.38	Not Detected	Not Detected
Total Xylenes	0.086	0.38	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.086	0.32	Not Detected	Not Detected
TPH (C5+ Hydrocarbons) ref. to Gasoline	2.2	9.1	360	1500
C2-C4 Hydrocarbons ref. to Gasoline	2.2	4.0	530	970

**Container Type: 1 Liter Summa Canister**

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	96	50-150
Fluorobenzene (FID)	81	50-150

# AIR TOXICS LTD.

SAMPLE NAME : B1-DUPLICATE-SG Duplicate

ID#: 9909170-02AA

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	<b>d091804</b>	<b>Date of Collection:</b>	<b>9/9/99</b>
<b>Dil. Factor:</b>	<b>108</b>	<b>Date of Analysis:</b>	<b>9/18/99</b>

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.11	0.35	Not Detected	Not Detected
Toluene	0.11	0.41	Not Detected	Not Detected
Ethyl Benzene	0.11	0.48	Not Detected	Not Detected
Total Xylenes	0.11	0.48	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.11	0.40	Not Detected	Not Detected
TPH (C5+ Hydrocarbons) ref. to Gasoline	2.7	11	360	1500
C2-C4 Hydrocarbons ref. to Gasoline	2.7	4.9	540	990

Container Type: 1 Liter Summa Canister

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	101	50-150
Fluorobenzene (FID)	90	50-150

# AIR TOXICS LTD.

SAMPLE NAME : B2-SG

ID#: 9909170-03A

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	<b>d091713b</b>	<b>Date of Collection:</b>	<b>9/9/99</b>
<b>Dil. Factor:</b>	<b>608</b>	<b>Date of Analysis:</b>	<b>9/17/99</b>

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.61	2.0	Not Detected	Not Detected
Toluene	0.61	2.3	Not Detected	Not Detected
Ethyl Benzene	0.61	2.7	Not Detected	Not Detected
Total Xylenes	0.61	2.7	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.61	2.2	Not Detected	Not Detected
TPH (C5+ Hydrocarbons) ref. to Gasoline	15	62	94	390
C2-C4 Hydrocarbons ref. to Gasoline	15	27	5600	10000

Container Type: 1 Liter Summa Canister

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	92	50-150
Fluorobenzene (FID)	84	50-150

# AIR TOXICS LTD.

SAMPLE NAME : B3-SG

ID#: 9909170-04A

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	<b>d091805</b>	<b>Date of Collection:</b>	<b>9/9/99</b>
<b>Dil. Factor:</b>	<b>473</b>	<b>Date of Analysis:</b>	<b>9/18/99</b>

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.47	1.5	3.7	12
Toluene	0.47	1.8	Not Detected	Not Detected
Ethyl Benzene	0.47	2.1	Not Detected	Not Detected
Total Xylenes	0.47	2.1	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.47	1.7	0.74	2.7
TPH (C5+ Hydrocarbons) ref. to Gasoline	12	50	130	540
C2-C4 Hydrocarbons ref. to Gasoline	12	22	4000	7300

Container Type: 1 Liter Summa Canister

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	101	50-150
Fluorobenzene (FID)	90	50-150

# AIR TOXICS LTD.

SAMPLE NAME : B4-SG

ID#: 9909170-05A

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	<b>d091806</b>	<b>Date of Collection:</b>	<b>9/9/99</b>
<b>Dil. Factor:</b>	<b>733</b>	<b>Date of Analysis:</b>	<b>9/18/99</b>

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.73	2.4	Not Detected	Not Detected
Toluene	0.73	2.8	Not Detected	Not Detected
Ethyl Benzene	0.73	3.2	Not Detected	Not Detected
Total Xylenes	0.73	3.2	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.73	2.7	0.84 M	3.1 M
TPH (C5+ Hydrocarbons) ref. to Gasoline	18	75	90	370
C2-C4 Hydrocarbons ref. to Gasoline	18	33	5200	9500

M = Reported value may be biased due to apparent matrix interferences.

Container Type: 1 Liter Summa Canister

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	100	50-150
Fluorobenzene (FID)	90	50-150

# AIR TOXICS LTD.

SAMPLE NAME : B5-SG

ID#: 9909170-06A

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	<b>d091808</b>	<b>Date of Collection:</b>	<b>9/9/99</b>
<b>Dil. Factor:</b>	<b>162</b>	<b>Date of Analysis:</b>	<b>9/18/99</b>

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.16	0.53	11 M	36 M
Toluene	0.16	0.62	0.56	2.1
Ethyl Benzene	0.16	0.71	0.83	3.7
Total Xylenes	0.16	0.71	1.8	8.0
Methyl tert-Butyl Ether	0.16	0.59	5.2	19
TPH (C5+ Hydrocarbons) ref. to Gasoline	4.0	17	540	2200
C2-C4 Hydrocarbons ref. to Gasoline	4.0	7.3	48	88

M = Reported value may be biased due to apparent matrix interferences.

Container Type: 1 Liter Summa Canister

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	110	50-150
Fluorobenzene (FID)	96	50-150

# AIR TOXICS LTD.

SAMPLE NAME : B6-SG

ID#: 9909170-07A

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	<b>d091809</b>	<b>Date of Collection:</b>	<b>9/9/99</b>
<b>Dil. Factor:</b>	<b>209</b>	<b>Date of Analysis:</b>	<b>9/18/99</b>

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.21	0.68	10 M	32 M
Toluene	0.21	0.80	1.1	4.3
Ethyl Benzene	0.21	0.92	2.3	10
Total Xylenes	0.21	0.92	6.7	29
Methyl tert-Butyl Ether	0.21	0.77	2.6	9.7
TPH (C5+ Hydrocarbons) ref. to Gasoline	5.2	22	560	2300
C2-C4 Hydrocarbons ref. to Gasoline	5.2	9.5	8.2	15

M = Reported value may be biased due to apparent matrix interferences.

Container Type: 1 Liter Summa Canister

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	108	50-150
Fluorobenzene (FID)	95	50-150

# AIR TOXICS LTD.

SAMPLE NAME : B8-SG

ID#: 9909170-08A

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	<b>d092016</b>	<b>Date of Collection:</b>	<b>9/9/99</b>
<b>Dil. Factor:</b>	<b>20.9</b>	<b>Date of Analysis:</b>	<b>9/20/99</b>

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.021	0.068	Not Detected	Not Detected
Toluene	0.021	0.080	Not Detected	Not Detected
Ethyl Benzene	0.021	0.092	Not Detected	Not Detected
Total Xylenes	0.021	0.092	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.021	0.077	Not Detected	Not Detected
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.52	2.2	150	620
C2-C4 Hydrocarbons ref. to Gasoline	0.52	0.95	Not Detected	Not Detected

Container Type: 1 Liter Summa Canister

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	93	50-150
Fluorobenzene (FID)	82	50-150



**AIR TOXICS LTD.**  
**SAMPLE NAME : B8-DUPLICATE-SG**

ID#: 9909170-09A

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	d092017	<b>Date of Collection:</b>	9/9/99
<b>Dil. Factor:</b>	42.6	<b>Date of Analysis:</b>	9/20/99

Compound	Det. Limit (ppmv)	Det. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
Benzene	0.043	0.14	Not Detected	Not Detected
Toluene	0.043	0.16	Not Detected	Not Detected
Ethyl Benzene	0.043	0.19	Not Detected	Not Detected
Total Xylenes	0.043	0.19	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.043	0.16	Not Detected	Not Detected
TPH (C5+ Hydrocarbons) ref. to Gasoline	1.1	4.6	94	390
C2-C4 Hydrocarbons ref. to Gasoline	1.1	2.0	Not Detected	Not Detected

**Container Type: 1 Liter Summa Canister**

Surrogates	% Recovery	Method Limits
Fluorobenzene (PID)	91	50-150
Fluorobenzene (FID)	78	50-150

# AIR TOXICS LTD.

SAMPLE NAME : B10-SG

ID#: 9909170-11A

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	<b>d092018</b>	<b>Date of Collection:</b>	<b>9/9/99</b>
<b>Dil. Factor:</b>	<b>43.2</b>	<b>Date of Analysis:</b>	<b>9/20/99</b>

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.043	0.14	1.6 M	5.2 M
Toluene	0.043	0.17	Not Detected	Not Detected
Ethyl Benzene	0.043	0.19	Not Detected	Not Detected
Total Xylenes	0.043	0.19	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.043	0.16	0.068	0.25
TPH (C5+ Hydrocarbons) ref. to Gasoline	1.1	4.6	200	830
C2-C4 Hydrocarbons ref. to Gasoline	1.1	2.0	Not Detected	Not Detected

M = Reported value may be biased due to apparent matrix interferences.

Container Type: 1 Liter Summa Canister

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	94	50-150
Fluorobenzene (FID)	82	50-150

# AIR TOXICS LTD.

SAMPLE NAME : B11-SG

ID#: 9909170-12A

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	<b>d092019</b>	<b>Date of Collection:</b>	<b>9/9/99</b>
<b>Dil. Factor:</b>	<b>20.9</b>	<b>Date of Analysis:</b>	<b>9/20/99</b>

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.021	0.068	0.41 M	1.3 M
Toluene	0.021	0.080	Not Detected	Not Detected
Ethyl Benzene	0.021	0.092	Not Detected	Not Detected
Total Xylenes	0.021	0.092	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.021	0.077	0.045	0.16
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.52	2.2	140	580
C2-C4 Hydrocarbons ref. to Gasoline	0.52	0.95	Not Detected	Not Detected

M = Reported value may be biased due to apparent matrix interferences.

Container Type: 1 Liter Summa Canister

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	95	50-150
Fluorobenzene (FID)	83	50-150

# AIR TOXICS LTD.

SAMPLE NAME : B12-SG

ID#: 9909170-13A

EPA Method TO-3 GC/PID/FID

File Name:	d092104	Date of Collection:	9/9/99
Dil. Factor:	17.0	Date of Analysis:	9/21/99

Compound	Det. Limit (ppmv)	Det. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
Benzene	0.017	0.055	0.035 M	0.11 M
Toluene	0.017	0.065	Not Detected	Not Detected
Ethyl Benzene	0.017	0.075	Not Detected	Not Detected
Total Xylenes	0.017	0.075	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.017	0.062	0.018	0.065
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.42	1.7	66	270
C2-C4 Hydrocarbons ref. to Gasoline	0.42	0.77	Not Detected	Not Detected

M = Reported value may be biased due to apparent matrix interferences.

Container Type: 1 Liter Summa Canister

Surrogates	% Recovery	Method Limits
Fluorobenzene (PID)	100	50-150
Fluorobenzene (FID)	87	50-150

# AIR TOXICS LTD.

SAMPLE NAME : Method Spike

ID#: 9909170-14A

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	<b>d091701</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 9/17/99

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>% Recovery</b>
Benzene	0.0010	0.0032	107
Toluene	0.0010	0.0038	109
Ethyl Benzene	0.0010	0.0044	107
Total Xylenes	0.0010	0.0044	105
Methyl tert-Butyl Ether	0.0010	0.0037	101
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.025	0.10	90
C2-C4 Hydrocarbons ref. to Gasoline	0.025	0.046	90

Container Type: NA

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	104	50-150
Fluorobenzene (FID)	98	50-150

# AIR TOXICS LTD.

SAMPLE NAME : Lab Blank

ID#: 9909170-15A

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	<b>d091704</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 9/17/99

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.0010	0.0032	Not Detected	Not Detected
Toluene	0.0010	0.0038	Not Detected	Not Detected
Ethyl Benzene	0.0010	0.0044	Not Detected	Not Detected
Total Xylenes	0.0010	0.0044	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.0010	0.0037	Not Detected	Not Detected
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.025	0.10	Not Detected	Not Detected
C2-C4 Hydrocarbons ref. to Gasoline	0.025	0.046	Not Detected	Not Detected

Container Type: NA

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	90	50-150
Fluorobenzene (FID)	78	50-150

# AIR TOXICS LTD.

SAMPLE NAME : Lab Blank

ID#: 9909170-15B

EPA Method TO-3 GC/PID/FID

<b>File Name:</b>	<b>d091803</b>	<b>Date of Collection:</b>	<b>NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b>	<b>9/18/99</b>

<b>Compound</b>	<b>Det. Limit (ppmv)</b>	<b>Det. Limit (uG/L)</b>	<b>Amount (ppmv)</b>	<b>Amount (uG/L)</b>
Benzene	0.0010	0.0032	Not Detected	Not Detected
Toluene	0.0010	0.0038	Not Detected	Not Detected
Ethyl Benzene	0.0010	0.0044	Not Detected	Not Detected
Total Xylenes	0.0010	0.0044	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.0010	0.0037	Not Detected	Not Detected
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.025	0.10	Not Detected	Not Detected
C2-C4 Hydrocarbons ref. to Gasoline	0.025	0.046	Not Detected	Not Detected

Container Type: NA

<b>Surrogates</b>	<b>% Recovery</b>	<b>Method Limits</b>
Fluorobenzene (PID)	100	50-150
Fluorobenzene (FID)	88	50-150

# AIR TOXICS LTD.

SAMPLE NAME : Lab Blank

ID#: 9909170-15C

EPA Method TO-3 GC/PID/FID

File Name:	d092005	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/20/99

Compound	Det. Limit (ppmv)	Det. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
Benzene	0.0010	0.0032	Not Detected	Not Detected
Toluene	0.0010	0.0038	Not Detected	Not Detected
Ethyl Benzene	0.0010	0.0044	Not Detected	Not Detected
Total Xylenes	0.0010	0.0044	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.0010	0.0037	Not Detected	Not Detected
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.025	0.10	Not Detected	Not Detected
C2-C4 Hydrocarbons ref. to Gasoline	0.025	0.046	Not Detected	Not Detected

Container Type: NA

Surrogates	% Recovery	Method Limits
Fluorobenzene (PID)	91	50-150
Fluorobenzene (FID)	80	50-150



# AIR TOXICS LTD.

SAMPLE NAME : Lab Blank

ID#: 9909170-15D

EPA Method TO-3 GC/PID/FID

File Name:	d092103	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/21/99

Compound	Det. Limit (ppmv)	Det. Limit (uG/L)	Amount (ppmv)	Amount (uG/L)
Benzene	0.0010	0.0032	Not Detected	Not Detected
Toluene	0.0010	0.0038	Not Detected	Not Detected
Ethyl Benzene	0.0010	0.0044	Not Detected	Not Detected
Total Xylenes	0.0010	0.0044	Not Detected	Not Detected
Methyl tert-Butyl Ether	0.0010	0.0037	Not Detected	Not Detected
TPH (C5+ Hydrocarbons) ref. to Gasoline	0.025	0.10	Not Detected	Not Detected
C2-C4 Hydrocarbons ref. to Gasoline	0.025	0.046	Not Detected	Not Detected

Container Type: NA

Surrogates	% Recovery	Method Limits
Fluorobenzene (PID)	102	50-150
Fluorobenzene (FID)	88	50-150

# P & D ENVIRONMENTAL

A Division of Paul H. King, Inc.  
4020 Panama Court  
Oakland, CA 94611  
(510) 658-6916

## CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NUMBER: D047		PROJECT NAME: VIP Service - Castro Valley			NUMBER OF CONTAINERS	ANALYSIS(ES): TPH-G/STX/MTSE						PRESERVATIVE	REMARKS	
SAMPLED BY: (PRINTED AND SIGNATURE) GREG BROWN <i>[Signature]</i>														
SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION										
-01A	B1-SG	9/9/99	AIR	BORING B1 - SOIL GAS	1	X							NORMAL TUBES ACCURATE	1.5'
-02A	B1-Duplicate-SG			Duplicate of Boring B1 (B7) SOIL GAS		X							" " "	2.0'
-03A	B2-SG			BORING B2 - SOIL GAS		X							" " "	1.5'
-04A	B3-SG			" B3 - " "		X							" " "	1.5'
-05A	B4-SG			" B4 - " "		X							" " "	2.5'
-06A	B5-SG			" B5 - " "		X							" " "	0.0'
-07A	B6-SG			" B6 - " "		X							" " "	1.0'
-08A	B8-SG			" B8 - " "		X							" " "	1.0'
-09A	B8-Duplicate-SG			Duplicate of Boring B8 (B9) - SOIL GAS		X							" " "	1.5'
-10A	B8-Duplicate-SG-NV			" " " -5-2 GAS - NO VACUUM		X							" " "	0.0'
-11A	B10-SG			BORING B10 - SOIL GAS		X							" " "	2.0'
-12A	B11-SG			" B11 - " "		X							" " "	1.0'
-13A	B12-SG			" B12 - " "		X							" " "	1.5'
RELINQUISHED BY: (SIGNATURE) <i>[Signature]</i>		DATE 9/13/99	TIME	RECEIVED BY: (SIGNATURE)		TOTAL NO. OF SAMPLES (THIS SHIPMENT) 13		LABORATORY: Air Toxics, Ltd						
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		TOTAL NO. OF CONTAINERS (THIS SHIPMENT) 13		LABORATORY CONTACT:		LABORATORY PHONE NUMBER: (800) 985-5955				
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE) <i>[Signature]</i> - ATL 8:25		SAMPLE ANALYSIS REQUEST SHEET ATTACHED: ( ) YES (X) NO								
Custody Seal intact? Y N <u>None</u> Temp. <u>ambient</u>				REMARKS: SAMPLE B8-Duplicate-SG-NV DISPLAYED NO SIGNS OF <del>VACUUM</del> VACUUM WHEN USED FOR SAMPLING. SAMPLE B5-SG DISPLAYED 5 in Hg of VACUUM WHEN USED FOR SAMPLING. Please Call us & Advise us if sample got in to the containers.										

*[Handwritten]* 9/15/99

*[Handwritten depth notes on right margin]*  
1.5'  
2.0'  
1.5'  
1.5'  
2.5'  
0.0'  
1.0'  
1.0'  
1.5'  
0.0'  
2.0'  
1.0'  
1.5'