PGA E-5190.9.4.2.3

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May 14, 1999

Ms. Kris Kommalan
Remedial Project Manager
Arizona Dept. of Environmental Quality
3033 N. Central Avenue, 7th Floor
Phoenix, AZ 85012

Subject: Polygon 96, 92, 27A Final Closure
Soil Vapor Extraction Remedy
Phoenix-Goodyear Airport Site
Goodyear, Arizona

Dear Ms. Kommalan:

This transmittal is submitted on behalf of The Goodyear Tire & Rubber Company in accordance with the Consent Decree (Appendix B) as a formal request for final polygon closure.

The Soil Vapor Extraction remedy in Polygons 96, 92, and 27A was completed in 1998 in accordance with the requirements of the 1992 Consent Decree (Section VII, Subsections D-12 through D-14). Results of the final closure soil vapor sampling and VLEACH modeling reveal that these polygons comply with the Subunit A groundwater quality impact criteria of less than 5 ug/L.

As such, Goodyear respectfully requests that these polygons be closed to further remedial activities under the Consent Decree and that the system and wells be appropriately decommissioned.

If you have any questions regarding this document or any other site issues, do not hesitate to contact myself at (619) 458-9044 or Mr. Mark Whitmore at (330) 796-3863.

Sincerely,

Scott P. Zachary
SVE Project Manager

cc: M. Whitmore, The Goodyear Tire & Rubber Company
C. Cooper-U.S.EPA
Y. Navayogarajah, URS Consultants
M. Bolitho-Arizona Department of Water Resources
R. Bartholomew, Bartholomew Engineering
T. Struttmann, Sharp and Associates, Inc.

MAY 1999
Received
Federal Projects
Unit

Soil Vapor Extraction Final Remedy Consent Decree - Final Closure - Polygons 96/92/27A - Phoenix-Goodyear Airport (South) Superfund Site - Goodyear, Arizona

Prepared for

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Prepared by

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May 10, 1999
Project No. 319880001

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1.0 BACKGROUND

This report is being submitted on behalf of The Goodyear Tire & Rubber Company (Goodyear) for final closure of Polygons 96, 92, and 27A and completion of the Soil Vapor Extraction (SVE) Remedy at the Phoenix-Goodyear Airport South Superfund Site (PGA site) in Goodyear, Arizona. This closure report provides documentation for the completion of the PGA site soil remedy only. The groundwater remedy is currently still in progress. Figure 1-1 illustrates the site location and Figure 1-2 illustrates the location of the three polygons at the site.

1995 Design

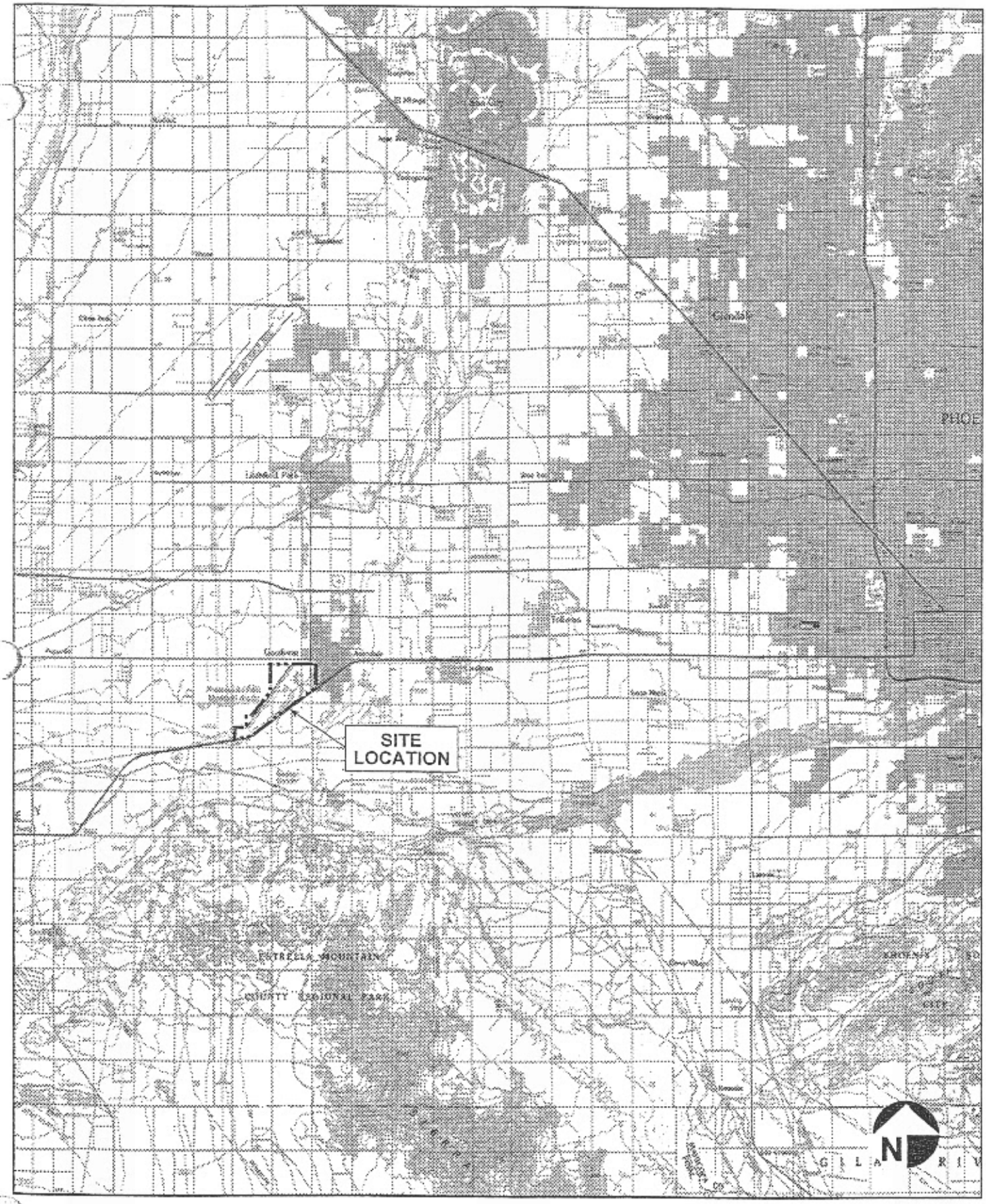
A chronology of remediation and closure efforts performed at Polygons 96, 9 is presented below.

- On June 1, 1995, the *Soil Vapor Extraction Final Remedy Consent De Extraction and Treatment System Design, Polygon 96/92/27A-Phoenix Airport South Superfund Site* was prepared by Metcalf & Eddy, Inc. (M[illegible]) and submitted to the U.S. Environmental Protection Agency (U.S. EPA) and the Arizona Department of Environmental Quality (ADEQ). This document detailed the placement of the SVE wells, the parameters that the system would be operated under, the location of the soil vapor monitoring wells, and the soil vapor concentrations that the polygons would be remediated to for compliance with Section VII.C.7 and Appendix B of the November 27, 1991 Consent Decree (U.S. EPA 1991) approved this report with comment on July 16, 1995.

Closure by Soil vapor is indirect measure not direct soil boring measurements, Vapor follows unconnected? path ways and is incomplete

- On July 21, 1995, a Work Plan addendum was prepared and submit on a voluntary basis to U.S. EPA and ADEQ for the application of ai Subunit A aquifer in Polygons 96 and 27A as well as Polygons 81 north. The Subunit A aquifer is the shallow aquifer at the PGA site a[illegible] occurs at a depth of approximately 60 to 120 feet below ground surface (bgs). Air sparging was added to the remediation system in this area in an effort to accelerate the cleanup of the Subunit A groundwater in this area. Polygons 81 and 100 did not require vadose zone remediation in accordance with the Consent Decree (U.S. EPA 1991).

- The SVE system was moved from Polygons 79/84 during the fall and winter of 1995 and reinstalled south of Polygon 92. Construction was completed in February, 1996 (see Figure 1-3). The SVE system included seven SVE wells and nine vapor



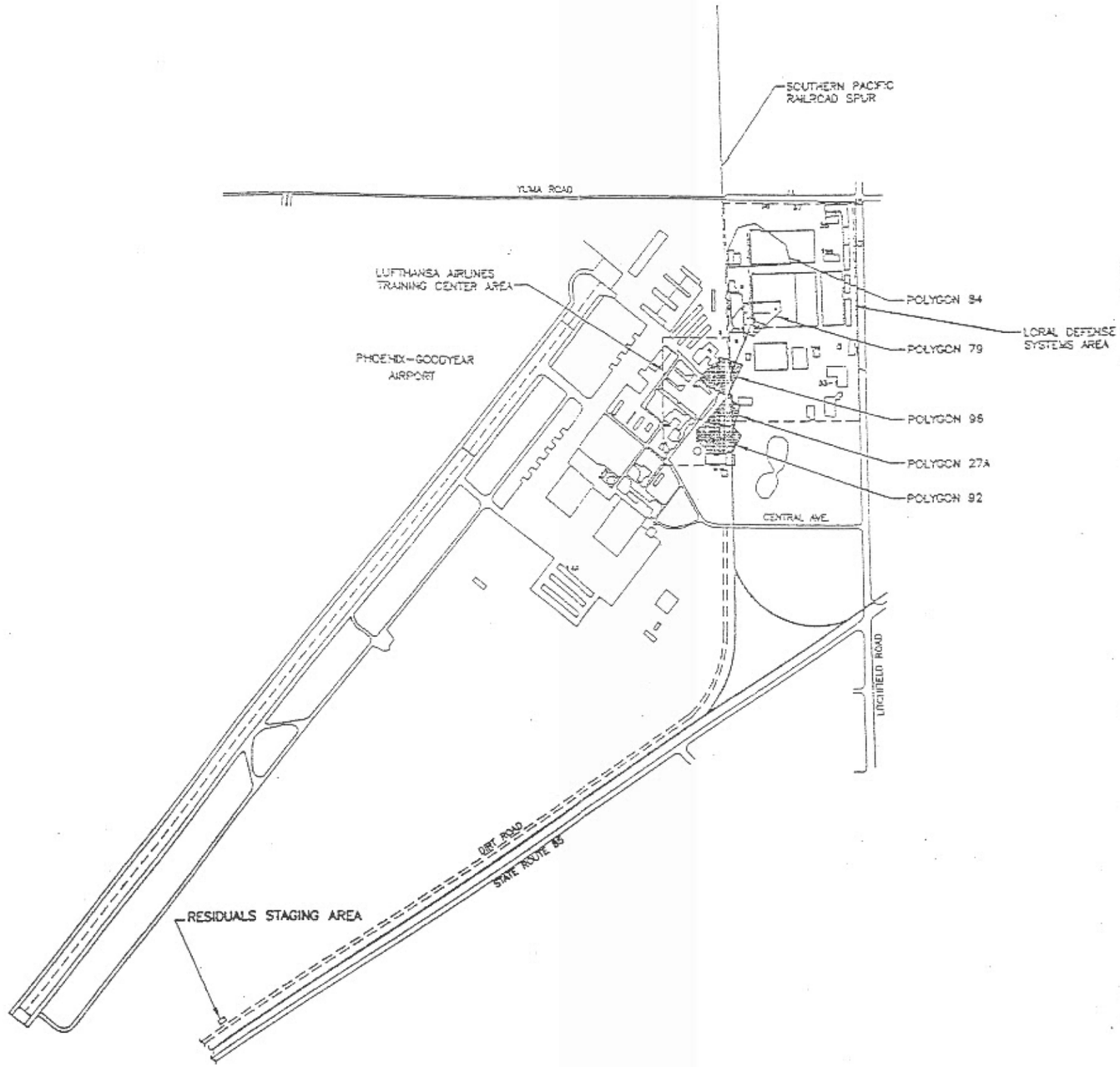
OGDEN

Site Location Map

FIGURE

1-1

GRAPHICS/HAZMAT/Phoenix-Goodyear/Phoenix Site Map.Fh7

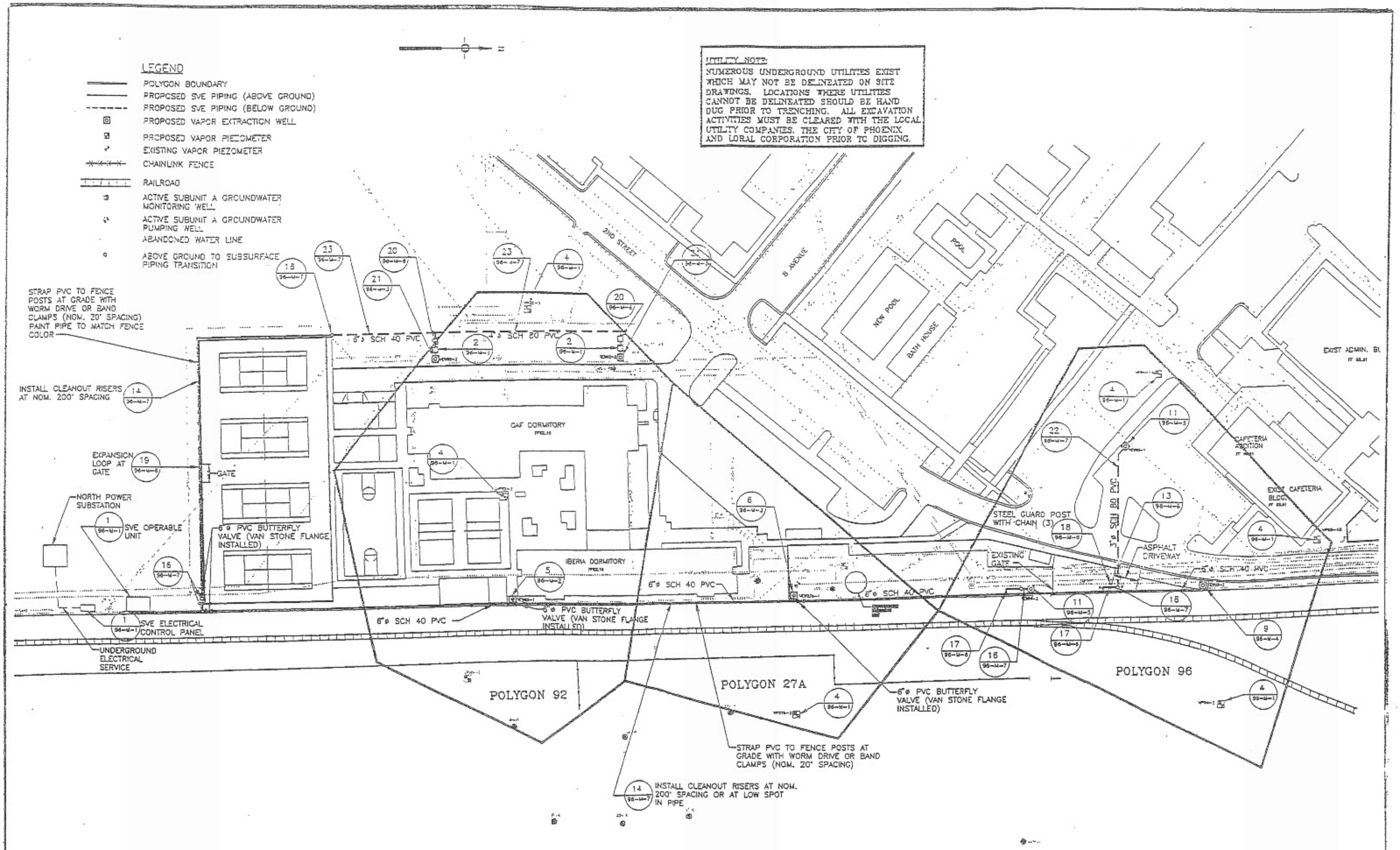


POLYGON TO BE CLOSED

POLYGON WITH APPROVED CLOSURE

C:\GOODYEAR\96\96_P_1 09/21/95

OGDEN ENVIRONMENTAL	DESIGNED KAW DRAWN GPS	SCALE: 1"=600'	SAN DIEGO, CA	1995 DATE	PGA – Goodyear	SOIL VAPOR EXTRACTION SYSTEM FINAL DESIGN–POLYGON 96/92/27A POLYGON LOCATION MAP	DRAWING NO: 1-2 SHEET:



NUMBER	DATE	MADE BY	CHECKED	REVISION DESCRIPTION

OGDEN ENVIRONMENTAL

DESIGNED: K. WALTER
DRAWN: CPB
CHECKED:
SCALE: 1" = 40'
SAN DIEGO, CA — 1995 DATE
CALIF. R.E. No.

PGA – Goodyear

APPROVED — DATE

SOIL VAPOR EXTRACTION SYSTEM
FINAL DESIGN–POLYGON 96/92/27A

POLYGON SITE MAP

DRAWING NO: 1-3
SHEET:

monitoring wells. The air sparing system added four air sparging wells and three additional SVE wells.

- An operations and maintenance (O&M) manual was prepared for the new Polygon 96, 92, and 27A installation and was submitted to U.S. EPA and ADEQ on December 22, 1999. In addition to the polygon-specific operational parameters, this manual included the soil vapor remediation and closure levels for each of the nine polygon subareas. A polygon subarea was defined as the area represented by a single multi-depth soil vapor monitoring well. Polygon 96 has four subareas, Polygon 92 has three subareas, and Polygon 27A has two subareas. This O&M manual was approved by U.S. EPA and ADEQ on January 26, 1996.

- SVE system operations commenced during the month of March 1996. Baseline soil vapor samples were collected and analyzed in the field from March 18 through 21. The SVE wells in Polygon 92, the highest concentration area, were started on March 21, 1996. Polygon 96 and 27A wells were brought on line during the months of April and May 1996.

- The air sparging system was brought on line May 6, 1996, in Polygons 96 and 27A. Air sparging operations in Polygons 81 and 100 were brought on line on December 4, 1996.

- On April 1, 1998, the SVE and air sparging system was shut down due to achievement of the soil remediation goals as defined in the Consent Decree and O&M Manual (M&E 1995b) and diminishing economic feasibility of the Subunit A air sparging effort. During the operational period from March 1996 to April 1998, a total of 1,768 pounds of chlorinated solvents as trichloroethene (TCE) were removed from the area. Figure 1-4 illustrates the cumulative mass of volatile organic compunds (VOCs) removed by the SVE and air sparging system. This mass exceeded the original estimate by greater than an order of magnitude.

- Soil vapor rebound monitoring was performed from April 1998 through July 1998. Figure 1-5 illustrates the pretreatment baseline and posttreatment rebound concentrations for the highest concentration subareas in each polygon.

Figure 1-4 SVE Polygons 92/96/27A Mass Removal

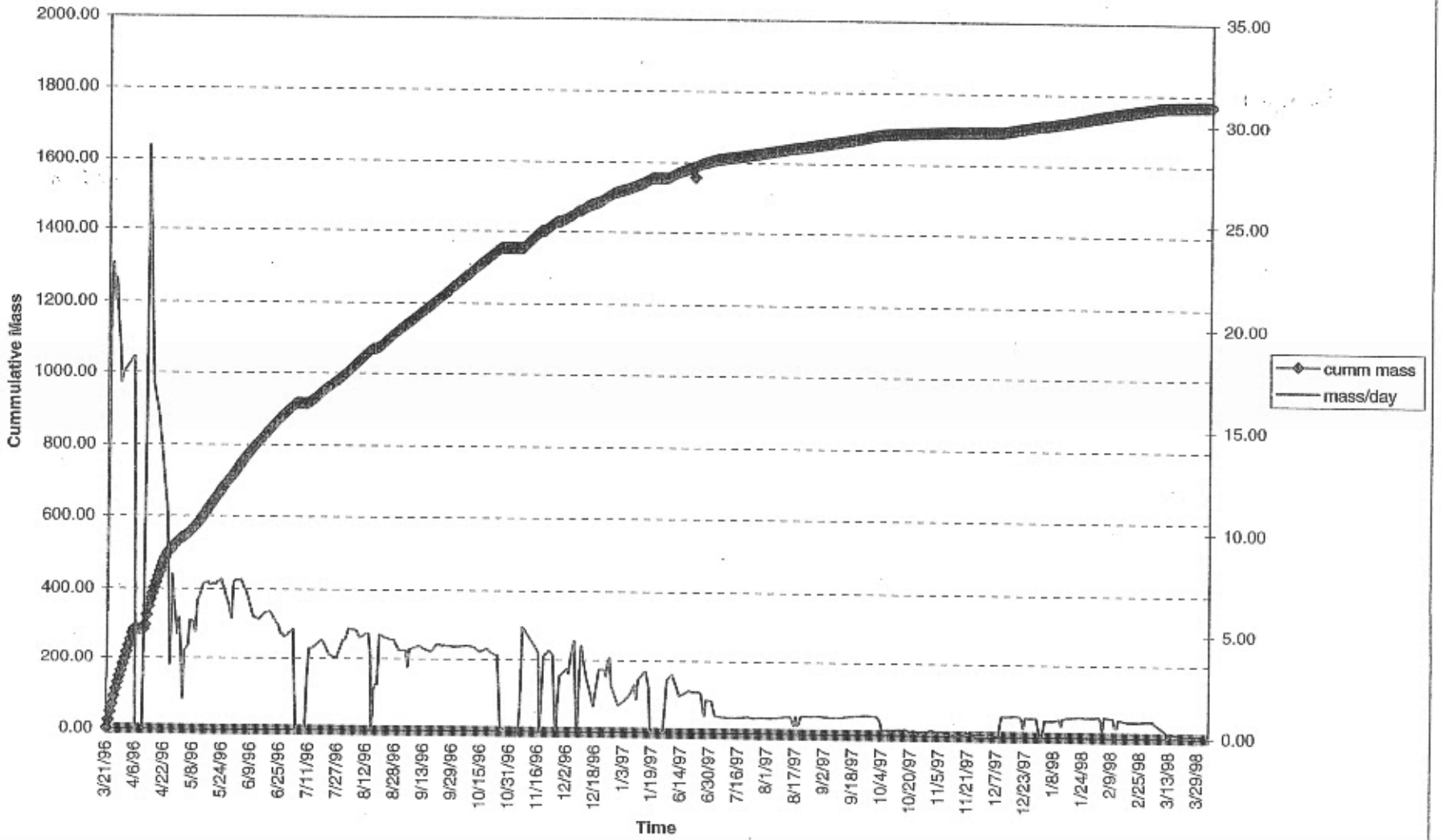
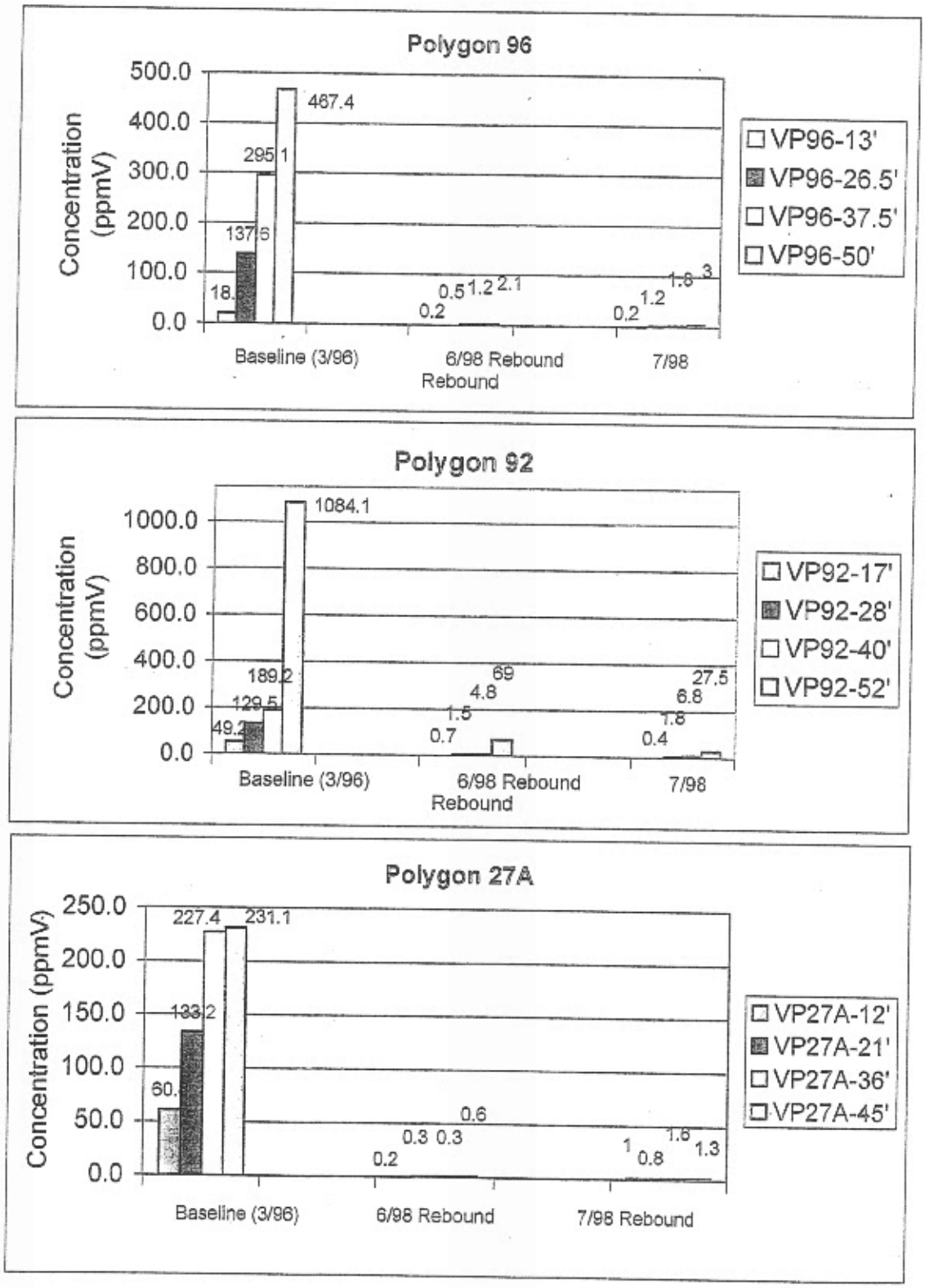


Figure 1-5

Polygon 96/92/27A
Baseline and Soil Vapor Rebound Concentrations



- During the week of September 28, 1998, the final closure sampling of the nine subarea soil vapor monitoring wells in Polygons 96, 92, and 27A was performed. U.S. EPA and ADEQ representatives were present during this sampling. U.S. EPA collected split samples at select well locations for quality assurance/quality control (QA/QC) purposes.

The following sections of this report discuss the polygon closure procedures, polygon sampling procedures, polygon closure modeling, and VLEACH/Mixcell modeling results for Polygons 96, 92, and 27A.

2.0 POLYGON CLOSURE PROCEDURES

The Design Memorandum (M&E 1992) and its associated appendices specify the protocols for initiating the final closure sampling for each of the PGA polygons. In summary, the objective of the SVE system is to operate it until chlorinated VOC vapor levels in soil gas are reduced to the extent where they no longer pose a risk of impacting the underlying groundwater above 5 micrograms per liter (µg/L). These VOC vapor levels are calculated by collecting soil gas samples from the soil vapor monitoring wells, converting the soil vapor concentrations (µg/L) to total soil concentrations (micrograms per kilogram [µg/Kg]), modeling the leachate generation potential using the U.S. EPA model VLEACH, and modeling the resultant Subunit A groundwater impact from the leachate using the model Mixcell.

As stipulated by Appendix B of the Consent Decree, closure will be granted for those areas that achieve a groundwater impact of less than 5 µg/L total chlorinated VOCs. The four primary VOCs present in the soil at the PGA site include TCE, tetrachloroethylene (PCE), 1,1,1-trichloroethane (TCA), and 1,1-dichloroethylene (DCE).

The required soil remediation levels, or allowable residual mass (ARM) concentrations for each polygon are developed by inputting the polygon-specific physical data into the VLEACH and Mixcell models and backward-solving for a resultant VOC groundwater concentration less than 5 µg/L. A safety factor of four was then applied to this remediation level in the field operations to account for transient soil vapor readings and postremediation soil vapor rebound and is based on soil vapor rebound experience in Polygons 79 and 84, which were completed prior to initiating treatment in Polygons 96, 92, and 27A. This safety-factor applied concentration is referred to as the lower-ARM.

The target ARM concentrations for Polygons 96, 92, and 27A are listed in Table 2-1. The calculation of these values is included in the O&M Manual (M&E 1995b), reproduced as Appendix A.

Once the SVE system reduced the soil vapor concentrations to below the lower-ARM soil vapor concentrations levels, the system was turned off and soil vapor concentrations were monitored for rebound. If rebound exceeds the ARM concentration, the system is then restarted. If the concentrations remain below the ARM for a period of 125 days, then final closure sampling is initiated.

3.0 POLYGON SAMPLING PROCEDURES

Ogden Environmental and Energy Services Co., Inc. (Ogden) initiated the final closure sampling for Polygons 96, 92, and 27A on September 29, 1998. Initiation of this effort was based on a rebound period in excess of 150 days. The longer rebound period was used to minimize the potential of having to perform costly resampling of the polygon wells in the event that full rebound did not occur within the 125-day rebound period (see Figure 1-5).

Well sampling was carried out in accordance with Polygon ~~92~~ 96/92/27A O&M Manual (M&E 1995b) and in accordance with Quality Assurance Project Plan (QAPP) and project-specific Sampling and Analysis Plan (SAP) contained in the Design Memorandum. (M&E 1992).

Polygons 96, 92, and 27A have a total of nine subareas, each containing four soil vapor monitoring wells. Construction logs for each of these monitoring wells are included in Appendix B. Each of the 36 depth-specific soil vapor wells were sampled and analyzed for VOCs using SUMMA canisters and U.S. EPA Method TO-14. A summary of the protocol used for sampling the soil monitoring wells is provided below.

1. The well vault cover was opened and vapor fittings were cleaned with deionized water.

2. A pressure reading was taken from each well using a water manometer.

3. The volume of the well casing was calculated and multiplied by 3 for the purge volume.

Table 2-1

ARM AND LOWER-ARM ESTIMATION CALCULATIONS
POLYGONS 96, 92, 27A

Polygon	Soil Vapor Monitoring Well and Depth	Baseline Total Soil Concentration (µg/kg)	Calculated Baseline Subunit A Groundwater Impact (µg/L)	Calculated ARM Total Soil Concentration (µg/kg)	Calculated Lower-ARM Subunit A Groundwater Impact (µg/L)
96	VP-96-13	96	26.9	96	4.8
	VP-96-26.5	659		198	
	VP-96-37.5	719		72	
	VP-96-50	473		47	
92	VP-92-17	85	7.6	85	4.9
	VP-92-28	415	7.6	415	
	VP-92-40	531		345	
	VP-92-50	1201		780	
27A	VP-27A-12	533	5.9	533	5.0
	VP-27A-21	898		898	
	VP-27A-36	1318		1120	
	VP-27A-45	1378		1171	

Source: M&E 1995b.

ppmV = parts per million by volume
µg/L = micrograms per liter
µg/Kg = micrograms per kilogram

4. The well purge volume was programmed into the mass flow controlled purge pump.

5. The well purge was performed at a rate of 200 milliliters per minute (ml/min). The exhaust of the purge pump was monitored for VOCs using a photoionization detector (PID) field-calibrated to a 460 parts per million by volume (ppmV) TCE standard.

6. The purge was run until a peak in PID VOC concentration was observed or the purge was completed.

7. A laboratory-cleaned 6-liter SUMMA canister with a mass flow controller set and field-verified to 200 ml/min was connected to the purged well and sampling initiated.

8. Upon sample completion, the SUMMA was labeled, the chain of custody completed, and the field log completed.

In addition to sampling each of the wells, 10 percent of the total number of samples were duplicate-sampled in accordance with the QAPP. Lastly, field equipment blanks were collected to validate the equipment decontamination procedures. U.S. EPA and ADEQ representatives were present to supervise the collection of duplicate samples for closure confirmation. U.S. EPA also collected split samples for QA/QC verification. Separate laboratories were used for Goodyear and U.S. EPA duplicate sample analyses. The Goodyear samples were sent to Air Toxics, Ltd. located in Folsom, California, and were analyzed for VOCs via U.S. EPA Method TO-14 in accordance with the project-specific QAPP. The results were transmitted under a full U.S. EPA contract laboratory protocol (CLP)-style package. There is currently no official CLP package for air sample analysis. Air Toxics, however, provides analysis of the samples and validation of the data in compliance with the general requirements of the U.S. EPA CLP program.

4.0 POLYGON CLOSURE MODELING

To evaluate if each of the Polygon subareas meet the Consent Decree (EPA 1991) remediation objective stated above, VLEACH and Mixcell modeling is performed in accordance with the Design Memorandum (M&E 1992) and the Polygon 96/92/27A O&M Manual (M&E 1995b). The criterion for subarea and polygon closure is chlorinated VOC

concentrations (TCE, PCE, TCA, and DCE) in the vadose zone soils that do not result in Subunit A groundwater impact above 5 µg/L. Groundwater impact is calculated through the use of the U.S. EPA vertical leaching program VLEACH and a postprocessing groundwater model called Mixcell. The details of VLEACH and Mixcell modeling are described in the Design Memorandum (M&E 1992) and the Polygon 96/92/27A O&M Manual (M&E 1995b). Following is a summary of the specific modeling tasks performed for the closure of Polygons 96, 92, and 27A.

4.1 Laboratory Analytical Data

Ogden received the analytical data deliverable from Air Toxics, Ltd. Upon receipt, the data was reviewed against the chain of custody forms and field logs to verify that the samples were handled properly and analyzed in accordance with the project QAPP (M&E 1992). A copy of the laboratory analytical results is included in Appendix C. The full CLP data validation package is retained in Ogden files and can be provided to U.S. EPA and ADEQ upon request. Once verified, the four VOC target compound concentrations for each analytical report were listed in a table for each polygon subarea identified by the well (e.g., VP-92). In the event that a duplicate sample was collected, both results were tabulated and the highest concentration was selected for modeling use. These concentrations were then converted to total soil concentrations (µg/Kg) in accordance with the Design Memorandum (M&E 1992) for input into the VLEACH model. Tables 4-1 through 4-9 provide the tabulated laboratory data as well as the converted total soil concentrations for the four target chlorinated VOC compounds.

4.2 VLEACH/Mixcell Modeling Procedures

The VLEACH model requires total soil concentration data for each 6-foot interval from ground surface to the top of the water table, located at a depth of 60 feet bgs. Since soil vapor samples are collected at four depths in the vadose zone from dedicated soil vapor monitoring wells, additional concentration data points between the collected samples are calculated using interpolation. The interpolated concentrations for each subarea modeling run are contained in Appendix C.

Other polygon-specific VLEACH input parameters such as surface area and water infiltration rate were provided by U.S. EPA. These data are contained in Appendix D. The other VLEACH input parameters such as porosity, water content, organic carbon content,

Table 4-1
Polygon 96- Sub-area 96
Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-96, October 1998 Rebound Samples

Sample #	Total Vapor Clx (ppbV as TCE)	Total Vapor Clx Conc (ug/L)*	Total Soil Clx Conc (ug/Kg)**
VP-96-13	214	1.17	0.70
VP-96-26.5	776	4.21	2.52
VP-96-37.5	1703	9.23	5.53
VP-96-50D	1815	9.83	5.89
VP-96-50***	1587	8.60	5.15
	4509	24.44	14.64

*Divided by (24.04/131.39) (volume to mass conversion as TCE)
**Multiply ug/L concentration by Kgt value of 0.599 L/Kg to obtain Total Soil Concentration (mg/kg)
***Sample not used for modeling- if duplicate samples collected, highest result used for modeling
D/DUP Duplicate soil gas sample
Clx= Total of four target chlorinated compounds (TCE, DCE, TCA, PCE)

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-96, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-96-13	2.3	0.01	0.01
VP-96-26.5	33	0.13	0.08
VP-96-37.5	74	0.30	0.18
VP-96-50D	130	0.52	0.31
VP-96-50***	110	0.44	0.27
	239	0.96	0.58

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-96, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-96-13	0.0	0.00	0.00
VP-96-26.5	3.4	0.02	0.01
VP-96-37.5	6.4	0.04	0.02
VP-96-50D	13	0.07	0.04
VP-96-50***	15	0.08	0.05
	22.8	0.13	0.08

Table 4-1 (cont'd)
Polygon 96- Sub-area 96
Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-96, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-96-13	210	1.15	0.69
VP-96-26.5	730	3.99	2.39
VP-96-37.5	1600	8.74	5.23
VP-96-50D	1600	8.74	5.23
VP-96-50***	1400	7.65	4.58
	4140	22.61	13.55

PCE Soil Concentration Calculations from Soil Gas Data
VP-96, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-96-13	1.8	0.01	0.01
VP-96-26.5	9.9	0.07	0.04
VP-96-37.5	23	0.16	0.09
VP-96-50D	72	0.50	0.30
VP-96-50***	62	0.43	0.26
	107	0.74	0.44

Table 4-2
Polygon 96- Sub-area 96-1A
Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-96-1A, October 1998 Rebound Samples

Sample #	Total Vapor Clx (ppbV as TCE)	Total Vapor Clx Conc (ug/L)*	Total Soil Clx Conc (ug/Kg)**
VP-96-1A-14	0.0	0.0	0.00
VP-96-1A-30	44.6	0.2	0.15
VP-96-1A-40	333	1.8	1.10
VP-96-1A-50	1214	6.8	4.04
VP-96-1A-14DUP***	0.0	0.0	0.00
VP-96-1A-50D***	1115	6.2	3.72
	1591	8.83	5.29

*Divided by (24.04/131.39) (volume to mass conversion as TCE)
**Multiply ug/L concentration by Kgt value of 0.599 L/Kg to obtain Total Soil Concentration (mg/kg)
***Sample not used for modeling- if duplicate samples collected, highest result used for modeling
D/DUP Duplicate soil gas sample
Clx= Total of four target chlorinated compounds (TCE, DCE, TCA, PCE)

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-96-1A, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-96-1A-14	0.0	0.00	0.00
VP-96-1A-30	0.0	0.00	0.00
VP-96-1A-40	5.6	0.02	0.01
VP-96-1A-50	15	0.06	0.04
VP-96-1A-14DUP***	0.0	0.00	0.00
VP-96-1A-50D***	15	0.06	0.04
	20.6	0.08	0.05

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-96-1A, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-96-1A-14	0.0	0.00	0.00
VP-96-1A-30	0.0	0.00	0.00
VP-96-1A-40	0.0	0.00	0.00
VP-96-1A-50	0.0	0.00	0.00
VP-96-1A-14DUP***	0.0	0.00	0.00
VP-96-1A-50D***	0.0	0.00	0.00
	0.0	0.00	0.00

Table 4-2 (cont'd)
Polygon 96- Sub-area 96-1A
Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-96-1A, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-96-1A-14	0.0	0.00	0.00
VP-96-1A-30	42	0.23	0.14
VP-96-1A-40	310	1.69	1.01
VP-96-1A-50	1100	6.01	3.60
VP-96-1A-14DUP***	0.0	0.00	0.00
VP-96-1A-50D***	1000	5.46	3.27
	1452	7.93	4.75

PCE Soil Concentration Calculations from Soil Gas Data
VP-96-1A, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-96-1A-14	0.0	0.00	0.00
VP-96-1A-30	2.6	0.02	0.01
VP-96-1A-40	17	0.12	0.07
VP-96-1A-50	99	0.68	0.41
VP-96-1A-14DUP***	0.0	0.00	0.00
VP-96-1A-50D***	100	0.69	0.41
	118.6	0.82	0.49

Table 4-3
Polygon 96- Sub-area 96-1B
Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	Total Vapor Clx (ppbV as TCE)	Total Vapor Clx Conc (ug/L)*	Total Soil Clx Conc (ug/Kg)**
VP-96-1B-14	23.7	0.14	0.08
VP-96-1B-30	441	2.54	1.52
VP-96-1B-40	880	5.05	3.02
VP-96-1B-50	1020	5.76	3.45
	2365	13.48	8.08

*Divided by (24.04/131.39) (volume to mass conversion as TCE)
**Multiply ug/L concentration by Kgt value of 0.599 L/Kg to obtain Total Soil Concentration (mg/kg)
Clx= Total of four target chlorinated compounds (TCE, DCE, TCA, PCE)

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-96-1B-14	0.0	0.00	0.00
VP-96-1B-30	0.0	0.00	0.00
VP-96-1B-40	0.0	0.00	0.00
VP-96-1B-50	0.0	0.00	0.00
	0.00	0.00	0.00

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-96-1B-14	0.0	0.00	0.00
VP-96-1B-30	0.0	0.00	0.00
VP-96-1B-40	0.0	0.00	0.00
VP-96-1B-50	0.0	0.00	0.00
	0.0	0.00	0.00

Table 4-3 (cont'd)
Polygon 96- Sub-area 96-1B
Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-96-1B-14	19	0.10	0.06
VP-96-1B-30	350	1.91	1.15
VP-96-1B-40	710	3.88	2.32
VP-96-1B-50	890	4.86	2.91
	1969	10.75	6.44

PCE Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-96-1B-14	4.7	0.03	0.02
VP-96-1B-30	91	0.63	0.38
VP-96-1B-40	170	1.17	0.70
VP-96-1B-50	130	0.90	0.54
	396	2.73	1.63

Table 4-4
Polygon 96- Sub-area 96-2
Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-96-2, October 1998 Rebound Evaluation

Sample #	Total Vapor Clx (ppbV as TCE)	Total Vapor Clx Conc (ug/L)*	Total Soil Clx Conc (ug/Kg)**
VP-96-2-14	14.4	0.10	0.06
VP-96-2-30	8.6	0.05	0.03
VP-96-2-40	157	0.86	0.52
VP-96-2-50	192	1.07	0.64
	372	2.08	1.25

*Divided by (24.04/131.39) (volume to mass conversion as TCE)
**Multiply ug/L concentration by Kgt value of 0.599 L/Kg to obtain Total Soil Concentration (mg/kg)
Clx= Total of four target chlorinated compounds (TCE, DCE, TCA, PCE)

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-96-2, October 1998 Rebound Evaluation

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-96-2-14	0.0	0.00	0.00
VP-96-2-30	0.0	0.00	0.00
VP-96-2-40	5.3	0.02	0.01
VP-96-2-50	5.1	0.02	0.01
	10.4	0.04	0.03

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-96-2, October 1998 Rebound Evaluation

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-96-2-14	0.0	0.00	0.00
VP-96-2-30	0.0	0.00	0.00
VP-96-2-40	1.6	0.01	0.01
VP-96-2-50	0.0	0.00	0.00
	1.6	0.01	0.01

Table 4-4 (cont'd)
Polygon 96- Sub-area 96-2
Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-96-2, October 1998 Rebound Evaluation

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-96-2-14	1.4	0.01	0.00
VP-96-2-30	5.4	0.03	0.02
VP-96-2-40	140	0.76	0.46
VP-96-2-50	170	0.93	0.56
	317	1.73	1.04

PCE Soil Concentration Calculations from Soil Gas Data
VP-96-2, October 1998 Rebound Evaluation

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-96-2-14	13.0	0.09	0.05
VP-96-2-30	3.2	0.02	0.01
VP-96-2-40	10.0	0.07	0.04
VP-96-2-50	17.0	0.12	0.07
	43.2	0.30	0.18

Table 4-5
Polygon 92- Sub-area 92
Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-92, October 1998 Rebound Samples

Sample #	Total Vapor Clx (ppbV as TCE)	Total Vapor Clx Conc (ug/L)*	Total Soil Clx Conc (ug/Kg)**
VP-92-17	247	1.07	0.64
VP-92-28D	1250	5.51	3.30
VP-92-40	4410	20.06	12.01
VP-92-52D	44900	224.80	134.66
VP-92-28***	1198	5.26	3.15
VP-92-52***	34580	171.80	102.91
VP-92-52DUP***	36570	181.26	108.58
	50807	251.44	150.61

*Divided by (24.04/131.39) (volume to mass conversion as TCE)
**Multiply ug/L concentration by Kgt value of 0.599 L/Kg to obtain Total Soil Concentration (mg/kg)
***Sample not used for modeling- if duplicate samples collected, highest result used for modeling
D/DUP Duplicate soil gas sample
Clx= Total of four target chlorinated compounds (TCE, DCE, TCA, PCE)

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-92, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-92-17	200	0.81	0.48
VP-92-28D	960	3.87	2.32
VP-92-40	3,000	12	7.24
VP-92-52D	17,000	69	41.04
VP-92-28***	930	3.75	2.24
VP-92-52***	14,000	56	33.80
VP-92-52DUP***	15,000	60	36.21
	21160	85.27	51.08

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-92, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-92-17	14	0.08	0.05
VP-92-28D	150	0.83	0.50
VP-92-40	940	5.2	3.12
VP-92-52D	26000	144	86.37
VP-92-28***	140	0.78	0.47
VP-92-52***	19000	105	63.12
VP-92-52DUP***	20000	111	66.44
	27104	150.32	90.04

Table 4-5 (cont'd)
Polygon 92- Sub-area 92
Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-92, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-92-17	27	0.15	0.09
VP-92-28D	110	0.60	0.36
VP-92-40	340	1.86	1.11
VP-92-52D	700	3.8	2.29
VP-92-28***	100	0.55	0.33
VP-92-52***	620	3.4	2.03
VP-92-52DUP***	650	3.6	2.13
	1177	6.43	3.85

PCE Soil Concentration Calculations from Soil Gas Data
VP-92, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-92-17	6.3	0.04	0.03
VP-92-28D	30	0.21	0.12
VP-92-40	130	0.90	0.54
VP-92-52D	1200	8.27	4.96
VP-92-28***	28	0.19	0.12
VP-92-52***	960	6.62	3.96
VP-92-52DUP***	920	6.34	3.80
	1366	9.42	5.64

Table 4-6
Polygon 92- Sub-area 92-2
Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-92-2, October 1998 Rebound Samples

Sample #	Total Vapor Clx (ppbV as TCE)	Total Vapor Clx Conc (ug/L)*	Total Soil Clx Conc (ug/Kg)**
VP-92-2-19	1.3	0.01	0.00
VP-92-2-32	18.3	0.09	0.05
VP-92-2-41	517	2.34	1.40
VP-92-2-50	1621	7.36	4.41
	2158	9.79	5.86

*Divided by (24.04/131.39) (volume to mass conversion as TCE)
**Multiply ug/L concentration by Kgt value of 0.599 L/Kg to obtain Total Soil Concentration (mg/kg)
Clx= Total of four target chlorinated compounds (TCE, DCE, TCA, PCE)

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-92-2, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-92-2-19	0.0	0.00	0.00
VP-92-2-32	7.3	0.03	0.02
VP-92-2-41	350	1.41	0.84
VP-92-2-50	1100	4.43	2.66
	1457	5.87	3.52

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-92-2, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-92-2-19	0.0	0.00	0.00
VP-92-2-32	0.0	0.00	0.00
VP-92-2-41	17	0.09	0.06
VP-92-2-50	50	0.28	0.17
	67	0.37	0.22

Table 4-6 (cont'd)
Polygon 92- Sub-area 92-2
Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-92-2, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-92-2-19	1.3	0.01	0.00
VP-92-2-32	11	0.06	0.04
VP-92-2-41	140	0.76	0.46
VP-92-2-50	420	2.29	1.37
	572	3.13	1.87

PCE Soil Concentration Calculations from Soil Gas Data
VP-92-2, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-92-2-19	0.0	0.00	0.00
VP-92-2-32	0.0	0.00	0.00
VP-92-2-41	10	0.07	0.04
VP-92-2-50	51	0.35	0.21
	61	0.42	0.25

Table 4-7
Polygon 92- Sub-area 92-3
Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-92-3, October 1998 Rebound Samples

Sample #	Total Vapor Clx (ppbV as TCE)	Total Vapor Clx Conc (ug/L)*	Total Soil Clx Conc (ug/Kg)**
VP-92-3-17	0.0	0.00	0.00
VP-92-3-27	33	0.16	0.10
VP-92-3-37	222	1.08	0.64
VP-92-3-55	2145	10.10	6.05
	2400	11.34	6.79

*Divided by (24.04/131.39) (volume to mass conversion as TCE)
**Multiply ug/L concentration by Kgt value of 0.599 L/Kg to obtain Total Soil Concentration (mg/kg)
Clx= Total of four target chlorinated compounds (TCE, DCE, TCA, PCE)

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-92-3, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-92-3-17	0.0	0.00	0.00
VP-92-3-27	15	0.06	0.04
VP-92-3-37	98	0.39	0.24
VP-92-3-55	1200	4.84	2.90
	1313	5.29	3.17

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-92-3, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-92-3-17	0.0	0.00	0.00
VP-92-3-27	0.0	0.00	0.00
VP-92-3-37	0.0	0.00	0.00
VP-92-3-55	0.0	0.00	0.00
	0	0.00	0.00

Table 4-7 (cont'd)
Polygon 92- Sub-area 92-3
Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-92-3, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-92-3-17	0.0	0.00	0.00
VP-92-3-27	18	0.10	0.06
VP-92-3-37	120	0.66	0.39
VP-92-3-55	870	4.75	2.85
	1008	5.51	3.30

PCE Soil Concentration Calculations from Soil Gas Data
VP-92-3, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-92-3-17	0.0	0.00	0.00
VP-92-3-27	0.0	0.00	0.00
VP-92-3-37	3.8	0.03	0.02
VP-92-3-55	75	0.52	0.31
	78.8	0.54	0.33

Table 4-8
Polygon 27A-Sub-area 27A
Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-27A, October 1998 Rebound Samples

Sample #	Total Vapor Clx (ppbV as TCE)	Total Vapor Clx Conc (ug/L)*	Total Soil Clx Conc (ug/Kg)**
VP-27A-12	269	1.48	0.88
VP-27A-21	336	1.84	1.10
VP-27A-36	582	3.13	1.88
VP-27A-45D	933	5.00	2.99
VP-27A-45***	853	4.58	2.75
VP-27A-45DUP***	908	4.86	2.91
	2120	11.44	6.85

*Divided by (24.04/131.39) (volume to mass conversion as TCE)
**Multiply ug/L concentration by Kgt value of 0.599 L/Kg to obtain Total Soil Concentration (mg/kg)
***Sample not used for modeling- if duplicate samples collected, highest result used for modeling
D/DUP Duplicate soil gas sample
Clx= Total of four target chlorinated compounds (TCE, DCE, TCA, PCE)

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-27A, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-27A-12	19	0.08	0.05
VP-27A-21	24	0.10	0.06
VP-27A-36	59	0.24	0.14
VP-27A-45D	110	0.44	0.27
VP-27A-45***	81	0.33	0.20
VP-27A-45DUP***	110	0.44	0.27
	212	0.85	0.51

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-27A, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-27A-12	18	0.10	0.06
VP-27A-21	19	0.11	0.06
VP-27A-36	27	0.15	0.09
VP-27A-45D	45	0.25	0.15
VP-27A-45***	35	0.19	0.12
VP-27A-45DUP***	43	0.24	0.14
	109	0.60	0.36

Table 4-8 (cont'd)
Polygon 27A-Sub-area 27A
Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-27A, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-27A-12	210	1.15	0.69
VP-27A-21	270	1.47	0.88
VP-27A-36	470	2.57	1.54
VP-27A-45D	740	4.04	2.42
VP-27A-45***	710	3.88	2.32
VP-27A-45DUP***	720	3.93	2.36
	1690	9.23	5.53

PCE Soil Concentration Calculations from Soil Gas Data
VP-27A, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-27A-12	22	0.15	0.09
VP-27A-21	23	0.16	0.09
VP-27A-36	26	0.18	0.11
VP-27A-45D	38	0.26	0.16
VP-27A-45***	27	0.19	0.11
VP-27A-45DUP***	35	0.24	0.14
	109	0.75	0.45

Table 4-9
Polygon 27A- Sub-area 27A-2
Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-27A-2, October 1998 Rebound Samples

Sample #	Total Vapor Clx (ppbV as TCE)	Total Vapor Clx Conc (ug/L)*	Total Soil Clx Conc (ug/Kg)**
VP-27A-2-14	12.0	0.07	0.04
VP-27A-2-30	374	2.01	1.20
VP-27A-2-40	876	4.70	2.81
VP-27A-2-49	2132	11.37	6.81
	3395	18.15	10.87

*Divided by (24.04/131.39) (volume to mass conversion as TCE)
**Multiply ug/L concentration by Kgt value of 0.599 L/Kg to obtain Total Soil Concentration (mg/kg)
***Sample not used for modeling- if duplicate samples collected, highest result used for modeling
D/DUP Duplicate soil gas sample
Clx= Total of four target chlorinated compounds (TCE, DCE, TCA, PCE)

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-27A-2, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-27A-2-14	0.0	0.00	0.00
VP-27A-2-30	23	0.09	0.05
VP-27A-2-40	61	0.25	0.15
VP-27A-2-49	200	0.81	0.48
	284	1.14	0.68

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-27A-2, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-27A-2-14	0.0	0.00	0.00
VP-27A-2-30	0.0	0.00	0.00
VP-27A-2-40	5.2	0.03	0.02
VP-27A-2-49	22.0	0.12	0.07
	27.2	0.15	0.09

Table 4-9 (cont'd)
Polygon 27A- Sub-area 27A-2
Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-27A-2, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-27A-2-14	12	0.07	0.04
VP-27A-2-30	350	1.91	1.15
VP-27A-2-40	810	4.42	2.65
VP-27A-2-49	1900	10.38	6.22
	3072	16.78	10.05

PCE Soil Concentration Calculations from Soil Gas Data
VP-27A-2, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-27A-2-14	0.0	0.00	0.00
VP-27A-2-30	1.4	0.01	0.01
VP-27A-2-40	0.0	0.00	0.00
VP-27A-2-49	10.0	0.07	0.04
	11.4	0.08	0.05

and bulk density are contained in the Design Memorandum (M&E 1992) and Polygon 96/92/27A O&M Manual (M&E 1995b).

These data were then input into the VLEACH model and run for a total simulation time of 50 years. The output from the VLEACH model is a yearly concentration of leachate into the Subunit A aquifer in units of grams per cubic foot. To evaluate the impact to groundwater, these data are loaded into a groundwater model that accounts for groundwater flowing beneath the polygon as the leachate is loaded. This model is called Mixcell and is run for the duration of the VLEACH simulation, 50 years. The results of the Mixcell modeling output are in units of µg/L impact to the Subunit A aquifer and is the basis for closure in accordance with Appendix B of the Consent Decree (U.S. EPA 1991).

5.0 VLEACH/MIXCELL MODELING RESULTS

Each of the nine subareas in Polygons 96, 92, and 27A were modeled as described above using VLEACH and Mixcell. The results indicate that the nine subareas within Polygon 96, 92, and 27A have Subunit A groundwater concentrations less than 5 µg/L and meet the conditions of Appendix B of the Consent Decree. In fact, each of the subarea model results have groundwater concentrations less than 1 µg/L and many had concentrations less than 0.3 µg/L. Table 5-1 presents the results of the VLEACH/Mixcell modeling results. Figure 5-1 presents the graphical Subunit A groundwater impact results. In all cases, the maximum Subunit A groundwater concentration occurred within the first 10 years of the simulation. This is likely due to the fact that the highest soil vapor concentrations during the closure sampling existed near the groundwater table and capillary fringe, suggesting VOC off gassing from the groundwater table. These deeper concentrations result in quicker leaching and greater impact to groundwater in the initial stages of the simulation.

Based on these results, Polygons 96, 92, and 27A have met the requirements of Section VII.C.7.a. and Appendix B of the Consent Decree. As such, Ogden recommends that these polygons be closed and no further soil remediation efforts be required, and that well and equipment be decommissioned in accordance with federal and state standards.

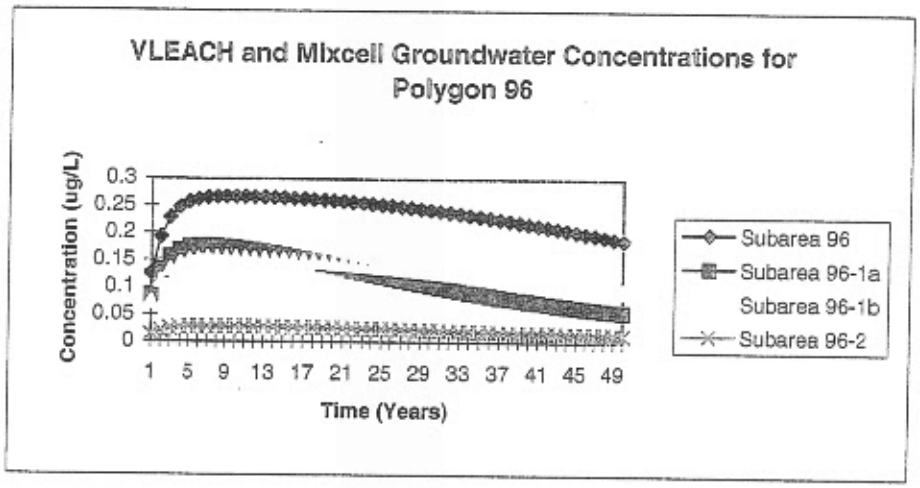
Table 5-1

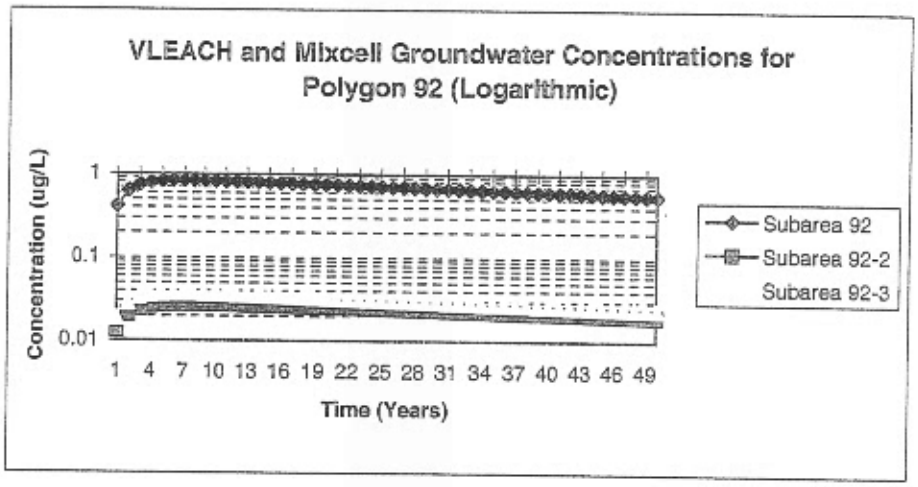
VLEACH/MIXCELL SUBUNIT A GROUNDWATER MAXIMUM IMPACT RESULTS

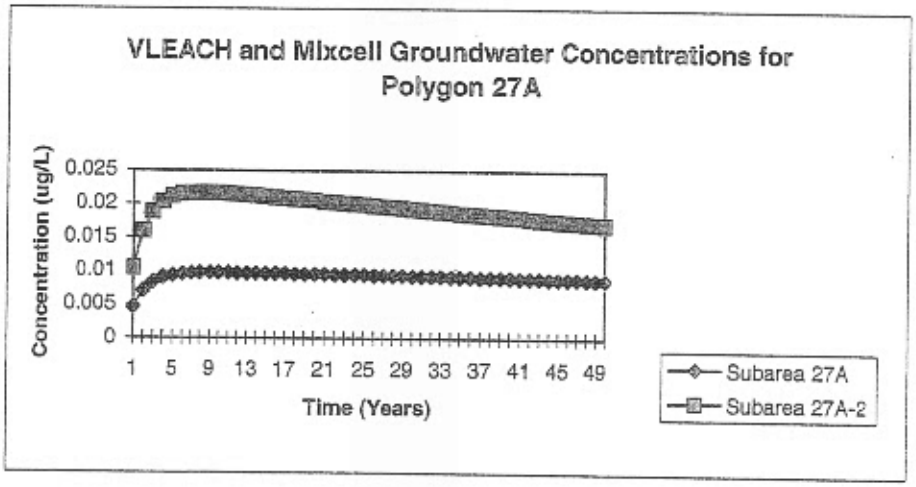
Polygon	Subarea	Maximum Groundwater Impact (µg/L)	URS	Year of Maximum Impact
96	VP-96	0.27	0.286 ug/L	10
	VP-96-1A	0.18		7
	VP-96-1B	0.16		9
	VP-96-2	0.03		8
92	VP-92	0.83	0.88175 ug/L	7
	VP-92-2	0.03		8
	VP-92-3	0.04		6
27A	VP-27A	0.01		8
	VP-27A-2	0.02		7

µg/L = micrograms per liter

Figure 5-1
Subunit A Groundwater Impacts-Polygons 96, 92, 27A







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APPENDIX A

POLYGON 96/92/27A O&M MANUAL
POLYGON REBOUND PARAMETERS

O & M Manual

SOIL VAPOR EXTRACTION (SVE) OPERABLE UNIT DRAFT OPERATIONS AND MAINTENANCE MANUAL

PHOENIX-GOODYEAR AIRPORT (SOUTH), POLYGONS 96/92/27A, GOODYEAR, ARIZONA

SUBMITTED TO:

GOODYEAR

THE GOODYEAR TIRE & RUBBER COMPANY
AKRON, OHIO

Polygon 79 Draft: August 4, 1993
(Polygon 79 Revised: November 5, 1993)
(Polygon 84 Update: August 5, 1994)
(Polygons 96/92/27A Update: December 22, 1995)

PREPARED BY:

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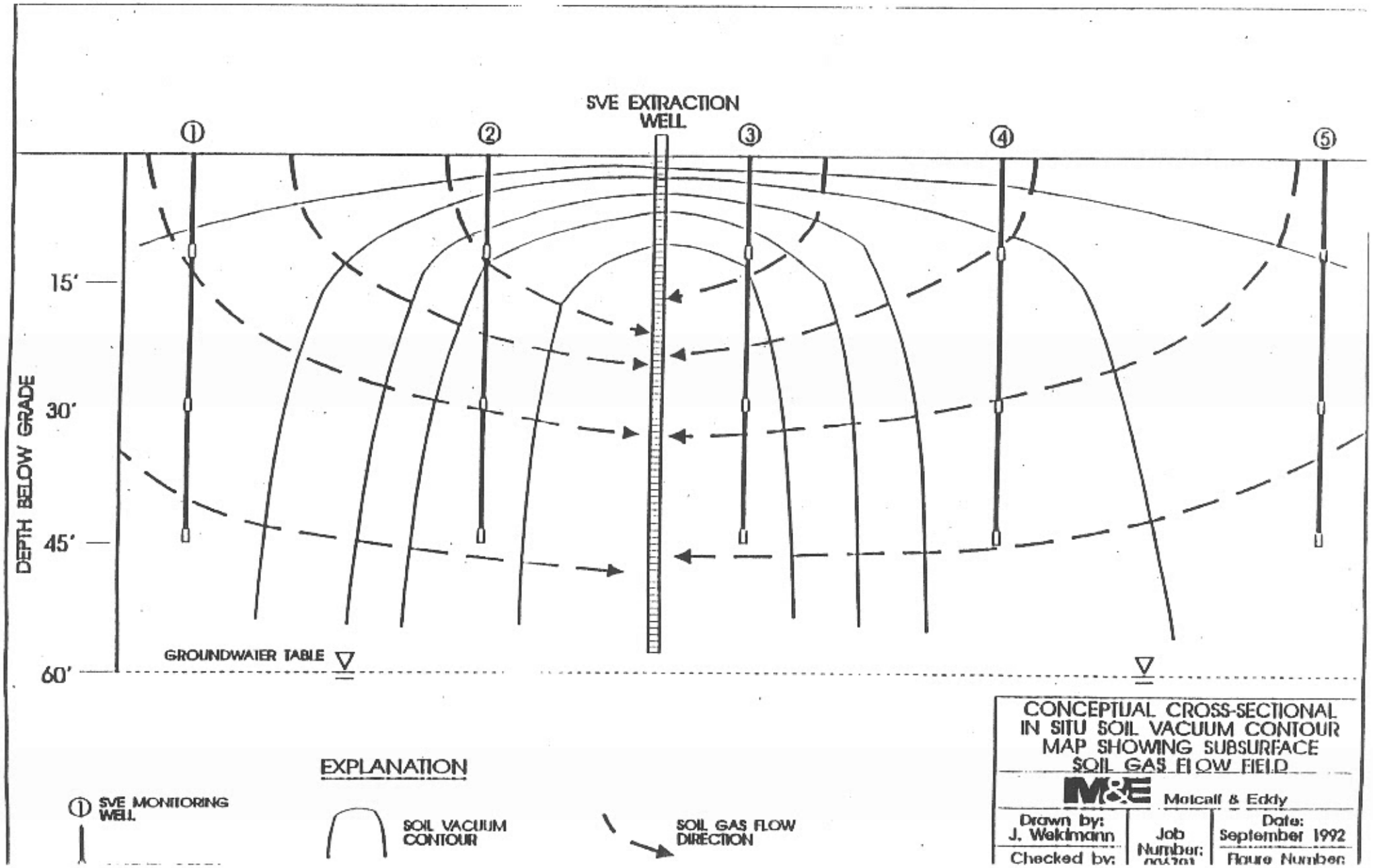
6.6 SVE Monitoring and Extraction Well Soil Vapor Sampling/Analysis

During and following start-up operations, soil vapor samples will be collected from the SVE extraction and monitoring wells for analysis in the field. Field analytical samples will be collected from SVE monitoring and extraction well headers during SVE operation in 3-liter capacity Tedlar bags using a vacuum pump connected to a vacuum sampling box and will be analyzed in the field with a GC or portable photoionization detector (PID). Because negative pressures will be present in operating SVE well headers and monitoring wells, effective soil vapor sample collection will require initially setting the vacuum sampling pump at a negative pressure greater than that measured in the well or well header. Wellhead vacuums and vacuum sampling pump settings will be recorded during each sampling event. The sampling procedures established in the May 1992 SVE Design Memorandum and associated Quality Assurance Project Plan (QAPP), Appendix D will be adhered to for all sub-area well monitoring. Sampling will commence after steady-state conditions are achieved at a given flow rate at the sampling pump. Steady-state conditions are defined as less than 10% fluctuation in the induced vacuum at the sampling flow rate of 200 ml/minute.


SVE EXTRACTION WELL
①
②
③
④
⑤
15'
30'
45'
60'
DEPTH BELOW GRADE
GROUNDWATER TABLE
EXPLANATION
① SVE MONITORING WELL
SOIL VACUUM CONTOUR
SOIL GAS FLOW DIRECTION
CONCEPTUAL CROSS-SECTIONAL IN SITU SOIL VACUUM CONTOUR MAP SHOWING SUBSURFACE SOIL GAS FLOW FIELD
M&E Metcalf & Eddy
Drawn by: J. Weidmann
Job Number:
Date: September 1992
Checked by:
Figure Number:

Following an initial baseline sample analytical event using a GC, subsequent analysis of collected soil vapor samples will be performed in the field using a portable PID instrument calibrated to a gaseous TCE standard. During rebound monitoring (Section 7.0), soil vapor samples will be analyzed in the field using the portable PID instrument. All PID field analysis will be performed using Tedlar bags to avoid erroneous PID readings as a result of instrument and sample pressure differentials. Based on the results of the field PID analysis during rebound monitoring, e.g. if the Allowable Residual Mass (ARM) (1990 Consent Decree, Appendix B) levels have been met (Section 7.0), laboratory sampling will be initiated.

Laboratory samples will be collected in pre-cleaned, passivated SUMMA canisters and forwarded to a certified laboratory for chemical analysis. The monitoring well sampling procedures detailed in the 1992 SVE Design Memorandum and associated QAPP, and Appendix D of this report will be adhered to. Each well, prior to sampling, will be purged of ambient vapor at a rate of 200 ml/minute with a mass flow controller and pump. The discharge of the pump will be monitored with a calibrated PID to monitor the concentrations of the extracted vapors. A total of two well volumes or a peak in the extracted vapor concentration during purging will dictate the total purge time. Immediately upon completion of the well purging, a laboratory cleaned SUMMA canister will be connected to the wellhead using teflon tubing and a sample will be collected. A pre-cleaned mass flow controller calibrated to 200 ml/minute will be used for sample collection to minimize equilibrium disruption.

Based on the results of VLEACH and Mixing Cell modeling of Phase II investigation vertical soil vapor distributions, a lower-threshold operational ARM concentration has been determined for each polygon to undergo SVE remedy (see Section 7.0). The on-going SVE field operations will utilize the estimated lower-threshold ARM concentration as a decision criteria of whether or not to shut off a sub-area extraction well and initiate rebound monitoring (Section 7.1). If the threshold concentration is less than 1 ppmV, a field gas chromatograph will be used for routine and field rebound well vapor monitoring (see June 1, 1995 SVE Final Design, Appendix H).

The vertical contamination distribution in Polygons 96/92/27A is "middle to bottom loaded", or concentrated in the middle to lower-coarse vadose zone. The lower-coarse vadose zone variably extends from approximately 30 to 60 feet below grade. Rising Subunit A groundwater levels have

reduced the thickness of the lower-coarse vadose zone from 30 feet in 1989 to a current thickness of approximately 20 feet. The lower-coarse vadose zone matrix consists of a coarse sand to a sandy gravel with an associated air permeability of approximately 100 darcies.

Above the lower-coarse vadose zone lies the upper-fine vadose zone. This zone is characterized by sandy silts and clays with some poorly to well developed caliche layers. The permeability of the upper-fine vadose zone is approximately two orders of magnitude less than the lower-coarse, or approximately 1 to 3 darcies. The texture, moisture content, and resultant air permeability of these two zones, however, do not have a large impact on the effectiveness of SVE in removing the chlorinated solvents from the vadose zone due to soil macro-fractures that permit gas transmission between the upper-fine and lower-coarse units. The lower-coarse vadose zone, which contains the bulk of the delineated contaminants, will efficiently permit their removal due to the high air permeability of the soil matrix. Also aiding in this removal is the low permeability upper-fine vadose zone providing air impermeable boundary to air "short-circuiting" from the atmosphere. These results were confirmed by the 1988 pilot test and Polygon 84 data and verified through model simulations.

Sub-area treatment monitoring will consist of monitoring extraction and monitoring wellhead concentrations to evaluate well extraction, performance, and to evaluate sub-area operation, rebound, laboratory sampling, and confirmatory closure sampling.

All field monitoring samples will be collected using 3-liter capacity Tedlar bags within withdrawn in a negative pressure box and analyzed with a PID instrument in the field. All laboratory samples will be collected using 3 or 6-liter capacity SUMMA canisters. All sampling procedures established in the 1992 Design Memorandum and this O&M Manual QAPP (Appendix D) will be adhered to. The instrumentation specified in the QAPP (Appendix D) has been selected based on the anticipated concentrations that will be observed in the field during operation and rebound periods.

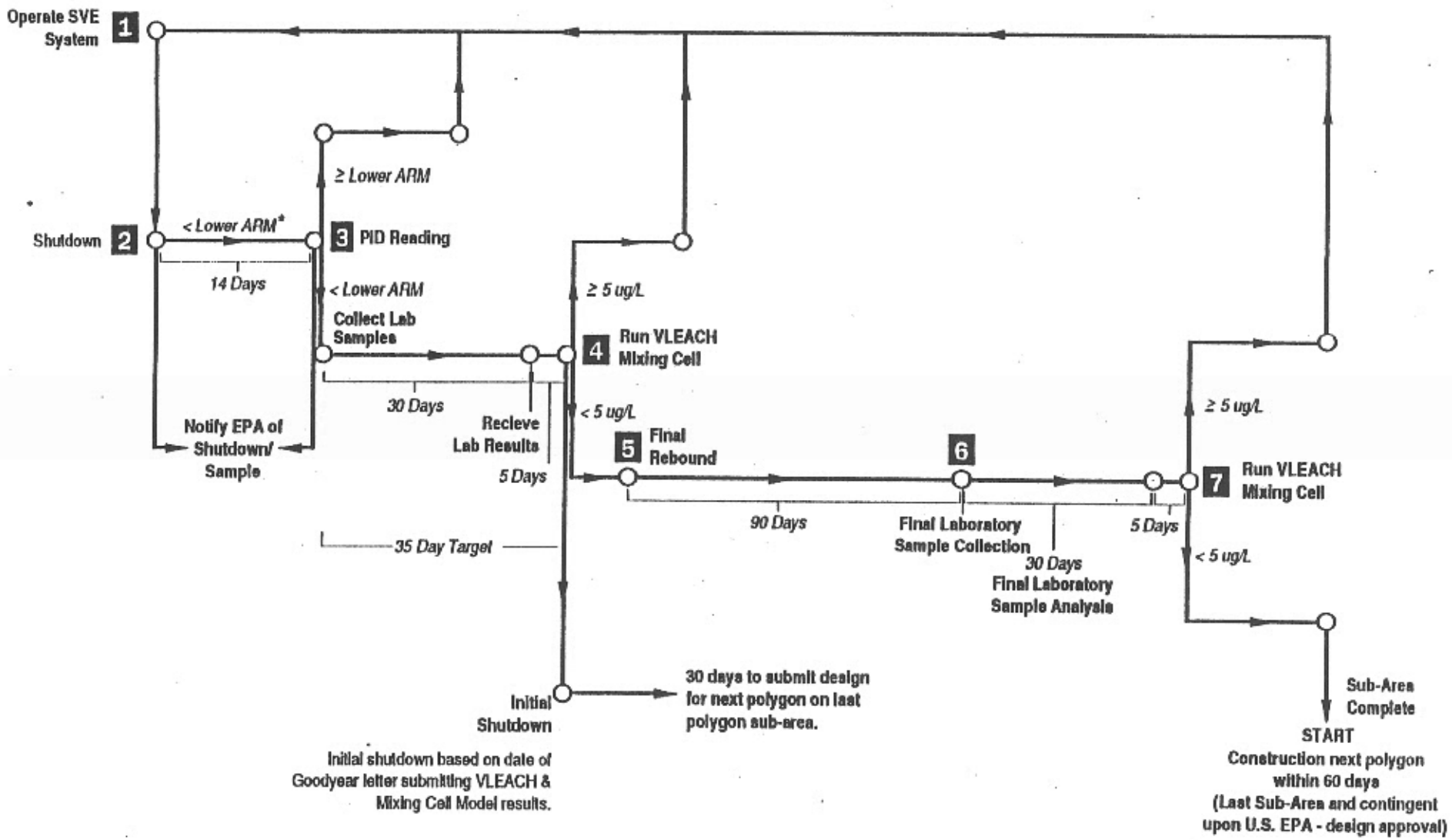
The concentrations to suspend sub-area treatment and commence rebound monitoring have been roughly established for Polygons 96/92/27A based on 1993 Phase II investigation data and are described in detail in Section 7.0.

Vapor extraction wells will be brought on line one at a time to allow for vacuum propagation throughout the sub-area and allow sufficient time for pressure and flow monitoring. Prior to bringing the extraction wells on line, the wells will be screened in the field using a GC and a portable PID to prioritize the wells for operation. The extraction well demonstrating the highest concentration will be operated first to establish the capture zone (R_I) and minimize the risks of plume migration by influence from other extraction wells.

Each extraction well will initially be operated at a flow rate of 50 SCFM. The flow rate and associated vacuum will gradually be increased while monitoring the extracted vapor concentrations and vacuum propagation in the monitoring wells. Once the design radius of influence (150 feet) has been established as observed in the monitoring wells and through calculation, additional extraction wells will be brought on line as appropriate in the same manner. Vapor extraction wells will be brought on-line in the order of decreasing concentrations. This decision will be based on the baseline vadose zone concentrations present in the sub-area monitoring wells at the time of system start-up. Additionally, wells that contain higher concentrations will be operated at higher flow rates and vacuums to minimize moving high vapor concentrations through lesser contaminated areas.

Once a sub-area is operational, vapor concentration samples will be collected from the extraction and monitoring wells on a bi-weekly basis and analyzed in the field using a portable PID instrument. Each extraction well will be operated until the concentrations in the associated sub-area monitoring well have reached the lower-ARM concentration (see Section 7.0). The lower-ARM concentration is a sub-area specific ARM concentration that takes into account the effects of VOC concentration increases during rebound. Lower-ARM concentrations presented in Section 7.0 have been established based on a rebounding factor of 4.0 using rebound performance experienced at Polygons 79 and 84. This rebounding factor is thought to be reflective of Polygons 96/92/27A conditions. However, the lower-ARM concentration and rebounding factor will be modified as appropriate to meet ARMs established in the ROD.

Once lower-ARM concentrations have been achieved, the sub-area extraction well will be shut off and the sub-area will be allowed to rebound for 14 days (see Figure 6-6). If the soil vapor concentrations rebound in the monitoring wells at the end of the 14-day period less than 20% of the initial previous start-up concentration, laboratory samples will be collected in SUMMA canisters for



* Lower ARM = Allowable Residual Mass with Rebound Factor using

SVE Rebound Verification Flow Chart

Phoenix-Goodyear Airport Soil Vapor Extraction

Figure 6-6

analysis. If the concentrations rebound greater than 20% of the initial or restart concentration, whichever is most recent, the sub-area extraction well will be restarted and monitoring will continue. This process will continue until the soil vapor concentrations in all the sub-area monitoring wells result in VLEACH groundwater impact results less than 5 μg/l as required by the 1990 Consent Decree.

Once a sub-area has passed the VLEACH screening with the post 14-day laboratory rebound samples, the sub-area will be scheduled for confirmatory closure sampling 90 days after the 14-day VLEACH results are complete and reported to U.S. EPA. A sub-area passing the post 14-day VLEACH screening formally places the sub-area into rebound for closure. A total of 35 days is included in the schedule for reporting results to U.S. EPA and to allow for laboratory sample analysis and VLEACH screening. Figure 6-6 illustrates the chronological flow for sub-area operation, monitoring, rebound and closure. The second closure vapor sampling will occur approximately 139 days following sub-area shut down. This sampling schedule is based on the vapor rebound results of the 1988 SVE pilot test. Since soil vapor re-equilibration is a log-normal function, the highest amount of recovery will occur in the first log cycle (or first 10 days) with declining recovery following. The confirmatory sample, collected approximately 139 days following sub-area shut down should encompass over 90% of the total vapor recovery or rebound. This assumption is also valid since the criterion for the initial laboratory sampling is the lower-ARM concentration which has a safety factor of 4 built-in for vapor rebound (e.g. 1.25 μg/L is the lower-ARM value as opposed to the threshold ARM of 5.0 μg/L. See Section 7.0.). A total of 35 days is included in the schedule for the post 14-day sample VLEACH screening and the closure VLEACH screening. See Figure 6-6.

Once sub-area wells have been confirmed for closure, Goodyear will schedule them for decommissioning. However, Goodyear will reserve the option of operating a closed sub-area extraction well for the purpose of system air blending balance, stagnation zone adjustment, or other purposes until all the polygon sub-areas have been confirmed by U.S. EPA for closure.

6.7 Soil Vapor Contaminant Composition and Maximum Concentration

Collected SVE extraction and monitoring well soil vapor samples will be analyzed for maximum solvent concentration to determine the type and concentration of contaminant(s) present in the vapor. For maximum concentration field analyses, total ionizable volatile compounds will be measured using a portable PID instrument, and/or the field GC. The field GC will be used for speciation of the four targeted compounds TCE, PCE, 1,1-DCE, and 1,1,1-TCA. For baseline analysis, the analyst will quantify and sum the individual concentrations of the four VOC target compounds which include TCE, PCE, 1,1-DCE, and 1,1,1-TCA, using the GC. The portable PID instrument, when used, will report the concentrations as parts per millon vapor (ppmV) as TCE. The instrument will be calibrated as indicated in the O&M QAPP, Appendix D. Fixed gas analyses (CO_2, O_2, CH_4) will be screened in the field using a portable infra-red gas analyzer and used to evaluate well sealing efficiencies (Section 6.9) and to evaluate SVE influence within the "upper-fine" and "lower-coarse" vadose zone.

6.8 Critical Soil Vapor Flow/Vacuum Rate Determination

The goal of operating the SVE extraction well(s) is to maximize VOC extraction through controlling the parameters, where possible, that affect VOC transport and removal. During start-up operations, the SVE system will be operated at a range of system flow and differential vacuum conditions. Following field analysis of soil vapor samples, and completion of air permeability, radial velocity, and flow field analyses, Goodyear will evaluate and calculate the optimal system parameter values that yield the maximum contaminant concentrations from the vadose zone soils existing in the sub-areas of the treatment polygon. It is expected that subsurface conditions may change over time, therefore, Goodyear will collect pertinent data to determine the most efficient on-going remedial operating parameters. For example, various flow rates will be tested during start-up along with their corresponding concentrations. Once the parameters have been developed, the polygon wells will be operated to maximize operational efficiency.

6.9 Extraction Well Efficiency

Determination of the efficiency of the individual wells may be evaluated through the collection and evaluation of field vadose zone fixed gas concentrations. The fixed gas concentrations in the PGA vadose zone, particularly oxygen, are generally less than 17% by volume. If the oxygen concentrations in the SVE extracted vapor or the nearest soil vapor monitoring well are significantly higher than 17%, vapor short circuiting is likely occurring from the ground surface. Carbon dioxide is also present in small amounts (1 to 5%) likely as a result of aerobic respiration in the degradation of groundwater and/or vadose zone contaminants. The fixed gas concentrations of the sub-area extraction and monitoring wells will be analyzed through the use of a portable infrared vapor analyzer. Samples from the extraction and monitoring wells will be collected using a negative pressure box in 3-liter Tedlar bags as outlined earlier and detailed in the 1992 Design Memorandum and Appendix D. The Tedlar bag samples will be screened first for total VOCs with the portable PID then analyzed for carbon dioxide and oxygen using the infrared analyzer. All field sample collection and screening data will be recorded in the field log and the data will be included in Goodyear's monthly report to U.S. EPA.

All wells will be operated in a manner to minimize the effects of ambient air short-circuiting and maximize well efficiency. Extraction wells exhibiting oxygen concentrations in excess of the sub-area background oxygen concentrations will be adjusted to minimize extraction well short- circuiting. The adjustment will involve the reduction of the extraction well flow rate and vacuum to a level that minimizes the effects of short-circuiting while maintaining the required radius of sub-area treatment influence. Once the extraction well flow and vacuum has been adjusted, the sub-area monitoring well will be monitored to confirm a continuous vacuum distribution throughout the sub-area.

6.10 Sub-Area Remediation Duration Modeling

In an effort to predict the SVE extraction well start-up and shut-down cycles, M&E will develop simple sub-area-specific predictive models for VOC concentration decay.

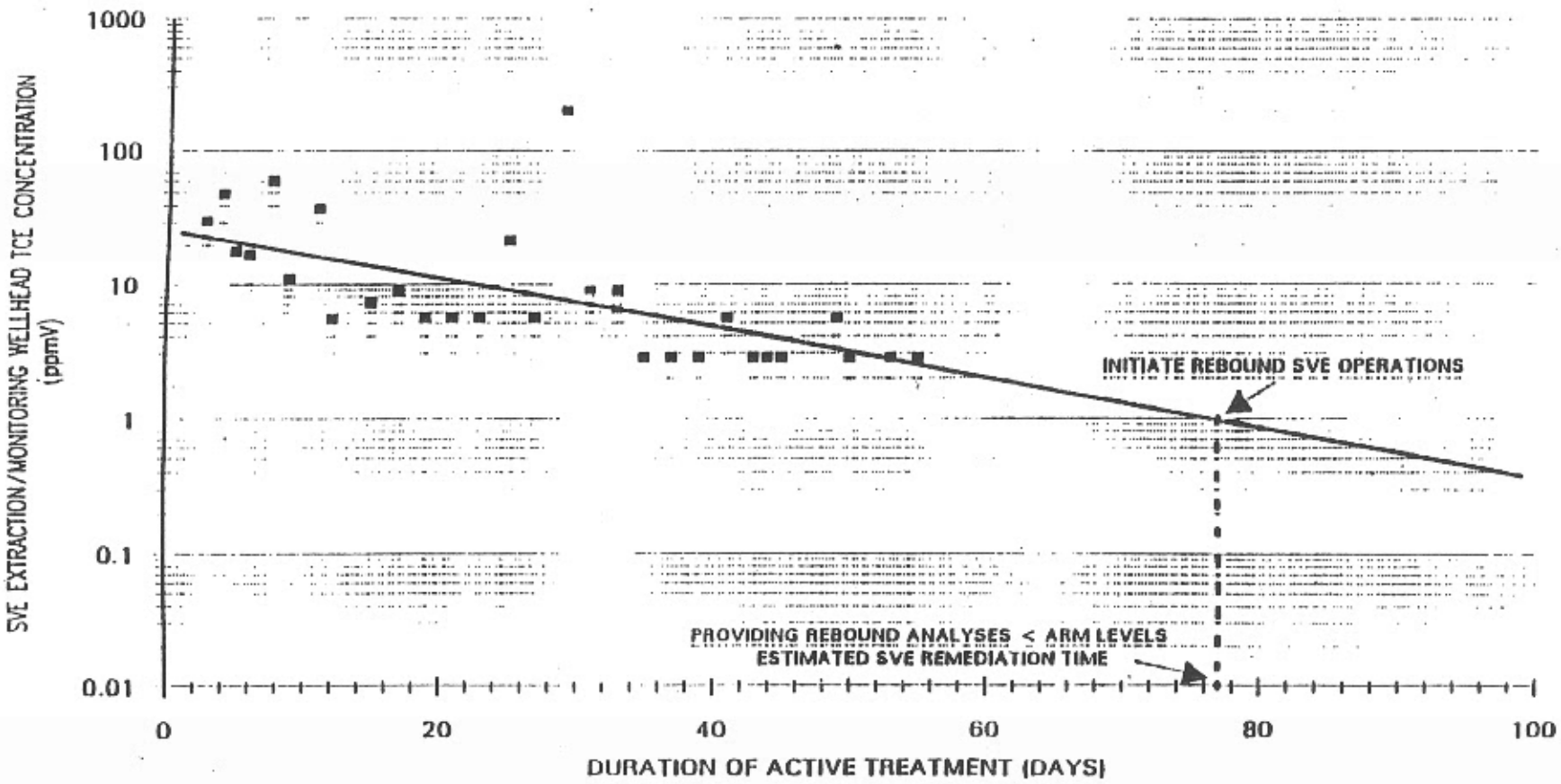
Field and laboratory VOC data collected during both operation and shut-down will be plotted to evaluate any trend in the data. Based on the data trend, a regression equation will be fitted to the

data for production purposes. Once the regression model has been determined for each sub-area, the lower-ARM concentration (Section 7) for the sub-area will be input and the total operational duration to achieve this concentration will be predicted. Figure 6-7 illustrates a typical sub-area predictive model utilizing an exponential regression equation. Since the vapor decay and rebound concentrations during the pilot test displayed a log-normal behavior, it is anticipated that the sub-area predictive models will also follow a log-normal pattern.

As additional data become available, they will be added to the model and the predictive model equation will be updated to reflect the real-time data. Once the model has been updated, a new predicted remediation time to achieve the lower-ARM concentration will be generated. These simple predictive models will only be used in evaluating sub-area treatment durations and estimating the initiation times of rebound periods. Use of the models will assist in highlighting sub-areas that require longer SVE treatment so that they can be prioritized during all phases of operation. The models can also be used to balance the overall polygon treatment flow based on the sub-area prioritization. Sub-area prioritization and flow balancing, through the use of the models, will ultimately result in shorter overall polygon remediation time frames by focusing treatment on those sub-areas requiring it most, which will result in the sub-areas being completed at approximately the same time.

FIGURE 6-7

ESTIMATED SVE REMEDIATION DURATION FOR A HYPOTHETICAL SVE EXTRACTION WELL



NOTE: ARM CONCENTRATION > 1 ppmV

7.0 SVE EXTRACTION WELL REBOUND MONITORING

During on-going SVE extraction well operation, subsurface soil vapor concentrations will decrease as remediation progresses. At these instances when the vapor concentrations reach the lower-ARM level, it is scientifically and economically prudent to temporarily discontinue SVE operation and permit SVE operational subsurface conditions to re-equilibrate to ambient vadose zone conditions. Intermittent SVE operation is herein termed "pulsing" and is in accordance with the conditions of Appendix B of the 1990 Consent Decree. During the periods when a sub-area is shut down, monitoring is essential to assess the potential of VOC soil vapors to recollect and "rebound." As SVE remediation progresses within the sub-area extraction wells, the targeted SVE soils may reach a situation where further removal of volatile vapors becomes a "diffusion-limited" process (i.e., regardless of the vacuum applied to an extraction well, in the short term, the net removal of volatile vapors remains essentially the same). This diffusion limited condition has a potential to exist within the upper-fine vadose zone to a greater extent than in the lower-coarse vadose zone, given the diminished ability of the fine soils to readily transmit advectively driven vapor flow. Since the bulk of the polygon VOC mass is in the lower-coarse vadose zone, the productive SVE extraction well will remain on line until the lower-ARM levels are obtained.

Routine monitoring of SVE monitoring wells will continue as long as VOC concentrations measured from the operating SVE extraction well remain above the soil vapor concentration determined by VLEACH to exceed the sub-area specific lower-ARM concentration. In the event where the SVE extraction wells screened across both the upper-fine and lower-coarse soils fail to yield VOC concentrations of at least the lower-ARM concentration as measured by the field instrumentation (PID), the SVE system and extraction well valves will be shut off. The incidence of subsequent rebound monitoring will be initiated after it is determined through field monitoring that the first sub-area SVE extraction well vapors meet or fall below the lower-ARM concentration. Figure 6-6 graphically presents the decisional flow chart for SVE monitoring, rebound and closure.

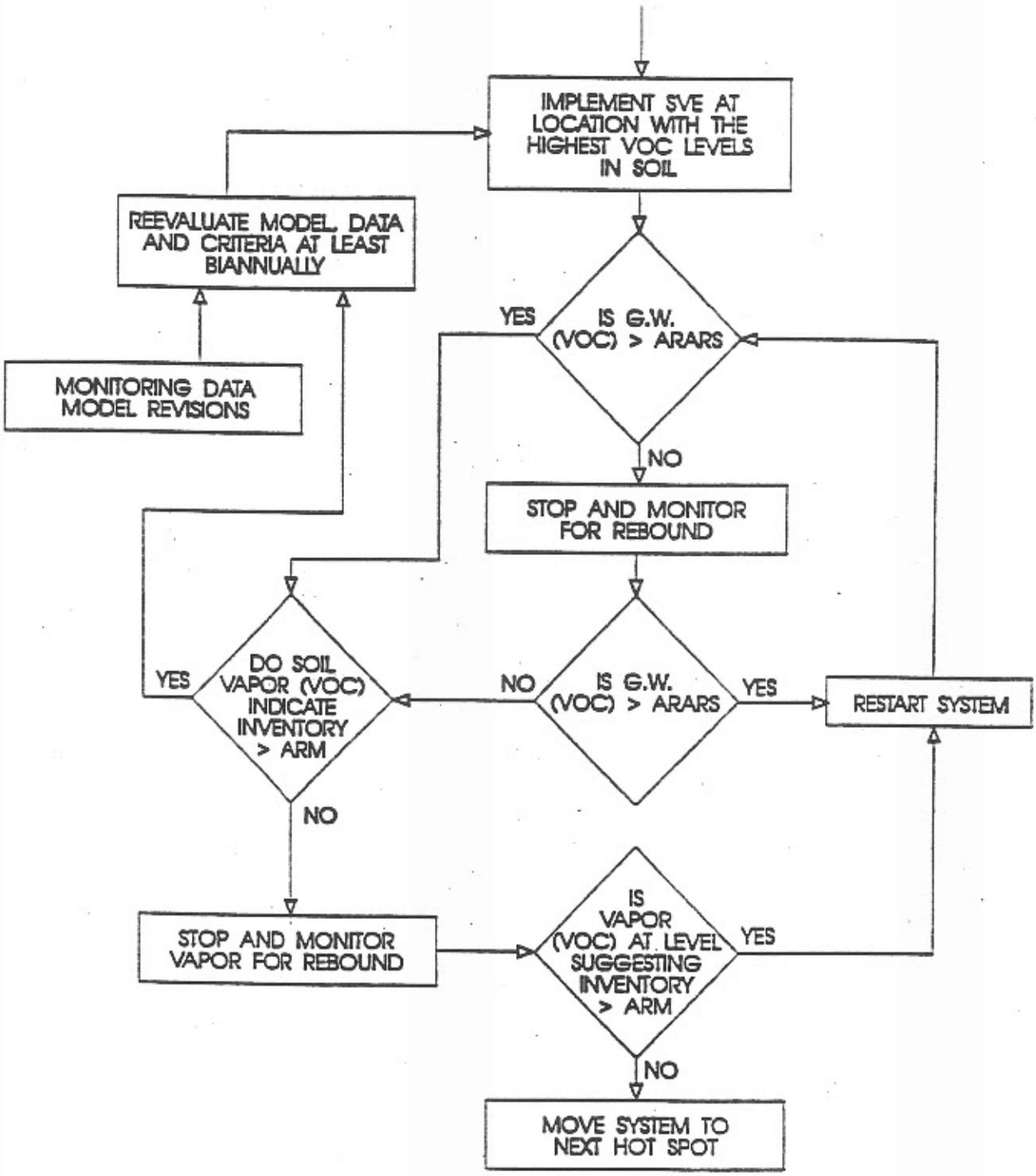
During the period that the SVE system is off, the dynamic relationship between the sorbed, dissolved, and gaseous phases are permitted to re-equilibrate, and volatile gases are permitted to naturally diffuse into and fill previously evacuated pores within the soil matrix. Subsequent SVE operation, if required, will readily remove the collected vapors and the process is repeated until the

targeted cleanup level is achieved and sustained as determined by VLEACH and MixCell in accordance with Appendix B of the 1990 Consent Decree. Should rebound exceed the ARM after two laboratory sampling events as a result of volatilizing groundwater, SVE system operations will be suspended for U.S. EPA negotiations.

The proposed O&M schedule, Figure 6-6, provides for a universal, generic schedule once the sub-area lower-ARM concentrations have been met. The schedule flow chart (Figure 6-6) provides the time line for critical operational events. As SVE operations proceed, system performance parameters, as they become available, will provide Goodyear with the necessary data to identify and confirm actual rebound and related monitoring events. Prior to discontinuing SVE operations for rebound assessment, a comprehensive SVE operations monitoring event will be scheduled. Goodyear proposes to allow a time period of 14 days to elapse following SVE shut-down to allow sufficient time for subsurface conditions to equilibrate (see Section 6.6). Immediately following this period, Goodyear will verify that the lower-ARM concentrations are not exceeded using field instrumentation. If these conditions exist, Goodyear will collect laboratory soil vapor samples from the SVE monitoring wells located within the capture area of the associated sub-area SVE extraction well for analysis.

The analytical soil vapor data collected from the SVE monitoring wells will be treated in a fashion similar to that discussed in Section 2.1 of the November 25, 1992 SVE Final Design. Following input into the VLEACH and MixCell models, a determination will be made as to whether ARM concentration levels have been met within the sub-area (Figure 7-1) and what the concentrations are. This determination will hinge upon the potential of the existing soil vapor concentrations within the sub-area to result in Subunit A groundwater concentrations above 5.0 μg/L as determined by VLEACH and MixCell screening. A total of 35 days is included in the schedule for receipt of the laboratory analysis and screening the sub-area using VLEACH and MixCell. See Figure 6-6.

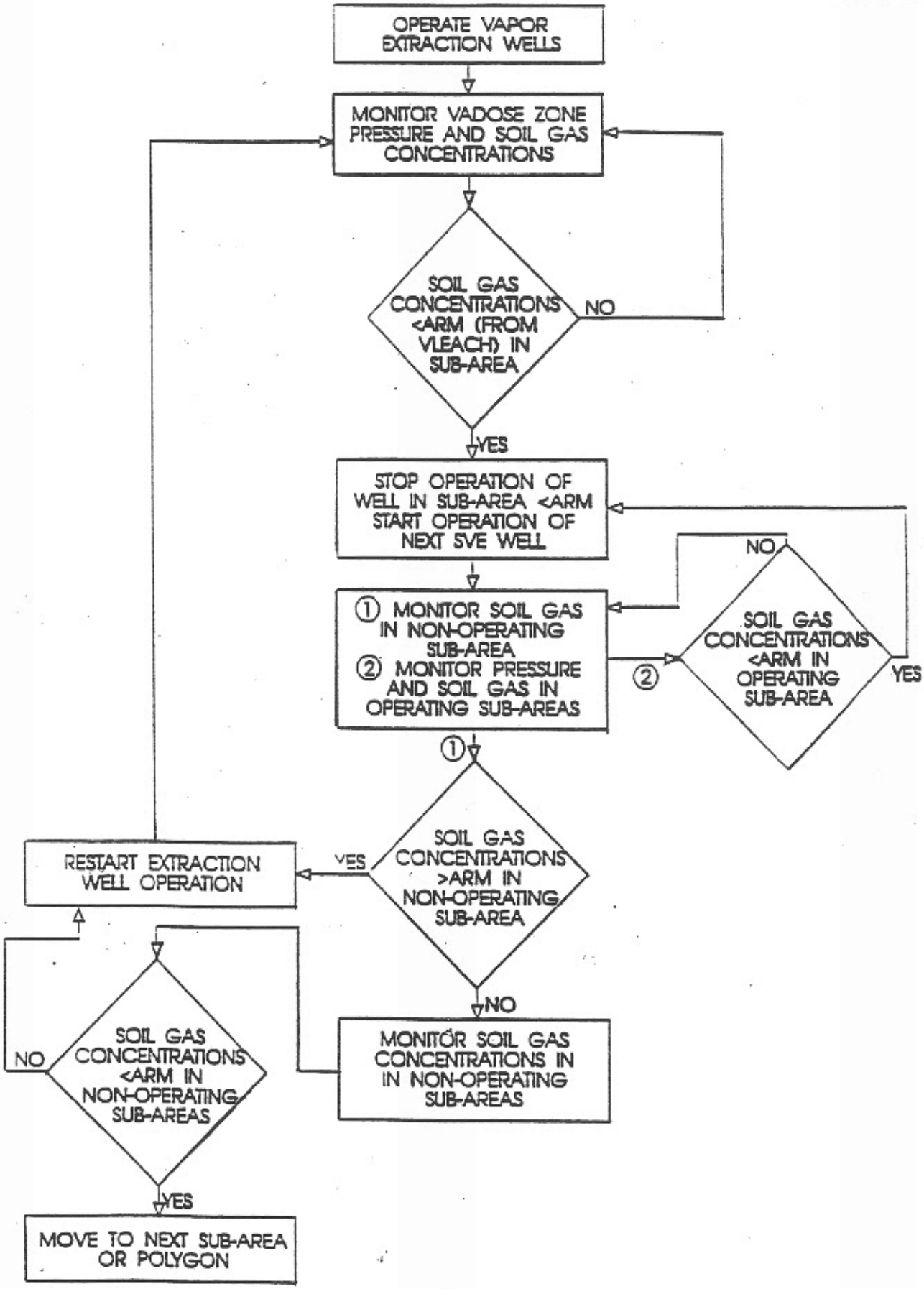
As shown in Figure 7-2, from Appendix B of the 1990 Consent Decree, an individual SVE sub-area extraction well will continue to operate as long as VLEACH and MixCell modeled groundwater VOC concentrations (as TCE) are greater than ARARs and/or SVE monitoring well soil vapor samples collected during rebound monitoring result in modelled VOC levels that exceed ARM criteria. If either the groundwater VOC ARARs or soil vapor ARM levels fall below acceptance criteria, the



APPENDIX B 9/1990 CONSENT DECREE PROPOSED DECISION TREE FOR OPERATION OF THE SOIL VACUUM EXTRACTION SYSTEM

M&E Metcalf & Eddy

Drawn by: J. Weidmann	Job Number: 006791	Date: 20 March 1992
Checked by: S. Zachary		Figure Number: 7-1



M&E METCALF & EDDY	SVE WELL OPERATION CHART	FIGURE 7-2

SVE system will be shut down and be monitored for rebound. If, following rebound monitoring, soil vapor concentrations are greater than ARM levels, SVE operation will be re-initiated or continue. Alternately, in the event that rebound monitoring groundwater VOC concentrations are less than ARARs and soil vapor samples result in modelled VOC concentrations below ARM levels, the operating SVE extraction well will be shut off. This process will continue until all of the sub-areas within the polygon comply with Appendix B of the Consent Decree (see Figure 7-2). In order for a sub-area to be permanently discontinued from further SVE remedy, soil vapor concentrations must remain below the ARM (< 5 μg/L in groundwater by VLEACH) for a period of 90 consecutive days following the initial post 14-day rebound monitoring and VLEACH screening. See Figure 6-6. If this condition is upheld for any particular sub-area(s), SVE remediation will be permanently discontinued for that sub-area(s).

7.1 ARM Estimation Criteria for Rebound Monitoring

The sub-area specific ARM concentration threshold(s) with which to base a decision as to whether or not to shut off an extraction well and initiate rebound monitoring within a sub-area are ultimately based on VLEACH and MixCell model results. These models are based on the assumption that vadose zone contamination is the source of Subunit A groundwater contamination. Integration of field derived SVE monitoring data into a decision matrix that will lead to laboratory analyses and computer modeling requires a useful and flexible protocol. Additionally, because there exists a large number of vertical distribution(s) and soil vapor concentration(s) combinations that may result in a sub-area passing VLEACH and MixCell screening (Subunit A groundwater TCE concentrations less than 5 μg/L), the protocol must be able to reduce the concentration/distribution matrix to a manageable size. In order to address these manifold requirements, an approach has been developed which is based on estimating projected likely soil vapor monitoring well concentration and vertical distribution scenarios following SVE operation at individual sub-areas within the polygon undergoing treatment. The rationale used to estimate projected soil vapor concentrations and resultant vertical distributions of VOCs in the vadose zone following SVE remedy incorporates existing soil vapor data collected from Phase II vapor monitoring wells, known physical soil parameters, soil vapor concentrations, VOC vertical distributions, and experience at operating the SVE system at Polygons 79 and 84. The approach includes flexibility to take into account current vadose zone conditions to adjust the modeling and monitoring program. A description of this approach as it pertains to the

polygon being treated and how Goodyear proposes to utilize this approach for closure of each sub-area is described below in a step-wise manner.

Initially, the existing total soil vapor concentrations and resultant vertical distribution of VOCs in the vadose zone were utilized from results of the June, 1993 Phase I/II investigation at Polygons 96/92 and 27A. Evaluation of these investigative results are summarized in Table 7-1.

Table 7-1
Phase II Vadose Zone Well Contaminant Distribution

Polygon Wells	Total VOC Vapor Concentrations as TCE (ppmV)	Total Soil Concentration (ug/kg) *	VOC Location / Loading
VP-96-13	31	96	middle upper-fine / lower coarse
VP-96-26.5	210	659	
VP-96-37.5	220	719	
VP-96-50	150	473	
VP-92-17	35	85	bottom / lower coarse
VP-92-28	167	415	
VP-92-40	211	531	
VP-92-52	440	1201	
VP-27A-12	170	533	bottom / lower coarse
VP-27A-21	290	898	
VP-27A-36	420	1318	
VP-27A-45	440	1378	

NOTES:

* Total soil concentrations generated by converting vapor concentrations from ppmV to ug/L, then multiplying by site K_L + value of 0.599 L/Kg.

** Upper-fine vadose zone = 0 to 30 feet below grade.
Lower coarse vadose zone = 30 to 60 feet below grade.

Silty and clayey materials have been noted to occur from ground surface to approximately 30-feet below grade defining an "upper fine" vadose zone. The "upper fine" zone sharply grades into coarser sandy and gravelly materials from 30 to 60 feet below grade which has been termed the "lower coarse" zone. Based on these conditions, the vadose zone above the Subunit A aquifer can be separated into two general units about the site. Based on this local geologic condition, SVE remedy within the Subunit A vadose zone is anticipated to strongly favor VOC removal within the lower coarse materials due to both higher permeabilities characterizing the "lower coarse" materials, as well as overall greater VOC concentrations. These conditions were observed to be the case in

both the 1988 SVE pilot test and during the SVE remedy at Polygons 79 and 84. These conditions form the basis for simulating various vadose zone remediation levels to achieve sub-area closure. In order to evaluate the necessary sub-area vadose zone remediation level as determined by soil vapor, the VLEACH and mixing cell model was utilized incorporating the 1993 Polygon-specific VOC concentrations and vertical distributions illustrated in Table 7-1 with the data trends observed during SVE remedy at Polygons 79 and 84.

Analysis of the 1988 SVE pilot test recovery data in Polygon 79 revealed that after only ten days of treatment, the vadose zone concentrations were reduced by 73% (3,700 μg/L to 1,004 μg/L). After twelve days of rebound, approximately 15% of the initial concentration rebounded (436 μg/L) with a total rebound of 21% (794 μg/L) of the pre-test concentrations. Based on this analysis, a total rebound factor of 1.79 (1,798 μg/L ÷ 1,004 μg/L) was established for Polygon 79. Similar results were observed at Polygon 84. Incorporating unknown variables such as dynamic soil moisture content, VOC diffusion from adjacent polygons, and VOC volatization from the water table, a conservative rebound factor of 4.0 is used as the target to initiate rebound monitoring for sub-area closure. This rebound factor was found to accurately represent the dynamic vapor-phase equilibrium in the vadose zone during remedy operations in both Polygons 79 and 84. Based on these data, the same rebound factor will be used for Polygons 96, 92 and 27A.

In order to establish sub-area operation/shut down initiation milestones, the VLEACH and MixCell model was utilized. The June 1993 soil vapor concentrations and their vertical distributions illustrated in Table 7-1 were input into the models. Model simulations are performed which systematically reduced the VOC concentrations in the vadose zone to achieve the EPA defined polygon-specific ARM. In addition to evaluating the ARM concentrations (soil vapor concentrations resulting in groundwater TCE concentrations of 5 μg/L using the VLEACH and MixCell models), a lower-ARM concentration was evaluated. The lower-ARM concentration is determined by using the rebound safety factor of 4.0 applied to the threshold ARM. Based on the site-specific remediation level of 5 μg/L as TCE in Subunit A groundwater, the lower-ARM VLEACH and MixCell concentration is set at approximately 1.25 μg/L (5.0 μg/L ÷ 4) as TCE in Subunit A groundwater. As sub-area operational data becomes available, the lower-ARM factor will be modified accordingly to minimize the number of rebound periods necessary for sub-area closure.

To evaluate the threshold ARM and lower-ARM reduction concentrations necessary for sub-area closure, the VLEACH model was used for simulations in the following manner:

- Input the converted total soil concentration distribution values (μg/Kg) in Table 7-1 using parameters in Table 7-2 with the appropriate sub-area specific values into the VLEACH model. The total soil concentration value will be entered adjacent to the ten 6-foot thick cells comprising the vadose zone.

- Run the VLEACH model at 1-year mass flux output statements, 10-year printout summaries, over a 30-year duration (or until a peak mass flux is demonstrated).

- Run the mixing cell model using the VLEACH output with groundwater impact printouts on a 1-year basis over the duration that the VLEACH model was run (e.g., typically a 30-year duration).

- Reiterate this process using a range of converted total soil vapor concentration values. Repeat this process until an approximate threshold total soil vapor concentration and associated threshold ARM value is established that, when exceeded, gives rise to contributing to Subunit A groundwater TCE concentrations in excess of 5 μg/L.

- Convert this threshold total soil vapor concentration (μg/L) into units of parts per million by volume (ppmV) as TCE.

- Use this adjusted sub-area specific total soil vapor concentration in ppmV as TCE as the field monitoring criteria for ARM estimation.

Using this approach allows for a technical basis for sub-area operation and shut-down that is tied to the VLEACH model and the 1992 Consent Decree (Appendix B). Since each sub-area may contain vadose zone-specific parameters that effect contaminant transport and removal, each sub-area may have an ARM threshold concentration developed from sub-area specific soil vapor data. Development of these parameters for each sub-area will allow for SVE operation to be suspended in one or more areas during polygon remediation.

Table 7-2
SUMMARY OF SOIL PHYSICAL AND CHEMICAL PARAMETERS USED IN DETERMINING TOTAL SOIL TCE CONCENTRATIONS (μg/Kg)

Parameter	Value	Units
K_D	0.0915	L/Kg
f_{oc}	0.074%	Dimensionless
K_h	0.473	Dimensionless
C_g	Varies	μg/L
C_T	Varies	μg/Kg
ρ_b	1.64	g/cm^3
e_T	38.1%	Dimensionless
e_w	25.5%	Dimensionless
K_{oc}	123.6%	L/Kg
KgT	0.599	L/Kg
Depth to Ground Water	60	ft

Note:
* From Lyman (1982)

Three model scenarios were executed for each of the three polygons. These runs include the current polygon status, and two additional runs with reductions in the VOC concentrations. Modeling run numbers 1, 2, and 3 presented in Table 7-3 each focus on realistic scenarios where reduced vapor concentrations have been calculated using synthetic data within the lower coarse zone.

Model 1 demonstrates the current polygon modeling conditions with a resultant Subunit A groundwater concentration of 5.685 μg/L. Referring to Table 7-2, Model Run 2 estimates resultant Subunit A groundwater impact based on reducing the existing total soil concentration at the two deep piezometers at Polygon 84 by 15%. Specifically, this constitutes a reduction in piezometer VS-VP84-36 from a concentration of 380.37 μg/Kg to 323.31 μg/Kg, and in piezometer VS-VP84-45 from 748.15 μg/Kg to 635.93 μg/Kg. Loading these synthetic data-reduced concentrations into the VLEACH and MixCell screening models yields an estimated Subunit A groundwater impact of 4.833 μg/L. The results of Model Run 2 pass the VLEACH and MixCell screening by reducing Subunit

Table 7-3
ARM ESTIMATION CALCULATIONS FOR POLYGON 96 SUB-AREAS MONITORING

ARM Modeling Run Number	Soil Vapor Monitoring Piezometer Designation*	Modelled Total Soil Concentration (μg/Kg) Reduction in each Piezometer**	Percentage Reduction from Actual Concentration	Approximate Corresponding Soil Vapor Concentration (Converted from μg/L to ppmV as TCE)	Modelled Maximum Subunit A Impact to Groundwater (μg/L)
1	VP-96-13 VP-96-26.5 VP-96-37.5 VP-96-50	96 659 719 473	0 0 0 0	29 201 219 144	26.992
2	VP-96-13 VP-96-26.5 VP-96-37.5 VP-96-50	96 198 72 47	0 70 90 90	29 60 22 15	4.846
3	VP-96-13 VP-96-26.5 VP-96-37.5 VP-96-50	48 33 22 14	50 95 97 97	15 10 7 4	1.239

NOTES:
* See Appendix C for the well construction logs. VP-96 installed during 1993 Phase II Investigation.
** Based on Projecting Residual VOCs assuming On-going SVE Remedy.
BOLD print indicates that the Modelled Concentrations and Distributions passed the VLEACH and MixCell testing.

A groundwater TCE concentrations below the MCL of 5 μg/L. In order to remain conservative, to anticipate soil vapor rebound conditions, and to minimize rebound cycles following SVE sub-area well shutdown, the targeted MixCell Subunit A groundwater result was set at one quarter of the MCL, or at approximately 1.25 μg/L.

In order to evaluate what initial soil vapor concentrations would give rise to a MixCell determined Subunit A groundwater concentration of approximately 1.25 μg/L, additional model runs were completed in an iterative fashion. Model Run 3 simulates reduced soil vapor concentrations within the vadose zone to yield a maximum Subunit A groundwater concentration of approximately 1.25 μg/L, as determined by the VLEACH and MixCell screening models. Tables 7-3, 7-4 and 7-5 present the various present state (Run 1), ARM (Run 2), and lower-ARM (Run 3) model simulations for Polygons 96, 92 and 27A, respectively. See Appendix H for the modeling support data.

Table 7-4
ARM ESTIMATION CALCULATIONS FOR POLYGON 92 SUB-AREAS MONITORING

ARM Modeling Run Number	Soil Vapor Monitoring Piezometer Designation*	Modelled Total Soil Concentration (µg/Kg) Reduction in each Piezometer**	Percentage Reduction from Actual Concentration	Approximate Corresponding Soil Vapor Concentration (Converted from µg/L to ppmV as TCE)	Modelled Maximum Subunit A Impact to Groundwater (µg/L)
1	VP-92-17 VP-92-28 VP-92-40 VP-92-52	85 415 531 1201	0 0 0 0	26 127 162 367	7.559
2	VP-92-17 VP-92-28 VP-92-40 VP-92-52	85 415 345 780	0 0 35 35	26 127 106 239	4.917
3	VP-92-17 VP-92-28 VP-92-40 VP-92-52	85 415 85 192	0 0 84 84	26 127 26 59	1.219

NOTES:

* See Appendix C for the well construction logs. VP-92 installed during 1993 Phase II Investigation.

** Based on Projecting Residual VOCs assuming On-going SVE Remedy.

BOLD print indicates that the Modelled Concentrations and Distributions passed the VLEACH and MixCell testing.

Table 7-5
ARM ESTIMATION CALCULATIONS FOR POLYGON 27A SUB-AREAS MONITORING

ARM Modeling Run Number	Soil Vapor Monitoring Piezometer Designation*	Modelled Total Soil Concentration (μg/Kg) Reduction in each Piezometer**	Percentage Reduction from Actual Concentration	Approximate Corresponding Soil Vapor Concentration (Converted from μg/L to ppmV as TCE)	Modelled Maximum Subunit A Impact to Groundwater (μg/L)
1	VP-27A-12	533	0	162	5.943
	VP-27A-21	898	0	275	
	VP-27A-36	1318	0	403	
	VP-27A-45	1378	0	421	
2	VP-27A-12	533	0	162	5.053
	VP-27A-21	898	0	275	
	VP-27A-36	1120	15	342	
	VP-27A-45	1171	15	358	
3	VP-27A-12	400	25	122	1.186
	VP-27A-21	674	25	206	
	VP-27A-36	198	85	60	
	VP-27A-45	207	85	63	

NOTES:
* See Appendix C for the well construction logs. VP-27A installed during 1993 Phase II Investigation.
** Based on Projecting Residual VOCs assuming On-going SVE Remedy.
BOLD print indicates that the Modelled Concentrations and Distributions passed the VLEACH and MixCell testing.

Included in Tables 7-3 through 7-5 for each synthetic model condition is the equivalent soil vapor concentration in units of ppmV as TCE corresponding to the modelled total soil concentration (μg/Kg) for each soil vapor piezometer. The conversion first utilized Equation 7-1 giving units of μg/L, which were then converted to units of ppmV according to the following equation:

$$C_g\ (\mu g/L) \times 24.04/MW = C_g\ (ppmV)$$

Equation 7-1

where:

MW = molecular weight of TCE (131.39 grams)

Tables 7-3, 7-4 and 7-5 contain the converted soil vapor concentration data (ppmV) for each of the three polygons for the base concentrations as well as the ARM and lower-ARM concentrations. For

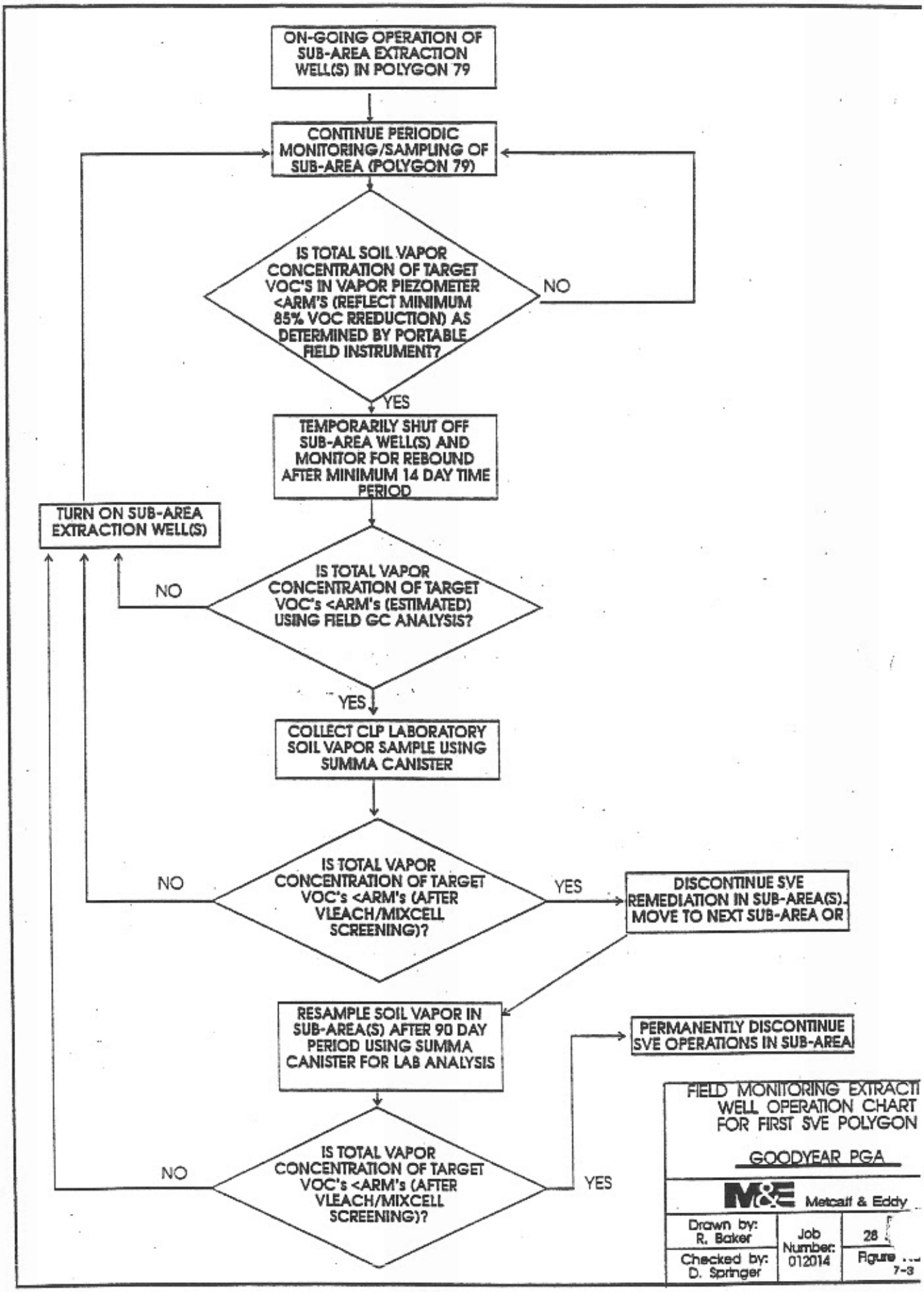
Tables 7-3, 7-4 and 7-5 contain the converted soil vapor concentration data (ppmV) for each of the three polygons for the base concentrations as well as the ARM and lower-ARM concentrations. For each of the three polygons, the VLEACH and MixCell modeling indicates that the lower-ARM soil vapor concentrations will result in modeled groundwater concentrations that meet the conditions of Appendix B of the Consent Decree.

During SVE sub-area operations, the lower-ARM soil vapor concentrations will be used as the basis for sub-area shut-down initiation. It should be noted that all of the soil vapor concentrations in Tables 7-3, 7-4 and 7-5 are in the ppm range, and therefore, field instrumentation can be used for monitoring purposes.

7.2 Field Monitoring for Sub-Area Well Operations

Figure 7-3 provides a flow chart summarizing the proposed field monitoring protocol for SVE sub-area extraction well operation. Referring to Figure 7-3, during ongoing SVE remedy at a sub-area well, routine SVE well monitoring will proceed as described in Section 6.0 of this document. Field soil vapor samples will be collected from monitoring wells using the methods as described in Section 2.1 of the November 25, 1992 SVE Final Design Document and Section 6.0 of this report. Briefly, this method includes an initial purging of the monitoring well, followed by gas collection directly into a 3-liter capacity Tedlar bag using a soil vacuum box.

Purge and sample rates will be maintained at 200 ml/min and new segments of tubing will be used between samples. Upon sample completion, a field photoionization detector (PID) calibrated to the compound TCE will be inserted into the Tedlar bag and the maximum reading recorded. If soil vapor concentrations as determined by the field instrumentation are measured above sub-area specific lower-ARM concentrations at vapor piezometers, remediation will continue. See Tables 7-3, 7-4 and 7-5 for the lower-ARM soil vapor concentrations. If however, soil vapor monitoring levels at individual piezometers are determined to be at or below sub-area specific lower-ARM concentrations, shut-down for that sub-area will be initiated. Initiation of sub-area shut-down monitoring will consist of three major phases: initial rebound, model sampling, and closure sampling. Each of these phases are described below.


ON-GOING OPERATION OF SUB-AREA EXTRACTION WELL(S) IN POLYGON 79
CONTINUE PERIODIC MONITORING/SAMPLING OF SUB-AREA (POLYGON 79)
IS TOTAL SOIL VAPOR CONCENTRATION OF TARGET VOC'S IN VAPOR PIEZOMETER <ARM'S (REFLECT MINIMUM 85% VOC RREDUCTION) AS DETERMINED BY PORTABLE FIELD INSTRUMENT?
NO
YES
TEMPORARILY SHUT OFF SUB-AREA WELL(S) AND MONITOR FOR REBOUND AFTER MINIMUM 14 DAY TIME PERIOD
TURN ON SUB-AREA EXTRACTION WELL(S)
IS TOTAL VAPOR CONCENTRATION OF TARGET VOC's <ARM's (ESTIMATED) USING FIELD GC ANALYSIS?
NO
YES
COLLECT CLP LABORATORY SOIL VAPOR SAMPLE USING SUMMA CANISTER
IS TOTAL VAPOR CONCENTRATION OF TARGET VOC's <ARM's (AFTER VLEACH/MIXCELL SCREENING)?
NO
YES
DISCONTINUE SVE REMEDIATION IN SUB-AREA(S). MOVE TO NEXT SUB-AREA OR
RESAMPLE SOIL VAPOR IN SUB-AREA(S) AFTER 90 DAY PERIOD USING SUMMA CANISTER FOR LAB ANALYSIS
PERMANENTLY DISCONTINUE SVE OPERATIONS IN SUB-AREA
IS TOTAL VAPOR CONCENTRATION OF TARGET VOC's <ARM's (AFTER VLEACH/MIXCELL SCREENING)?
NO
YES
FIELD MONITORING EXTRACTI
WELL OPERATION CHART
FOR FIRST SVE POLYGON
GOODYEAR PGA
M&E Metcalf & Eddy
Drawn by: R. Baker
Checked by: D. Springer
Job Number: 012014
28
Figure 7-3

Initiation of sub-area shut-down will commence with the initial rebound phase. The initial rebound phase allows the treated sub-area vadose zone to re-equilibrate with respect to the contaminant liquid, soluble and vapor phases. Based on the Polygons 79 and 74 operations data, a period of 14 days has been estimated to be a representative rebound period since greater than 75% of the possible rebound had occurred during this period in the past (see Section 6.6). As with other sub-area treatment parameters, this period will be adjusted as operational data becomes available to minimize the number of necessary rebound events. If the soil vapor concentrations rebound is greater than 20% of the initial or previous sub-area maximum concentration, whichever is latest, the sub-area extraction well will be restarted. If the soil vapor concentrations rebound less than 20% of the initial or previous sub-area maximum concentration, samples will be collected from the sub-area monitoring well for Contract Laboratory Program (CLP) laboratory analysis. The sub-area monitoring well will be sampled using the identical protocol specified in Section 2.1.3.6 of the November 25, 1992 SVE Final Design Document, and in the Phase I/II Quality Assurance Project Plan, and submitted to a CLP Approved laboratory for certified analysis using the TO-14 analytical methodology.

Analytical results of laboratory submitted samples will be input into the VLEACH and MixCell models using the criteria established in Section 2 of the November 25, 1992 SVE Final Design Document. Specifically, for laboratory results of soil vapor rebound samples, the only change that will be imposed to the model input process is the analytical data and its resultant verified distribution. All other process and model input variables will remain unchanged. In this context, SVE remediation progress will be gauged based on soil vapor concentration data only.

Individual sub-area extraction wells within a given polygon are numbered sequentially beginning with the polygon number followed by the number 1 and counting upwards to include all the wells within the polygon. Since the point of compliance with each sub-area is its associated monitoring well, all samples for VLEACH screening will be collected from the monitoring wells.

A total of three sub-areas exist in Polygons 96 and 92, and one sub-area in Polygon 27A. Extraction wells contain a prefix, VEW, in designation while monitoring wells contain a VP prefix. See Drawing 96-C-1, Appendix A.

VLEACH and MixCell simulations and data reports will contain the header which pertains to its sub-area. For instance, the second sub-area in Polygon 96, named 96-2, will contain extraction well VEW-96-2 and monitoring well VP-96-2. Vapor samples for compliance will be collected from VP-96-2 and the laboratory data, once received, will be input into the VLEACH and MixCell models under the header 96-2. All data reporting will contain the appropriate designation prefixes for continuity.

If the modelling results demonstrate that the sub-area well fails the VLEACH and MixCell screening, the sub-area extraction well will be turned on and SVE monitoring will continue. If, however, modelling results demonstrate that the sub-area well falls below the sub-area ARM threshold levels, then the sub-area rebound period will officially commence and a final round of sampling and analysis for closure will follow 90 days later. Reference Sharp letter to U.S. EPA dated October 29, 1993 regarding rebound verification. Following this 90-day rebound period, a second round of analytical soil vapor samples will be collected from the sub-area SVE monitoring well and submitted to the CLP approved laboratory for analysis. See Figure 6-6. These data will be input into the VLEACH and MixCell screening models to evaluate whether the sub-area well continues to pass the screening test. If the resultant Subunit A groundwater TCE concentrations as determined by the VLEACH and MixCell models fall above the Consent Decree limit of 5 μg/L, then SVE operations will be re-initiated at the sub-area extraction well. If, however, Subunit A groundwater concentrations continue to fall below the Consent Decree limit of 5.0 μg/L, the sub-area well operation will be permanently discontinued, and SVE operations will proceed in the next prioritized sub-area.

Use of this approach allows for a technical basis for sub-area operation and shut-down that is tied to the 1990 Consent Decree. Since each sub-area may contain vadose-zone specific parameters that effect VOC contaminant transport and removal, each individual sub-area may have a lower-ARM and threshold ARM concentration developed from sub-area specific soil vapor data. Development of these parameters for each sub-area will allow for SVE operation to be suspended in one or more areas during polygon remediation for rebound monitoring, and/or permanently suspended, based on certified laboratory analysis and VLEACH and MixCell modelling results, if needed. Lastly, the approach for Polygons 96, 92 and 27A have been prepared based on data from SVE operations at Polygons 79 and 84 as well as the 1988 RI/FS SVE pilot test. Since the vadose zone conditions are dynamic with respect to time and location, the decisional criteria presented in this section are

estimations. These values will be modified if necessary as current sub-area specific data becomes available. These modifications will be transmitted to U.S. EPA prior to incorporation into the O&M protocol. The results of all monitoring events, laboratory analytical results, and VLEACH and mixing cell modeling will be submitted to U.S. EPA in Goodyear's monthly report.

APPENDIX B

POLYGON 96/92/27A BORING AND WELL CONSTRUCTION LOGS

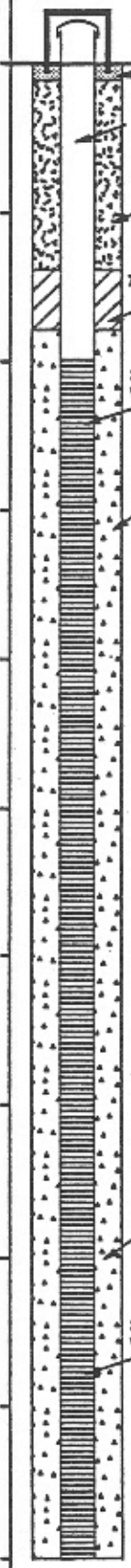
UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISION			GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTION Description Order: Color, Soil Type, Letter Symbol, Density, Moisture, Modifiers
COARSE GRAINED SOILS More Than 50% Of Material is *LARGER* Than No. 200 Sieve	GRAVEL AND GRAVELLY SOILS More Than 50% Of Coarse Fraction *RETAINED* On No.4 Sieve	Clean Gravels (Little Or No Fines)		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
		Gravels With Fines (Appreciable Amount of Fines)		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES.
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES.
	SAND AND SANDY SOILS More Than 50% Of Coarse Fraction *PASSING* No.4 Sieve	Clean Sand (Little or No Fines)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.
		Sands with Fines (Appreciable Amount of Fines)		SM	SILTY SANDS, SAND-SILT MIXTURES.
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES.
FINE GRAINED SOILS More Than 50% Of Material is *SMALLER* Than No. 200 Sieve	SILT AND CLAYS Liquid Limit *LESS* Than 50%			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY.
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS.
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY.
	SILT AND CLAYS Liquid Limit *GREATER* Than 50%			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS.
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS.
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS.

BORING VEW-96-1

Phoenix-Goodyear Airport

CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017761
DRILLING METHOD: 6.25" Hollow Stem Auger; CME 75HT
GEOLOGIST: M. Joe Weidmann
CONTRACTOR: Heber Mining & Exploration **START DATE:** 10/10/95 **TIME:**
DRILLER: Randy Wilder **FINISH DATE:** 10/10/95 **TIME:**



DEPTH (IN FEET)	WELL CONSTRUCTION	SAMPLE DATA: PID/PPM	SAMPLE DEPTH	SAMPLE INTERVAL	SOIL TYPE: USCS	SYMBOLS	
0–10					ML		0-5' Light brown, very fine sandy SILT (ML), dry. 5-10' As above.
10–15					ML		10-15' As above, becomes brown, CLAY (CL) at ~12', little silt, slightly damp, h caliche ~11-12'.
15–30					CL		15-20' As above, silty CLAY (CL) from 17-20', hard caliche at ~17', damp. 20-25' As above, becomes brown, CLAY (CL) at ~22', damp. 25-30' As above.
30–35					SW		30-35' As above, becomes fine to medium SAND (SW), well-graded, little coar SAND (SW), trace gravel at ~31', slightly damp to damp.
35–40					GW		35-40' As above, GRAVEL (GW) and cobbles begin at ~36', some well-graded sand, minor silt and clay layers, damp.
40–50					GC		40-45' Clayey GRAVELS (GC) and cobbles, minor sand, damp. 45-50' As above, moist.
50							Total depth of 50' below ground surface. No groundwater encountered. No odors or PID readings encountered during drilling.

0 5 10 15 20 25 30 35 40 45 50 55

BORING VEW-96-2

Phoenix-Goodyear Airport

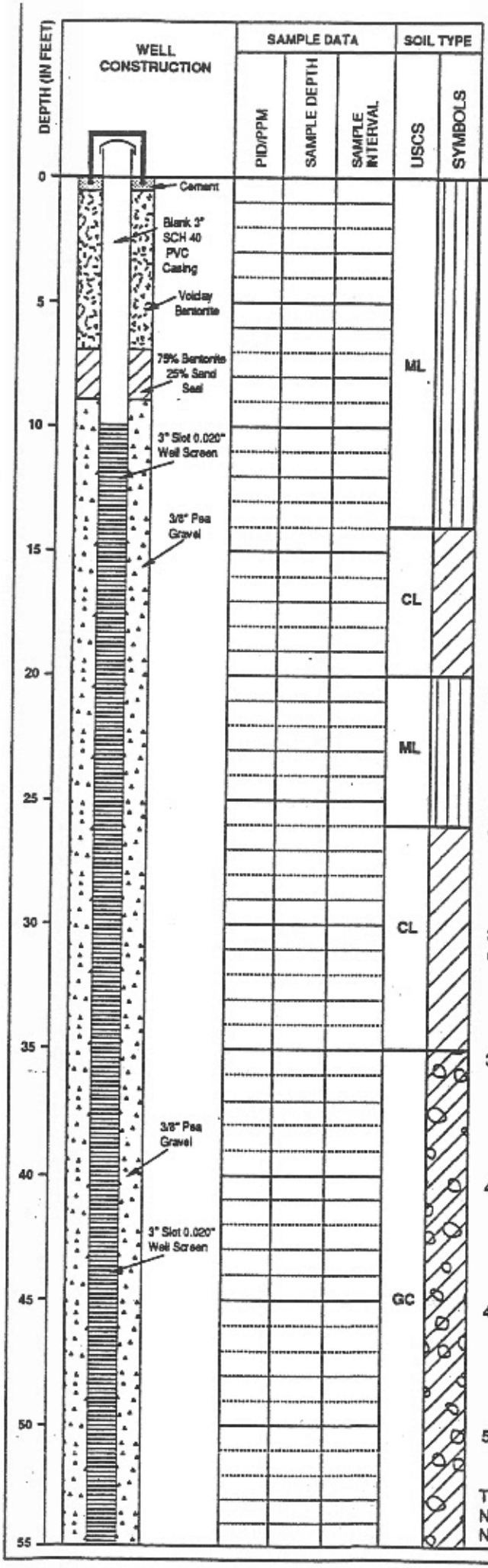
CLIENT: Goodyear Tire and Rubber — **JOB NUMBER:** 017761

DRILLING METHOD: 6.25" Hollow Stem Auger; CME 75HT

GEOLOGIST: M. Joe Weidmann

CONTRACTOR: Heber Mining & Exploration — **START DATE:** 10/3/95 — **TIME:** 0805

DRILLER: Randy Wilder — **FINISH DATE:** 10/3/95 — **TIME:** 1000



0-5' Light brown, fine sandy SILT (ML), trace to little medium sand, dry.

5-10' Same as above.

10-15' Same as above, caliche at ~12', becomes a brown, silty CLAY (CL), at ~14', slightly damp.

15-20' Brown, CLAY (CL), becomes a silty CLAY(CL), at ~19', damp.

20-25' Brown, clayey SILT (ML), becomes a SILT (ML), with little clay and little fine to medium sand, trace coarse sand at 24', caliche at ~24', slightly damp.

25-30' As above, becomes a silty CLAY (CL), little to fine coarse sand at ~26', damp.

30-35' Brown, CLAY (CL), little silt, trace sand, gravels at~32', little sand at ~34', damp.

35-40' CLAYEY GRAVEL to GRAVELLY CLAY (GC), minor sand, damp.

40-45' Same as above.

45-50' Same as above.

50-55' Same as above, slightly moist.

Total depth of 55' below ground surface.
No groundwater encountered.
No odors or PID readings encountered during drilling.

BORING VEW-96-3

Phoenix-Goodyear Airport

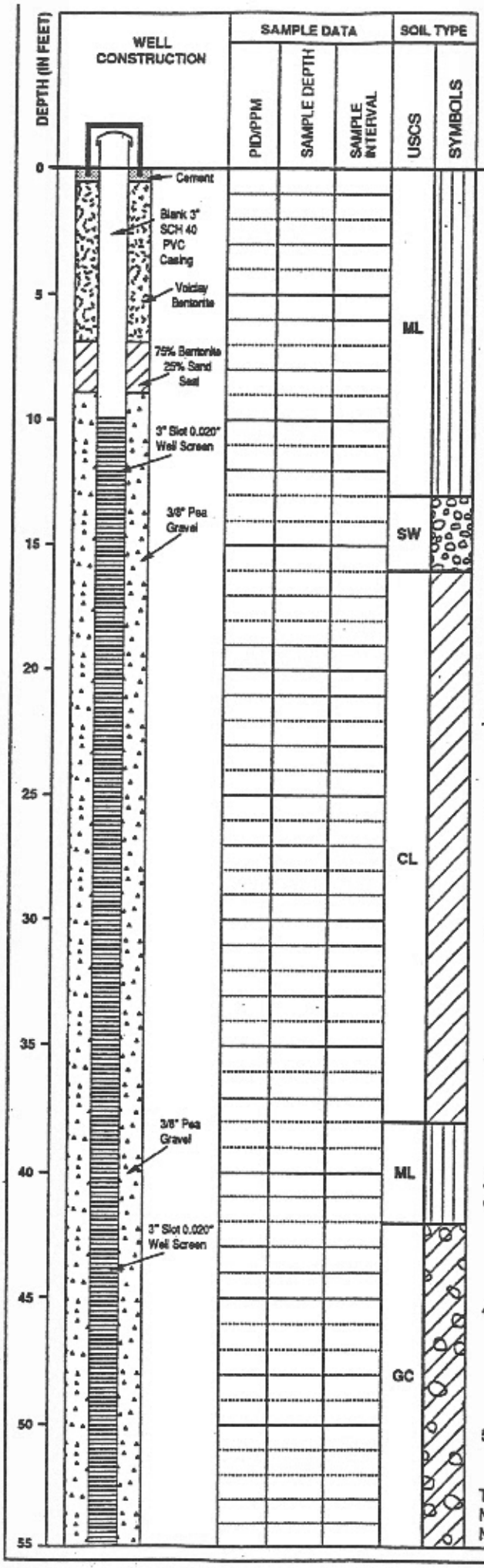
CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017761

DRILLING METHOD: 6.25" Hollow Stem Auger; CME 75HT

GEOLOGIST: M. Joe Weidmann

CONTRACTOR: Heber Mining & Exploration **START DATE:** 10/2/95 **TIME:** 10

DRILLER: Randy Wilder **FINISH DATE:** 10/3/95 **TIME:**



0-5' Light brown, SILT (ML), trace to little sand, dry.

5-9' Light brown, SILT (ML), dry.

9-15' Light brown, clayey SILT (ML), becomes silty fine to medium SAND (SW), at ~13', little to coarse sand, trace gravel, slightly damp.

15-20' Light brown, silty fine to medium SAND (SW), becomes brown, clay at 16 damp.

20-25' Brown, CLAY (CL), little silt, trace sand, caliche from 21-23', damp.

25-30' Brown, CLAY (CL), little silt, trace sand, damp.

30-35' Brown, CLAY (CL), little silt, trace sand, damp.

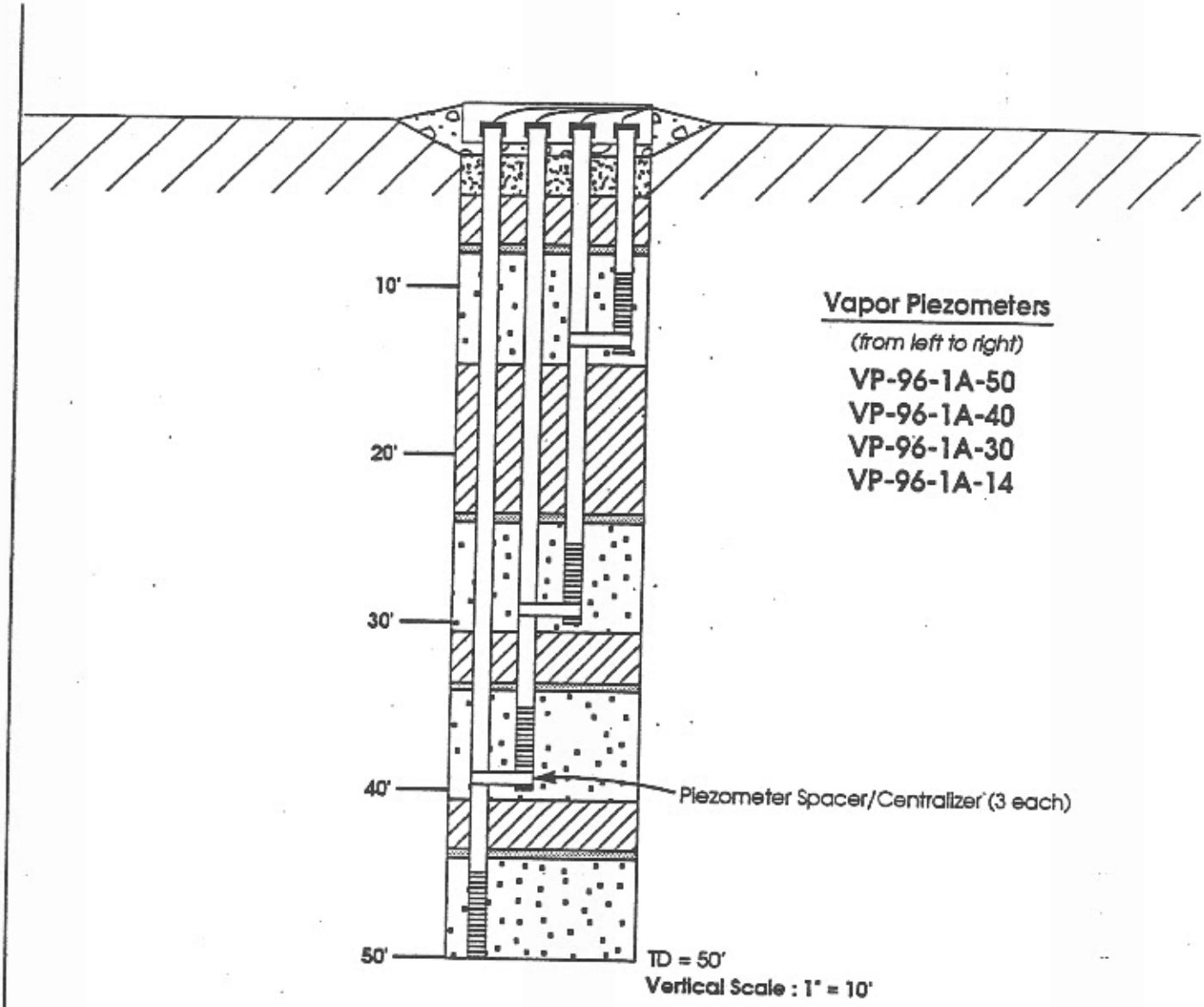
35-40' Brown, CLAY (CL), little silt, trace sand, gravels and cobbles from 36-38', becomes clayey SILT (ML), at ~38', some fine to coarse sand, slightly damp.

40-45' Brown, clayey SILT (ML), some fine sand, becomes CLAYEY GRAVEL to GRAVELLY CLAY (GC), at ~42', minor sand, trace silt, damp.

45-50' Brown, CLAYEY GRAVEL to GRAVELLY CLAY (GC), little sand, damp.

50-55' Brown, as above, slightly moist.

Total depth of 55' below ground surface.
No groundwater encountered.
No odors or PID readings encountered during drilling.



EXPLANATION

Redi-Mix Cement

Grout-
95% Portland Cement and
5% Volclay Bentonite

Bentonite Seal-
Dry crumbles to seal water table

Bentonite Seal-
75% Bentonite Chips and
25% 8-12 Sand

Sand Seal-
Colorado #30 Silica

Gravel Pack-
Colorado 8-12 Silica

Note: All Piezometers constructed of 1/2" ID SCH 40 PVC with 5 ft. length of 0.02" machine slot screen

Note 2: All Piezometer names reference bottom of screened interval

PROJECT: Phoenix-Goodyear Airport

TITLE: Well Construction Log VP-96-1A

CLIENT: Goodyear Tire & Rubber

LOCATION: VP-96-1A

JOB NUMBER: 017761

M&E Metcalf & Eddy

BORING VP-96-1A

Phoenix-Goodyear Airport

CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017761

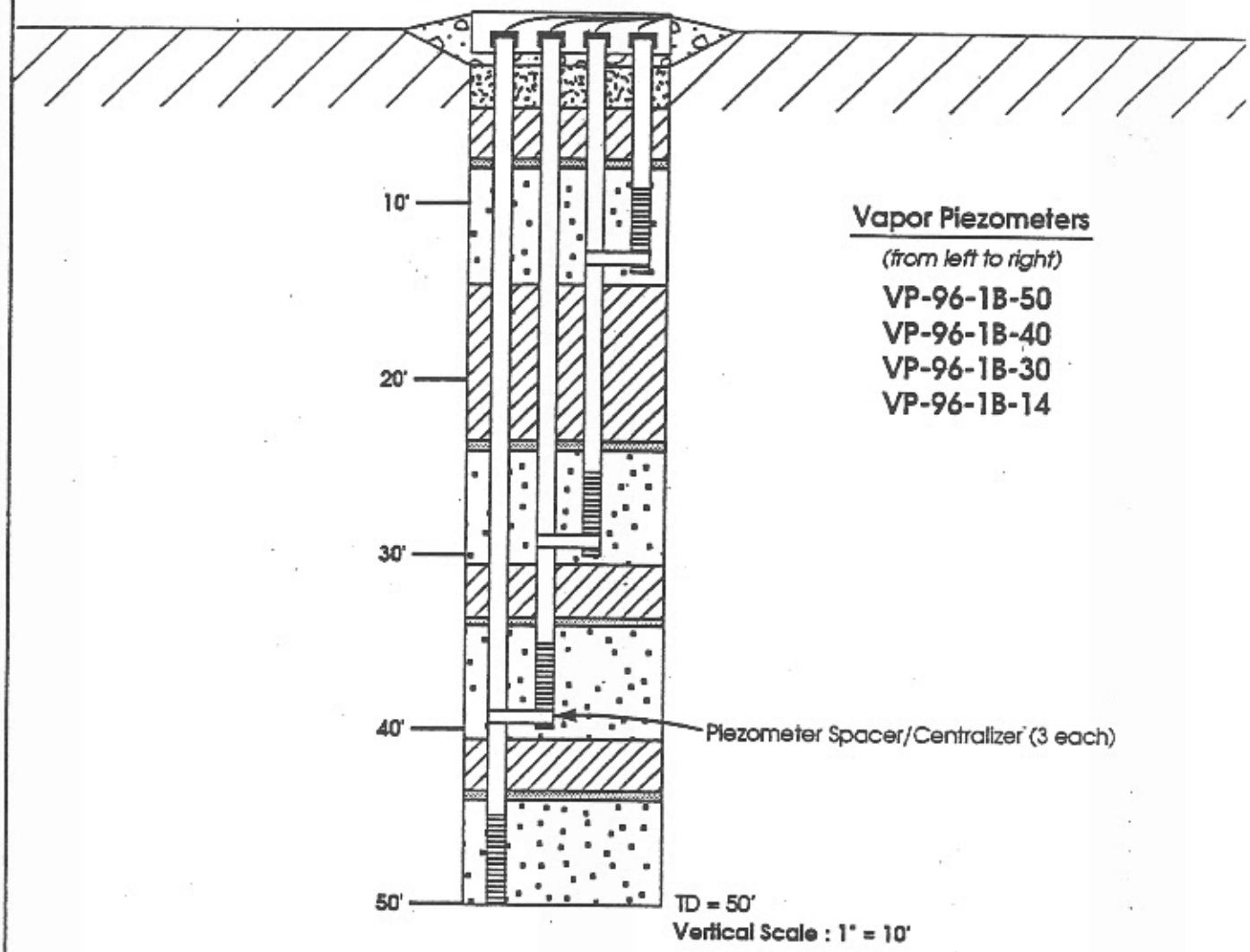
DRILLING METHOD: 8.25" Hollow Stem Auger; CME 75HT

GEOLOGIST: M. Joe Weidmann

CONTRACTOR: Heber Mining & Exploration **START DATE:** 10/11/95 **TIME:** 090

DRILLER: Randy Wilder **FINISH DATE:** 10/11/95 **TIME:** 1

DEPTH (IN FEET)	IN. RECOVERED/ IN. DRIVEN	BLOWS PER 6 INCHES	PID/PPM	SAMPLE DEPTH	SAMPLE TYPE	TIME	USCS	SYMBOLS	
0							ML		0-5' Reddish brown, very fine sandy SILT (ML), dry.
5									5-10' As above.
10									10-15' As above, becomes CLAY (CL) at ~13', hard caliche at 13', slightly dar
15							CL		15-20' Brown, CLAY (CL), little silt, hard caliche from 17-18', slightly damp.
20									20-25' Brown, silty CLAY (CL), sand, gravel and cobbles from 22-23', some weathered granite, becomes CLAY (CL), little silt at 23', slightly damp.
25	18/18	5/9/10	0	25	SS	0945			25-26.5' Brown, silty CLAY (CL),trace to fine sand, damp.
									26.5-30' As above, becomes sand and GRAVEL (GW) at ~28'.
							GW		
30	18/18	22/28/30	0	30	SS	1000	SW		30-31.5' Brown, silty fine to medium SAND (SW), intervals of fine to coarse, well-graded sand, trace gravels, intervals of clayey silt to silty clay.
									31.5-35' Well-graded, fine to coarse SAND (SW), intervals of silt and clay, gravels at 31' and 33'.
35	18/14	25/30/35	0	35	SS	1020	GC		35-36.5' Coarse sand and GRAVEL (GC), little fine to medium sand, interbedded silt and clay, damp.
									36.5-40' As above, cobbles begin at ~37'.
40									40-45' GRAVELS and cobbles (GC), minor silt, clay and sand, damp.
45									45-50' As above, sand and GRAVEL (GW) 48-50', moist.
							GW		
50									Total depth 50' below ground surface. No groundwater encountered. No odors or PID reading encountered.
55									



EXPLANATION

Redi-Mix Cement

Grout-
95% Portland Cement and
5% Volclay Bentonite

Bentonite Seal-
Dry crumbles to seal water table

Bentonite Seal-
75% Bentonite Chips and
25% 8-12 Sand

Sand Seal-
Colorado #30 Silica

Gravel Pack-
Colorado 8-12 Silica

Note: All Piezometers constructed of 1/2" ID SCH 40 PVC with 5 ft. length of 0.02" machine slot screen

Note 2: All Piezometer names reference bottom of screened interval

PROJECT: Phoenix-Goodyear Airport

TITLE: Well Construction Log VP-96-1B

CLIENT: Goodyear Tire & Rubber

LOCATION: VP-96-1B

JOB NUMBER: 017761

Metcalf & Eddy

BORING VP-96-1B

Phoenix-Goodyear Airport

CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017761

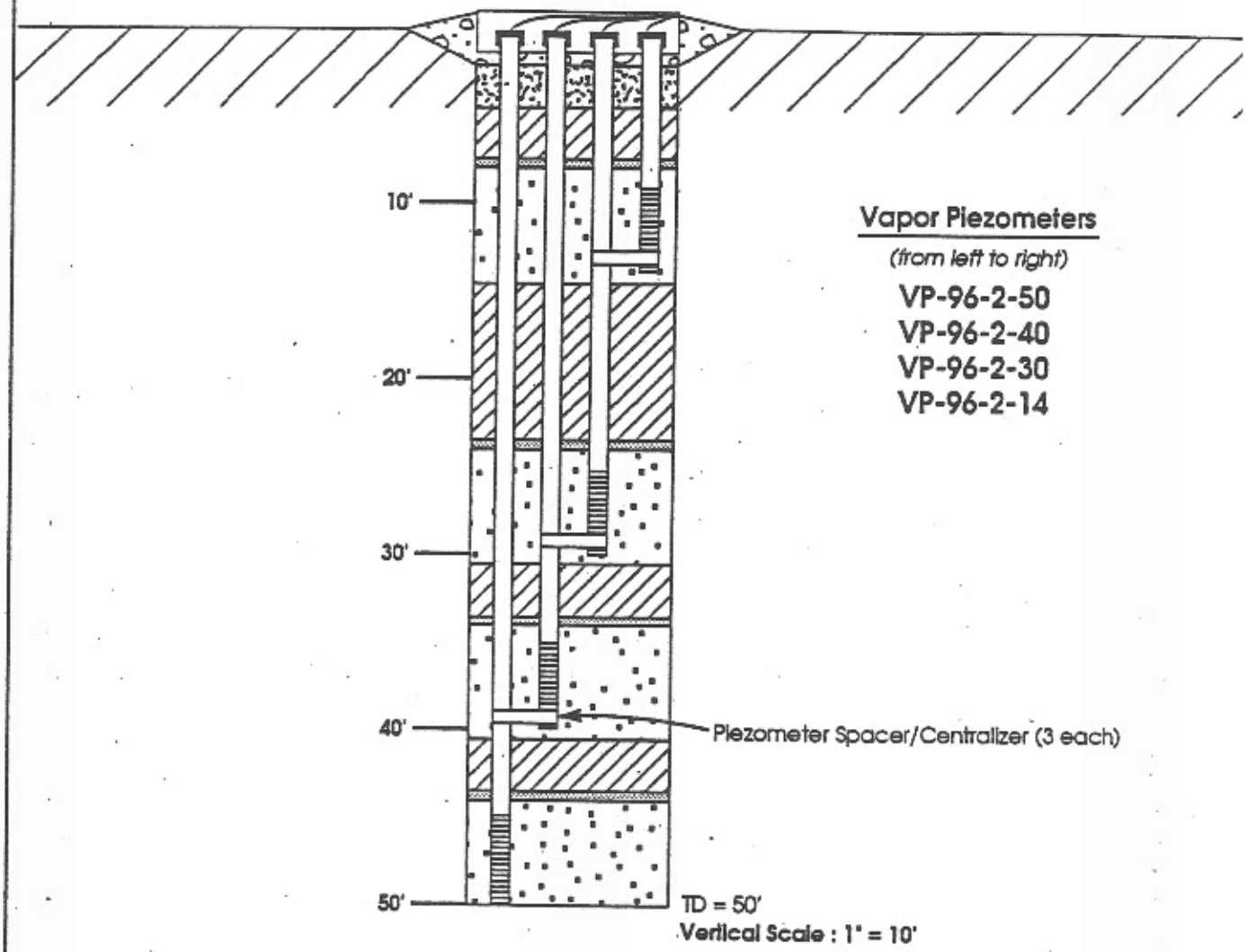
DRILLING METHOD: 8.25" Hollow Stem Auger; CME 75HT

GEOLOGIST: M. Joe Waldmann

CONTRACTOR: Heber Mining & Exploration **START DATE:** 10/12/95 **TIME:** 080

DRILLER: Randy Wilder **FINISH DATE:** 10/12/95 **TIME:** 1

DEPTH (IN FEET)	SAMPLE DATA: IN. RECOVERED/ IN. DRIVEN	BLOWS PER 6 INCHES	PID/PPM	SAMPLE DEPTH	SAMPLE TYPE	TIME	SOIL TYPE: USCS	SYMBOLS	
0							ML		0-5' Reddish brown, very fine sandy SILT (ML), trace gravel and cobbles, dry.
5									5-10' Reddish brown, very fine sandy SILT (ML), hard caliche from 7-10', dry.
10									10-15' Reddish brown, very fine sandy SILT (ML), trace gravel, hard caliche ~12-13', slightly damp.
15									15-20' As above, becomes brown, silty CLAY (CL) at ~16', hard caliche from ~17-19', trace gravels and cobbles.
20							CL		20-25' Clayey silt to silty CLAY (CL), hard caliche ~21-23', trace to little gravel and cobbles, slightly damp.
25	18/18	6/6/9	0	25	SS	0855			25-26.5' Brown, silty CLAY (CL), slightly damp.
									26.5-30' Brown, silty CLAY (CL), damp.
30	18/16	12/14/20	0	30	SS	0910			30-31.5' Brown, silty CLAY (CL), damp.
									31.5-35' Brown, silty CLAY (CL), damp.
35	18/7	8/12/14	0	35	SS	1205	SW		35-36.5' Light brown, medium to very coarse SAND (SW), little fine to sand, trace silt, trace to little gravel, slightly damp.
									36.5-40' Medium to very coarse SAND (SW), well-graded, gravel at ~31' and 33', minor intervals of silt and clay.
40							GC		40-45' Clayey GRAVEL (GC) and cobbles, minor sand, damp.
45									45-50' Clayey GRAVEL (GC) and cobbles, minor sand, sand and GRAVEL (GW) from 48-50', slightly moist.
							GW		
50									Total depth 50' below ground surface. No groundwater encountered. No odors or PID reading encountered.
55									



EXPLANATION

Redi-Mix Cement

Grout-
95% Portland Cement and
5% Volclay Bentonite

Bentonite Seal-
Dry crumbles to seal water table

Bentonite Seal-
75% Bentonite Chips and
25% 8-12 Sand

Sand Seal-
Colorado #30 Silica

Gravel Pack-
Colorado 8-12 Silica

Note: All Piezometers constructed of 1/2" ID SCH 40 PVC with 5 ft. length of 0.02" machine slot screen

Note 2: All Piezometer names reference bottom of screened interval

PROJECT: Phoenix-Goodyear Airport

TITLE: Well Construction Log VP-96-2

CLIENT: Goodyear Tire & Rubber

LOCATION: VP-96-2

JOB NUMBER: 017761

M&E Metcalf & Eddy

BORING VP-96-2

Phoenix-Goodyear Airport

CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017761

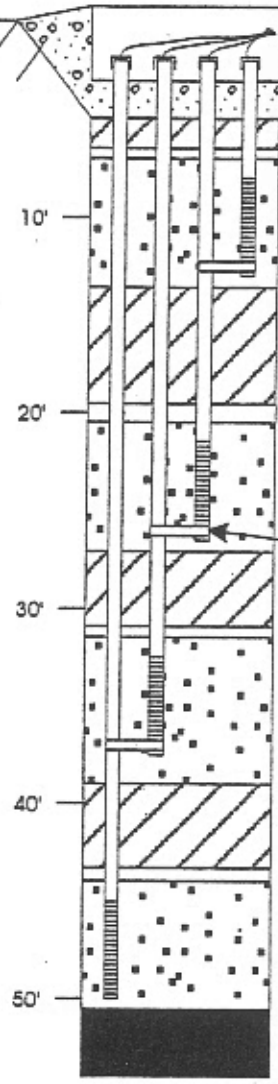
DRILLING METHOD: 8.25" Hollow Stem Auger; CME 75HT

GEOLOGIST: M. Joe Weidmann

CONTRACTOR: Heber Mining & Exploration **START DATE:** 10/9/95 **TIME:** 0920

DRILLER: Randy Wilder **FINISH DATE:** 10/9/95 **TIME:** 11

DEPTH (IN FEET)	SAMPLE DATA: IN. RECOVERED/ IN. DRIVEN	BLOWS PER 6 INCHES	PID/PPM	SAMPLE DEPTH	SAMPLE TYPE	TIME	SOIL TYPE: USCS	SYMBOLS	
0							ML		0-5' Brown, fine sandy SILT.
5									5-10' Brown, fine sandy SILT (ML), becomes brown silty CLAY (CL), at ~7', hard caliche from ~7-8', slightly damp.
10							CL		10-15' Brown, CLAY (CL), trace to little silt, slightly damp, hard caliche at ~12'.
15									15-20' Brown, CLAY (CL), trace silt, hard caliche from 17-18', damp.
20									20-25' Brown, CLAY (CL), trace silt, slightly damp to damp.
25									25-30' Brown, CLAY (CL), little silt, damp.
30	18/18	9/12/11	0	30	SS	1005			30-31.5' Brown, silty CLAY (CL), damp, trace localized organic material.
							ML		31.5-35' Brown, SILTY CLAY to CLAYEY SILT (ML), slightly damp.
35	18/14	10/23/21	0	35	SS	1026			35-36.5' Brown, clayey SILT (ML), little fine to medium sand, grading at 35.5' to silty, fine to medium SAND (SW), trace coarse sand, grading at ~36' to a medium to very coarse, well-graded SAND (SW), trace to little fine gravel, slightly damp.
							SW		36.5-40' Brown, well-graded, SAND (SW), gravel at ~37'.
40	18/13	13/18/25	0	40	SS	1040	CL		40-41.5' Brown, silty CLAY (CL), some pockets of gravel, some coarse to very coarse sand, trace fine to medium SAND (SW), grades at 40.5' to gravel (GW), some coarse to very coarse sand, trace fine to medium sand, some pockets of silty clay, damp.
							GW		
							GC		41.5-45' CLAYEY GRAVEL to GRAVELLY CLAY (GC), minor sand and silt, damp.
45	18/11	15/17/24	0	45	SS	1055	GW		45-46.5' Coarse sand to coarse gravel (GW), little fine to medium sand, trace silt and clay, some pockets of silty clay,damp.
							GC		46.5-50' CLAYEY GRAVEL to GRAVELLY CLAY (GC), minor sand and silt, moist
50									Total depth 50' below ground surface. No groundwater encountered. No odors or PID reading encountered.
55									



VAPOR PIEZOMETERS:

VP-96-50
VP-96-37.5
VP-96-26.5
VP-96-13

VERTICAL SCALE: 1" = 10'

EXPLANATION

- BENTONITE SEAL - DRY CRUMBLES TO SEAL WATER TABLE
- BENTONITE SEAL - 75% 8-12 BENTONITE CHIPS AND 25% 8-12 SAND
- SAND SEAL - COLORADO #30 SILICA
- GRAVEL PACK - COLORADO 8-12 SILICA

* ALL PIEZOMETERS CONSTRUCTED OF 1/2" ID SCH 40 PVC WITH 5 FT. LENGTH OF 0.02" MACHINE SLOT SCREEN

PROJECT: Phoenix - Goodyear Airport

TITLE: Well Construction Log VP-96

CLIENT: Goodyear Tire & Rubber

LOCATION: VB-96

JOB NUMBER: 012014-0001

M&E Metcalf & Ed

VP-96

JOB NUMBER	CLIENT	LOCATION
012014-0001	GOODYEAR TIRE AND RUBBER	VB-96

DRILLING METHOD	SAMPLING METHOD
8.25" I.D. HOLLOW STEM AUGER	2" I.D. X 18" CAL MODIFIED SPLIT SPOON SAMPLER

CONTRACTOR HEBER MINING AND EXPLORATION - CME 45HT

DRILLER RANDY ENGINEER WEIDMANN

START DATE: 2/11/93 TIME: 1040

FINISH DATE: 2/11/93 TIME: 1430

DEPTH (FEET)	SAMPLER TYPE	IN. DRIVEN/RECOVERED	SAMPLE NUMBER(DEPTH)	RECOVERED INTERVAL	BLOWS PER 6 INCHES	SAMPLE VAPORS (PID IN PPM)	SOIL GRAPH	DESCRIPTION
0								SURFACE: DIRT
4–5	SS	18/14	4	■	2/2/2	11	CL	BROWN, SILTY CLAY, CL, SOFT, MOIST, ORGANIC MATERIAL AT 5' BGS
9–10	SS	18/14	9	■	4/4/5	0	ML	BROWN, CLAYEY SILT, ML, STIFF, MOIST, TRACE SAND
14–15	SS	18/14	14	■	5/5/16	0		AS ABOVE, GRADING TO SILTY CLAY, CL, VERY STIFF, MOIST
19–20	SS	18/15	19	■	8/70/51	31.8	CL, ML, CAL	REDDISH BROWN, SILTY CLAY/CLAYEY SILT, HARD, MOIST, SOME SAND, GRADING AT 20' BGS TO CALICHE, HARD
24–25	SS	18/15	24	■	10/10/11	20	SP, CL	LIGHT BROWN, FINE SAND, SP, MEDIUM DENSE, MOIST, GRADING AT 24.5' BGS TO YELLOWISH RED, SILTY CLAY, CL, MOIST
29–30	SS	18/16	29	■	13/23/23	33	SM, SW, ML	BROWNISH YELLOW, SILTY SAND, SM, VERY DENSE, MOIST, POORLY GRADED, GRADING AT 30' BGS TO SAND, SW, WELL GRADED, LITTLE CLAY AND GRAVELS, GRADING AT 30.5' BGS, TO DARK BROWN, SANDY SILT, ML
34–35	SS	18/18	34	■	20/31/32	24	SP	LIGHT BROWN TO BROWN, FINE TO MEDIUM SAND, SP, VERY DENSE, MOIST, POORLY GRADED

VP-96

JOB NUMBER	CLIENT	LOCATION
012014-0001	GOODYEAR TIRE AND RUBBER	VB-96

DRILLING METHOD	SAMPLING METHOD
8.25" I.D. HOLLOW STEM AUGER	2" X 18" CAL. MODIFIED SPLIT SPOON SAMPLER

CONTRACTOR HEBER MINING AND EXPLORATION - CME 45HT

DRILLER RANDY ENGINEER WEIDMANN

START DATE: 2/11/93 TIME: 1040

FINISH DATE: 2/11/93 TIME: 1430

DEPTH (FEET)	SAMPLER TYPE	IN. DRIVEN/RECOVERED	SAMPLE NUMBER(DEPTH)	RECOVERED INTERVAL	BLOWS PER 6 INCHES	SAMPLE VAPORS (PID IN PPM)	SOIL GRAPH	DESCRIPTION
35								
36							SP	
37								
38								
39	SS	18/15	39		45/75/?	24	CL	DARK BROWN, SANDY CLAY, CL, HARD, MOIST, GRADING TO GRAVELLY SAND, SW, WELL GRADED, LARGE COBBLE IN NOSE OF SAMPLER
40								
41								DRILLERS REPORT GRAVELS AT 39.5 FT
42								
43								
44	SS	18/18	44		29/50/50	8	SW	DARK BROWN, GRAVELLY SAND, SW, VERY DENSE, MOIST, SOME CLAY, WELL GRADED, BLACK STAINING ON COBBLES AND GRAVELS, NO ODOR
45								
46								
47								
48								
49	SS	12/12	49		38/75	1.2	GW	SANDY GRAVEL, GW, VERY DENSE, MOIST, WELL GRADED, LITTLE CLAY, GRADING TO COARSE SAND, SP, POORLY GRADED, SOME GRAVEL NO STAINING
50								
51							SP	
52								
53								
54	SS	18/18	54		10/16/21	0	SW	WATER LEVEL AT 53.5' BGS ON 2/11/93 BROWN, MEDIUM SAND, SW, DENSE, WET, WELL GRADED
55								
56								▽ DENOTES MEASURED WATER TABLE DEPTH
57								
58								
59								
60								
61								
62								
63								
64								
65								
66								
67								
68								
69								
70								

BORING VEW-92-1

Phoenix-Goodyear Airport

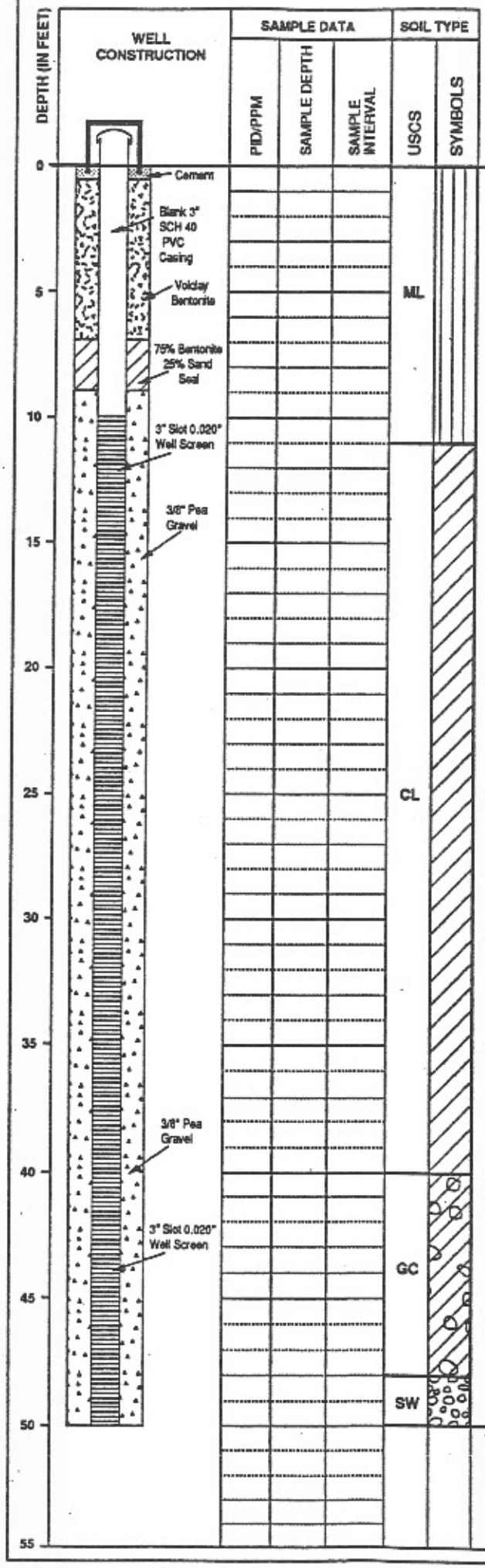
CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017761

DRILLING METHOD: 6.25" Hollow Stem Auger; CME 75HT

GEOLOGIST: M. Joe Weidmann

CONTRACTOR: Heber Mining & Exploration **START DATE:** 10/30/95 **TIME:**

DRILLER: Randy Wilder **FINISH DATE:** 10/30/95 **TIME:**



0-5' Light brown, sandy SILT (ML), trace gravel, dry.

5-10' As above, hard caliche from 7-8'.

10-15' As above, hard caliche from 10-11', becomes brown, silty CLAY(CL) at ~11', slightly damp.

15-20' Brown, CLAY (CL), little silt, slightly damp.

20-25' As above.

25-30' Brown, CLAY (CL), trace silt, slightly damp.

30-35' Brown, CLAY (CL), slightly damp.

35-40' Brown, CLAY (CL), little silt, slightly damp.

40-45' Becomes GRAVELLY CLAY to CLAYEY GRAVEL (GC) at ~40', little coarse sand, trace silt, damp.

45-50' As above, little coarse sand, becomes medium to very coarse SAND (SW at ~48', trace gravel, moist.

Total depth of 50' below ground surface.
No groundwater encountered.
No odors or PID readings encountered during drilling.

BORING VEW-92-2

Phoenix-Goodyear Airport

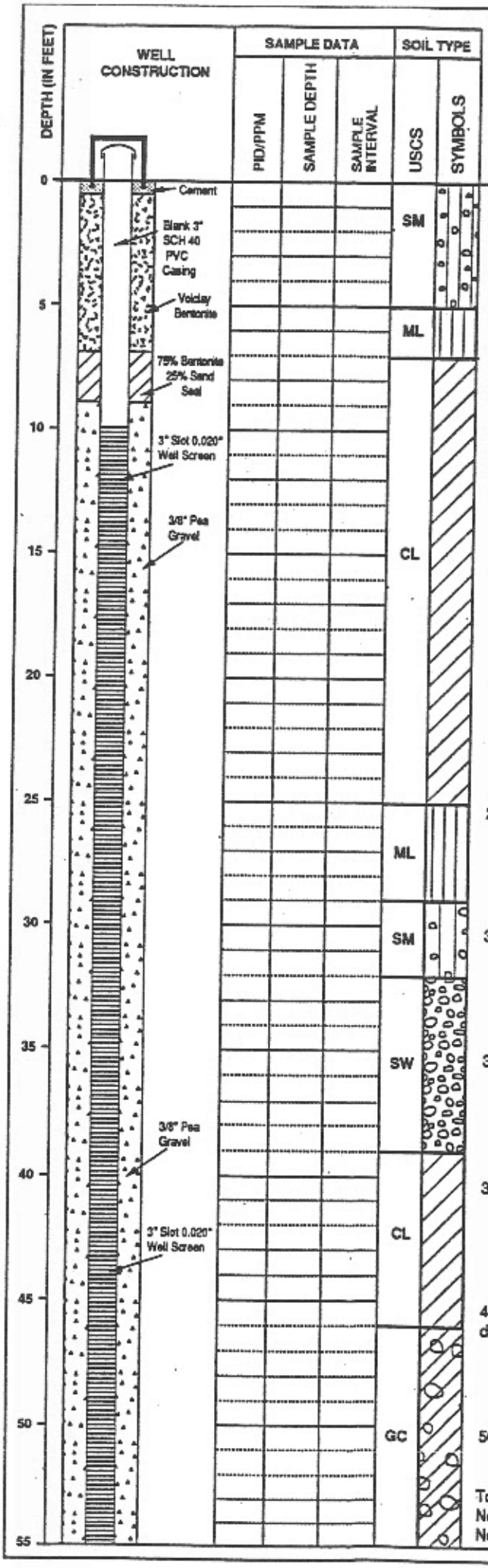
CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017761

DRILLING METHOD: 8.25" Hollow Stem Auger; CME 75HT

GEOLOGIST: M. Joe Weidmann

CONTRACTOR: Heber Mining & Exploration **START DATE:** 9/28/95 **TIME:** 0745

DRILLER: Dan Hatcher **FINISH DATE:** 9/28/95 **TIME:** 1430



0-5' Light brown, silty sand to sandy SILT (SM), trace to little gravel, trace to localized hard caliche, dry.

5-10' SILT (ML), grades to a CLAY (CL), at ~7', trace to little hard caliche, caliche layer at ~7', dry.

10-15' Brown, CLAY (CL), little to some silt, caliche layer at ~12', slightly damp.

15-20' Brown, CLAY (CL), trace to little silt, damp.

20-25' Brown, CLAY (CL), increasing silt towards 25', caliche from ~22-24', damp.

25-30' Brown, SILT (ML), grading to a SILTY SAND/SANDY SILT (SM), at ~29'.

30-32' Sandy SILT (ML), slightly damp.

32-39' Fine to coarse SAND (SW), well-graded, gravel layer at ~36-37.

39-46' Brown, CLAY (CL), trace to little silt, trace sand, damp.

46-50' CLAYEY GRAVELS to GRAVELLY CLAYS (GC), trace silt, little sand, damp.

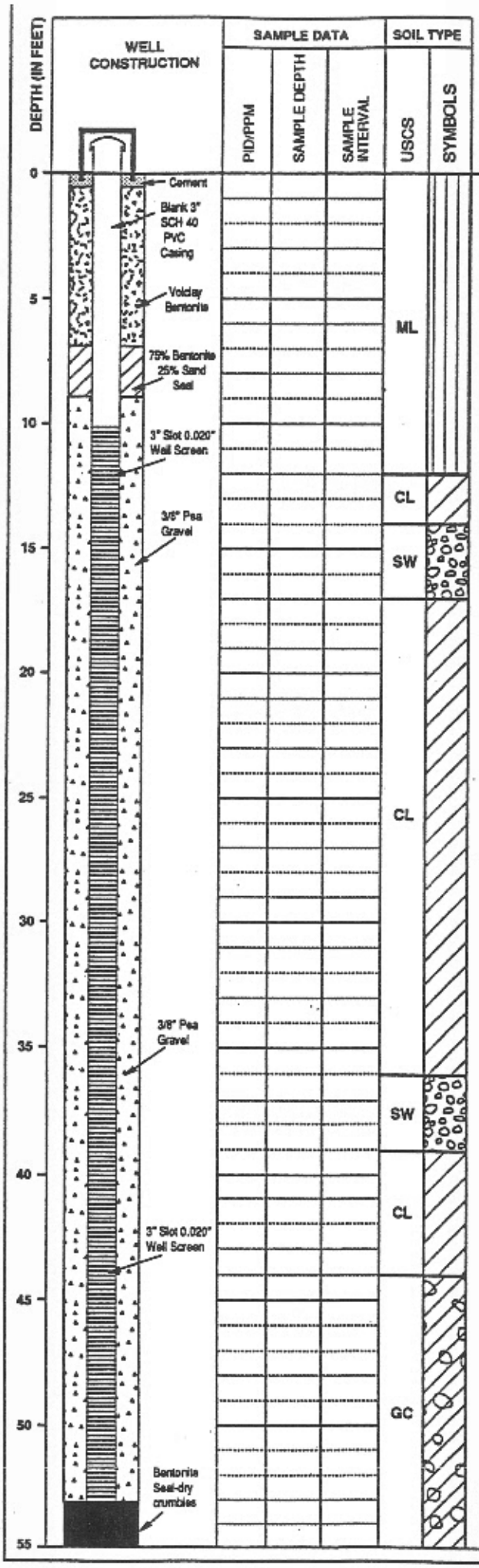
50-55' Same as above, slightly moist.

Total depth of 55' below ground surface.
No groundwater encountered.
No odors or PID readings encountered during drilling.

BORING VEW-92-3

Phoenix-Goodyear Airport

CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017761
DRILLING METHOD: 8.25" Hollow Stem Auger; CME 75HT
GEOLOGIST: M. Joe Weidmann
CONTRACTOR: Haber Mining & Exploration **START DATE:** 9/27/95 **TIME:**
DRILLER: Dan Hatcher **FINISH DATE:** 9/27/95 **TIME:**



0-12' Lt. brown, SILT (ML), trace to little sand, trace to little silt, dry, increasing clay and decreasing sand towards 8' caliche layer hard at ~8'.

12-14' Brown, CLAY (CL), little silt, trace sand, slightly damp.

14-17' Brown, silty fine to medium SAND (SW), trace coarse sand, slightly dan

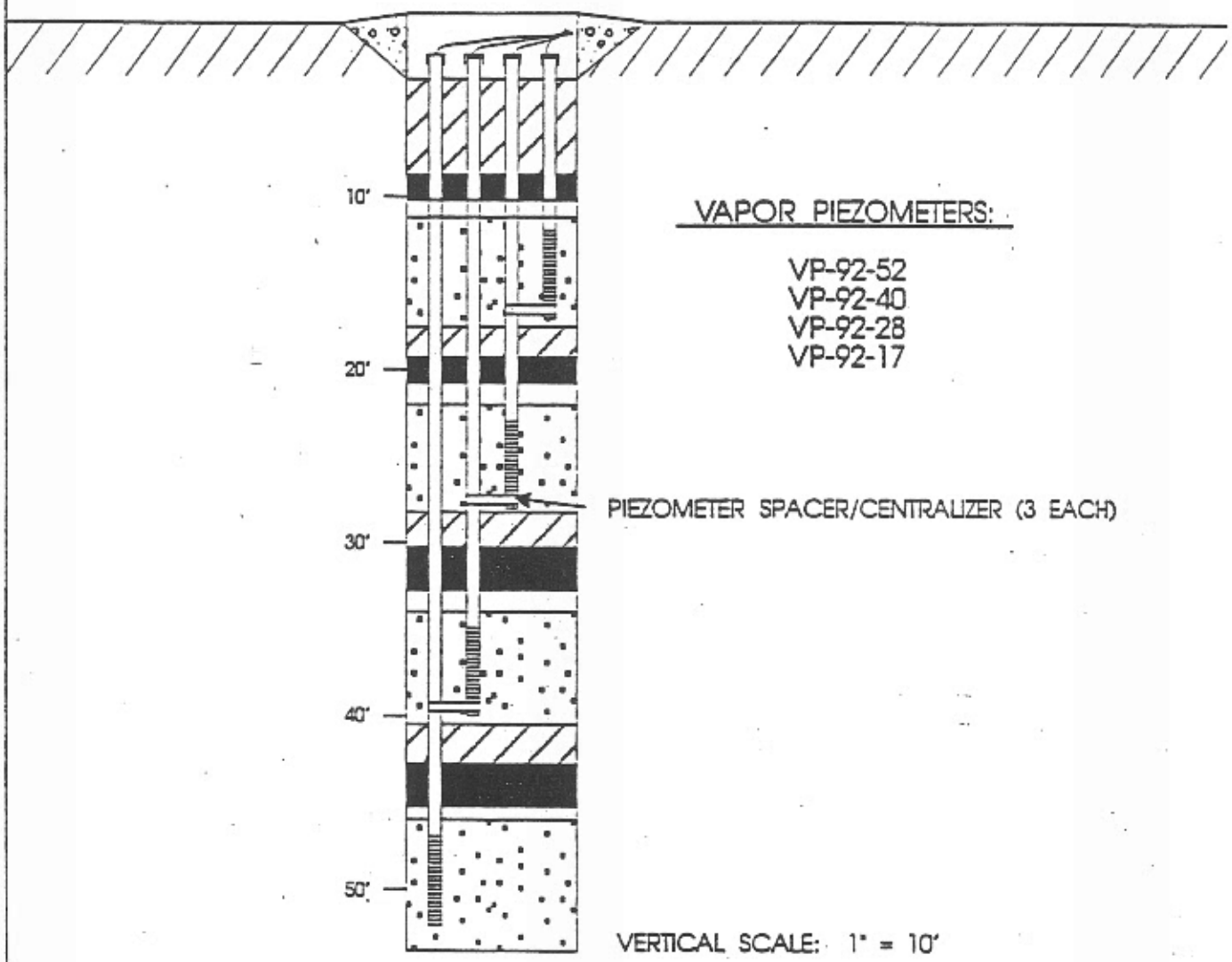
17-36' Brown, CLAY (CL), little to some silt at top of interval, trace fine to mediu sand at top of interval, slightly damp to damp, hard caliche at ~22', increasing si and fine to medium sand at the bottom of interval

36-39' Silty fine to medium SAND (SW), gravels at 39', slightly damp.

39-44' Brown SILTY CLAY to CLAY (CL), trace to little sand, damp.

44-55' GRAVELLY CLAYS to CLAYEY GRAVELS (GC), trace to little sand and silt, slightly moist to moist, very moist at bottom.

Total depth of 55' below ground surface.
Groundwater encountered at ~54.5' below ground surface.
No odors or PID readings encountered during drilling.



EXPLANATION

- GROUT - PORTLAND CEMENT AND 5% VOCLAY BENTONITE
- BENTONITE SEAL - 75% 8-12 BENTONITE CHIPS AND 25% 8-12 SAND
- SAND SEAL - COLORADO #30 SILICA
- GRAVEL PACK - COLORADO 8-12 SILICA

* ALL PIEZOMETERS CONSTRUCTED OF 1/2" ID SCH 40 PVC WITH 5 FT. LENGTH OF 0.02" MACHINE SLOT SCREEN

PROJECT: Phoenix - Goodyear Airpor

TITLE: Well Construction Log VP-92

CLIENT: Goodyear Tire & Rubber

LOCATION: VB-92

JOB NUMBER: 6791-0001

M&E Metcalf & E

VP-92

JOB NUMBER	CLIENT	LOCATION
006791-0001	GOODYEAR TIRE AND RUBBER	VB-92

DRILLING METHOD 8.25" I.D. HOLLOW STEM AUGER

SAMPLING METHOD 2.5" O.D. CME CONTINUOUS CORE BARREL - IN Augi

CONTRACTOR HEBER MINING AND EXPLORATION - CME 75HT

DRILLER RANDY ENGINEER ZACHARY WEATHER SUNNY 95°F

START DATE 5/26/92 TIME 0845

FINISH DATE 5/26/92 TIME 1505

DEPTH (FEET)	SAMPLER TYPE	IN. DRIVEN/RECOVERED	SAMPLE NUMBER(DEPTH)	RECOVERED INTERVAL	TIME	BLOWS PER 6 INCHES	SAMPLE VAPORS (PID IN PPM)	SOIL GRAPH	DESCRIPTION
									SURFACE: DIRT - UNGRADED AND FLAT
0–3	SOIL	60/60	N/A		0920	N/A	N/A		MED. BROWN (10YR 6/8), MED. TO FINE SANDY SILT WITH TRACE C SAND AND ANGULAR FINE TO MED. GRAVEL, DRY
4–7	SOIL	60/26	N/A		0925	N/A	N/A		MED. BROWN (10YR 6/8), MED. TO FINE SANDY SILT TO SILTY SAND. TRACE CRS. SAND AND FINE TO CRS. GRAVEL, DRY
8–13	SOIL	60/30	N/A		1000	N/A	N/A	SM	8.5' - (10YR 8/3), TRANSITION TO CEMENTED SILTY SAND WITH CALICHIFICATION (50%), DRY TO MOIST LT. BROWN, SILTY SAND TO SANDY SILT WITH WHITE CALICHE A 10.75-11.50' BGS
14–18	SOIL	60/60	N/A		1010	N/A	N/A		LT. TO MED. BROWN (10YR 8/3), FINE SANDY SILT WITH WHITE CALK IN VEINS, MOTTLED, CALICHE APPROX. 30-40%, MOIST
19–23	SOIL	60/60	N/A		1025	N/A	N/A	SC CL	BROWN, CLAYEY COARSE SAND (19-20'), GRADES TO BROWN (10YI CLAYEY VERY FINE SAND AND SILT WITH APPROX. 20-30% CALICHE VEINS (21.5-22.5'), MOIST
24–27	SOIL	60/30	N/A		1055	N/A	N/A	SM	LT. BROWN (10 YR 8/3), MED. SILTY SAND WITH SOME CLAY, TRACE TO SOME (<10%) CALICHE IN VEINS, MOIST TO DRY
28									LT. BROWN, SILTY SAND AND CALICHE (50%), INDURATED AND IN VEINS
29–33	SOIL	60/36	N/A		1105	N/A	N/A	SP	LT. BROWN (10YR 8/3), MED. SAND WITH TRACE CALICHE IN VEINS (<10%), SLIGHTLY MOIST TO MOIST
34–35	SOIL	60/30	N/A		1130	N/A	N/A	SM	BROWN (10YR 3/3), COARSE SILTY SAND WITH SOME CRS. GRAVELS SUB-ANGULAR TO SUB-ROUNDED, TO FINE COBBLES, MOIST

VP-92

JOB NUMBER	CLIENT	LOCATION
036791-0001	GOODYEAR TIRE AND RUBBER	VB-92

DRILLING METHOD 8.25" I.D. HOLLOW STEM AUGER

SAMPLING METHOD 2.5" O.D. CME CONTINUOUS CORE BARREL - IN AU

CONTRACTOR HEBER MINING AND EXPLORATION - CME 75HT

DRILLER RANDY ENGINEER ZACHARY WEATHER SUNNY 95°F

START DATE 5/26/92 TIME 084

FINISH DATE 5/26/92 TIME 150

DEPTH (FEET)	SAMPLER TYPE	IN. DRIVEN/RECOVERED	RECOVERED INTERVAL	SAMPLE NUMBER(DEPTH)	TIME	BLOWS PER 6 INCHES	SAMPLE VAPORS (PID IN PPM)	SOIL GRAPH	DESCRIPTION
35									
36								SM	
37								CL	DK. BROWN (10YR 3/3), SILTY CLAY WITH TRACE CRS. GRAVEL SUB-ANGULAR TO SUB-ROUNDED, MOIST
38									
39	SOIL	60/48		N/A	1150	N/A	N/A	SP	BROWN (10YR 6/8), CRS. SAND WITH TRACE FINE TO MED. GRAVE SUB-ANGULAR TO SUB-ROUNDED, MOIST TO VERY MOIST
40									
41									
42									
43								GP	SOME CRS. GRAVELS AT 43' BGS
44	SOIL	60/27		N/A	1215	N/A	N/A		LT. BROWN TO MED. BROWN (10YR 8/3 TO 10YR 6/8), SILTY TO FIN TO MED. SANDY GRAVELS (0.2-3 CM) SUB-ANGULAR TO SUB-ROUN TRACE SILT, MOIST TO VERY MOIST, FRIABLE
45									
46								GM	
47									
48									
49	SOIL	60/9		N/A	1230	N/A	N/A		DK. BROWN (10YR 3/3), WITH BANDS OF RED (10R 3/6) AND GRE (5G 6/1), VERY CRS. GRAVEL (0.2-5 CM) SUB-ANGULAR, AND SAN WITH TRACE MED. SANDS, GRAVEL HIGHLY WEATHERED AND FRIAB
50									
51									
52								GP	
53									
54									MED. BROWN TO DK. BROWN (10YR 6/8 TO 10YR 3/3), CRS. TO V CRS. GRAVLES (0.2-5 CM) ANGULAR, AND CRS. SAND WITH SOME COBBLES, VERY MOIST
55									
56									
57	SOIL	10/10		57	1407	43/72(4")	N/A		MED. BROWN (10YR 3/3), CRS. GRAVEL (0.2-5 CM) ANGULAR TO SUB-ANGULAR, AND CRS. TO MED. SAND, GRAVELS FRIABLE, SATURATED
58									
59									
60									WATER LEVEL AT 54.45' BGS AT 1500 ON 5/26/92
61									
62									▽ DENOTES MEASURED WATER TABLE DEPTH
63									
64									
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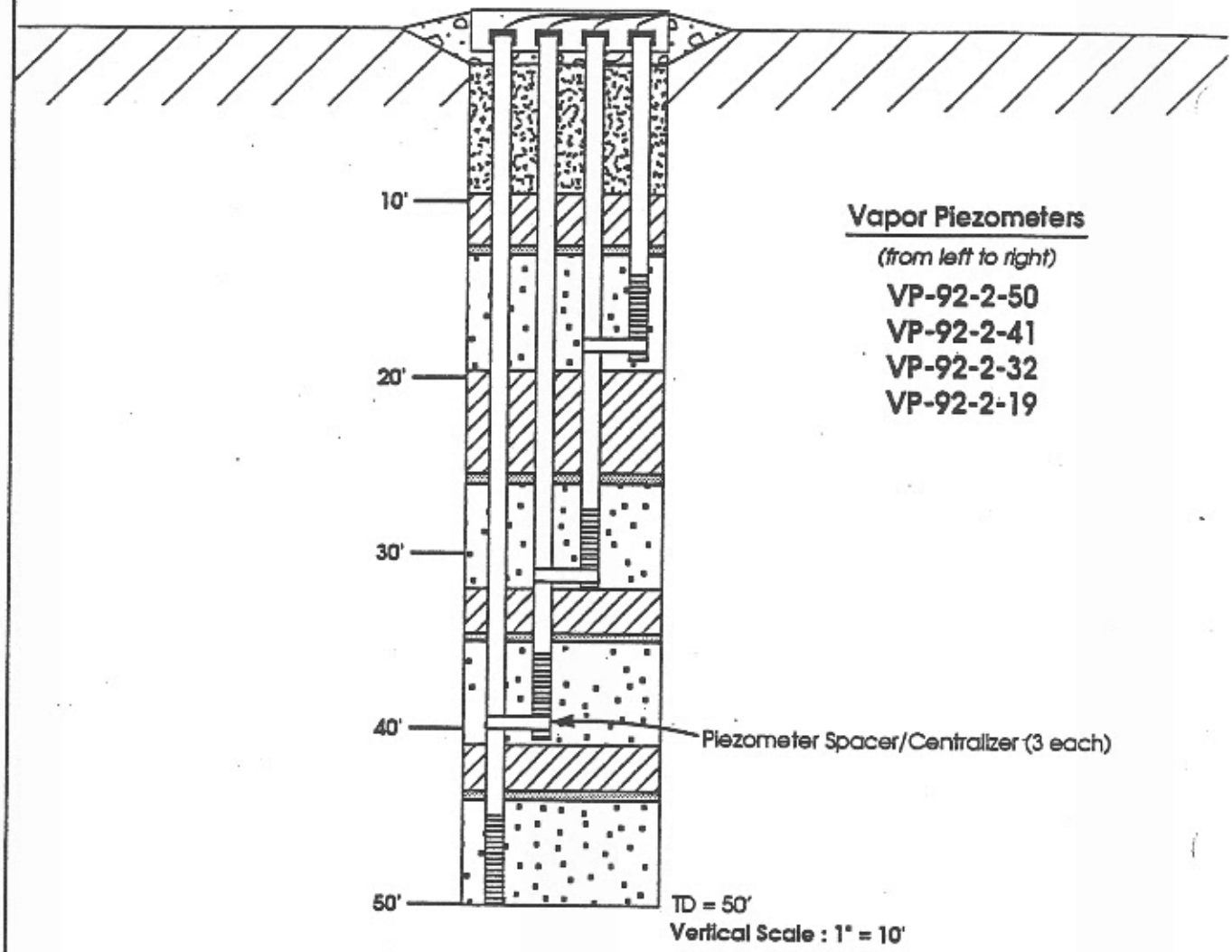
66									
67									
68									
69									
70									



EXPLANATION

Redi-Mix Cement

Grout-
95% Portland Cement and
5% Volclay Bentonite

Bentonite Seal-
Dry crumbles to seal water table

Bentonite Seal-
75% Bentonite Chips and
25% 8-12 Sand

Sand Seal-
Colorado #30 Silica

Gravel Pack-
Colorado 8-12 Silica

Note: All Piezometers constructed of 1/2" ID SCH 40 PVC with 5 ft. length of 0.02" machine slot screen

Note 2: All Piezometer names reference bottom of screened interval

PROJECT: Phoenix-Goodyear Airport

TITLE: Well Construction Log VP-92-2

CLIENT: Goodyear Tire & Rubber

LOCATION: VP-92-2

JOB NUMBER: 017761

Metcalf & Eddy

BORING VP-92-2

Phoenix-Goodyear Airport

CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017661

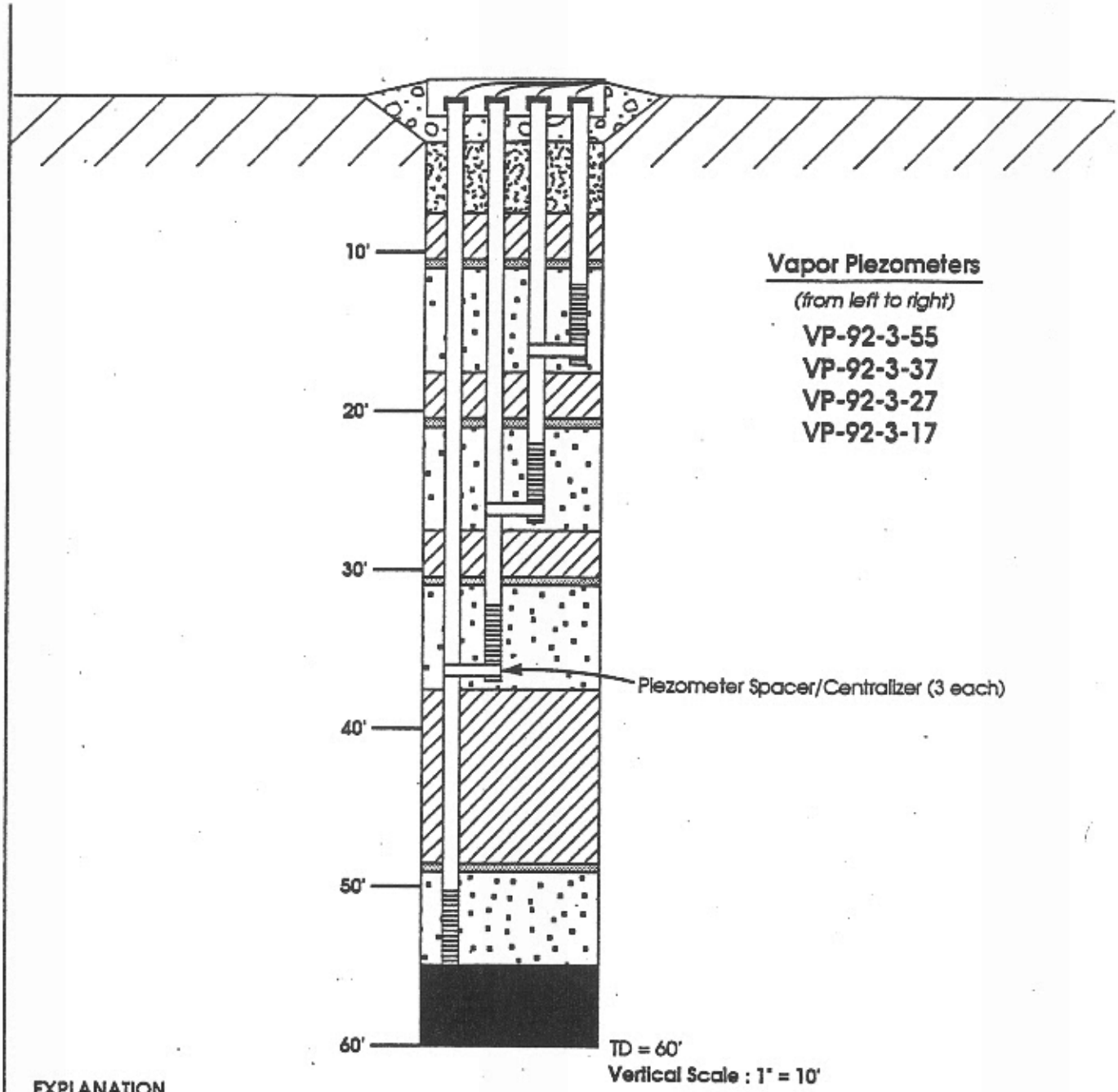
DRILLING METHOD: 8.25" Hollow Stem Auger; CME 75HT

GEOLOGIST: M. Joe Weidmann

CONTRACTOR: Heber Mining & Exploration **START DATE:** 10/31/95 **TIME:** 0915

DRILLER: Randy Wilder **FINISH DATE:** 10/31/95 **TIME:** 1205

DEPTH (IN FEET)	IN. RECOVERED/ IN. DRIVEN	BLOWS PER 6 INCHES	PID/PPM	SAMPLE DEPTH	SAMPLE TYPE	TIME	USCS	SYMBOLS	
0							ML		0-5' Grass at surface, roots to about 2 or 3'. Silty clay to clayey SILT (ML) to 5'.
5									5-10' Light brown, clayey SILT (ML), slightly damp, hard caliche from 8-10'.
10									10-15' Light brown, SILT, some clay, slightly damp, hard caliche from 10-14', brown, silty CLAY (CL), begins at 14', slightly damp.
15							CL		15-20' Brown, CLAY (CL), little silt, slightly damp.
20									20-25' Brown, CLAY (CL), little silt, slightly damp.
25	18/18	12/28/39	0	25	SS	1025	ML		25-26.5' Brown, silty clay to clayey SILT (ML), slightly damp.
									26.5-30' Brown, silty clay to clayey SILT (ML), slightly damp.
30	18/18	10/17/38	0	30	SS	1045			30-31.5' Brown, clayey SILT (ML), slightly damp.
									31.5-35' As above, clay from ~32-34'.
							CL		
35	18/18	16/19/23	0	35	SS	1105	ML		35-36.5' Brown, silty clay to clayey SILT (ML), brief interval of fine to medium sand, trace coarse sand, slightly damp.
							GW		36.5-40' As above, coarse sand and GRAVEL (GW) begins at ~37', little fine to medium sand, trace silt, slightly damp.
40	16/16	19/27/50 (4")	0	40	SS	1125			40-41.5' Coarse sand and GRAVEL (GW), little fine to medium sand, trace silt, slightly damp.
									41.5-45' As above, becomes CLAYEY GRAVEL (GC) at ~44', some silt, little sand, slightly damp.
45	18/17	17/28/36	0	45	SS	1140	GC		45-46.5' Coarse sand and GRAVEL (GC), with intervals of brown, silty clay, little fine to medium sand, damp.
									46.5-50' CLAYEY GRAVEL (GC), little coarse sand, moist.
50									Total depth 50' below ground surface. No groundwater encountered. No odors or PID reading encountered.
55									



EXPLANATION

Redi-Mix Cement

Grout-
95% Portland Cement and
5% Volclay Bentonite

Bentonite Seal-
Dry crumbles to seal water table

Bentonite Seal-
75% Bentonite Chips and
25% 8-12 Sand

Sand Seal-
Colorado #30 Silica

Gravel Pack-
Colorado 8-12 Silica

Note: All Piezometers constructed of 1/2" ID SCH 40 PVC with 5 ft. length of 0.02" machine slot screen

Note 2: All Piezometer names reference bottom of screened interval

PROJECT: Phoenix-Goodyear Airport

TITLE: Well Construction Log VP-92-3

CLIENT: Goodyear Tire & Rubber

LOCATION: VP-92-3

JOB NUMBER: 017761

Metcalf & Eddy

BORING VP-92-3

Phoenix-Goodyear Airport

CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017761

DRILLING METHOD: 8.25" Hollow Stem Auger; CME 75HT

GEOLOGIST: M. Joe Weidmann

CONTRACTOR: Heber Mining & Exploration **START DATE:** 9/26/95 **TIME:** 0730

DRILLER: Dan Hatcher **FINISH DATE:** 9/26/95 **TIME:** 1400

Metcalf & Eddy

DEPTH (IN FEET)	IN. RECOVERED/ IN. DRIVEN	BLOWS PER 6 INCHES	PID/PPM	SAMPLE DEPTH	SAMPLE TYPE	TIME	USCS	SYMBOLS
25	18/18	14/15/19	0	25	SS	0814		
30	18/18	11/19/21	0	30	SS	0840		
45	18/18	11/41/50	0	45	SS	0835		

0-5' Lt. brown, SILT (ML), with little fine sand and trace to little clay, dry.

5-15' SILT (ML), little fine sand and little clay, decreasing sand and increasing clay towards 15', little hard caliche from ~8-10', dry.

15-20' Brown, CLAY (CL), trace to little silt, slightly damp.

20-25' Brown, clayey SILT (ML), increasing sand and decreasing clay towards 25', slightly damp.

25-26.5' Brown, silty fine to medium SAND (SW), trace coarse sand, slightly damp, trace localized caliche, grading to a fine to coarse well-graded sand, trace to little silt.

26.5-30' Fine to coarse well-graded SAND (SW), slightly damp.

30-31.5' Brown, fine to coarse well-graded SAND (SW), trace very coarse sand, trace fine gravel, slightly damp, trace to little fine to coarse gravel at ~25', intervals of silt and clay towards ~26.5'.

31.5-37' Brown, fine to coarse well-graded SAND (SW), slightly damp, gravels encountered ~34'.

37-43' Brown, CLAY (CL), trace to little silt, damp, gravels/cobbles encountered at ~39-40'.

43-45' Gravel/cobble layer.

45-46.5' SANDY, GRAVEL AND COBBLES (GW), trace to little silt and clay, damp to slightly moist, contact at ~46.25' to a brown, medium to coarse, well-graded SAND (SW), little to some fine sand, trace silt, little to some very coarse sand, trace to little fine gravel.

46.5-47' Well-graded SAND (SW), slightly moist.

47-48' Gravel and cobbles.

48-60' CLAYEY GRAVELS to GRAVELLY CLAYS (GC), little sand, little silt, cobbles towards bottom, moist, wet at bottom.

BORING VP-92-3 (cont'd.)

Phoenix-Goodyear Airport

CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017761

DRILLING METHOD: 8.25" Hollow Stem Auger; CME 75HT

GEOLOGIST: M. Joe Weidmann

CONTRACTOR: Heber Mining & Exploration **START DATE:** 9/26/95 **TIME:** 073/

DRILLER: Dan Hatcher **FINISH DATE:** 9/26/95 **TIME:** 14

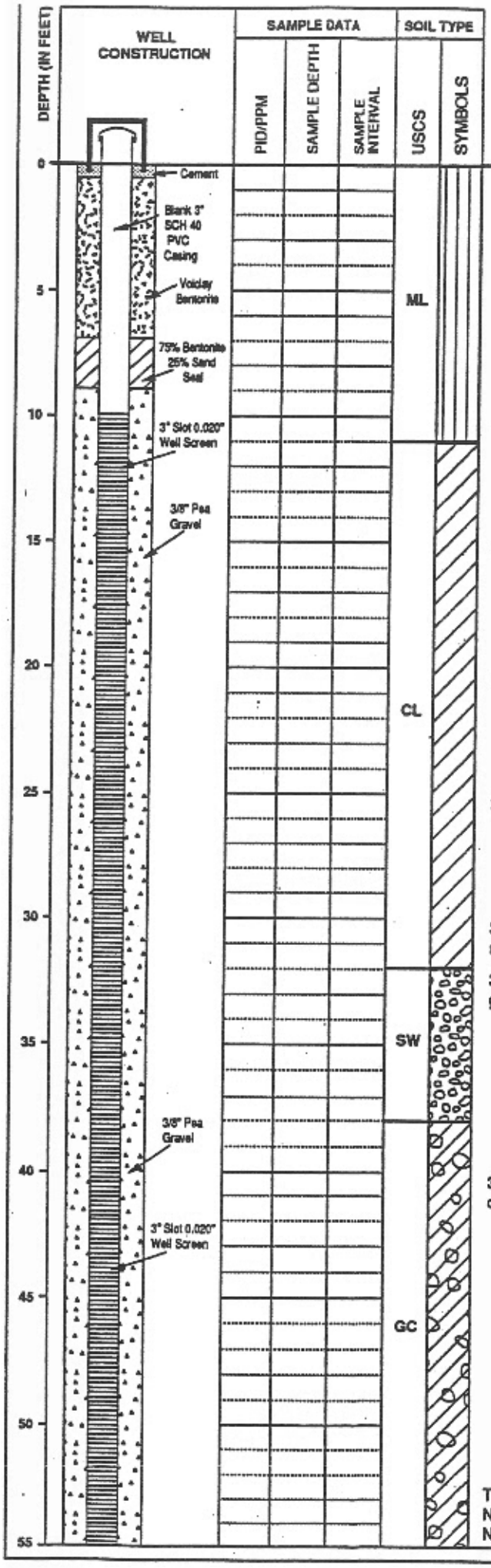
DEPTH (IN FEET)	SAMPLE DATA						SOIL TYPE	
	IN. RECOVERED/ IN. DRIVEN	BLOWS PER 6 INCHES	PID/PPM	SAMPLE DEPTH	SAMPLE TYPE	TIME	USCS	SYMBOLS
55							GC	
60								
65								
70								
75								
80								
85								
90								
95								
100								
105								
110								

Total depth of 60' below ground surface.
Groundwater encountered at 59' below ground surface.
No odors or PID readings encountered during drilling.

BORING VEW-27A-1

Phoenix-Goodyear Airport

CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017761
DRILLING METHOD: 6.25" Hollow Stem Auger; CME 75HT
GEOLOGIST: M. Joe Weidmann
CONTRACTOR: Heber Mining & Exploration **START DATE:** 9/29/95 **TIME:** 1230
DRILLER: Dan Hatcher/Randy Wilder **FINISH DATE:** 10/2/95 **TIME:** 1050



0-9' Light brown, fine sandy SILT (ML), dry.

9-11' Brown, clayey SILT (ML), dry.

11-20' Brown, CLAY (CL), to silty clay, slightly damp.

20-25' Brown, CLAY (CL), to silty clay, damp.

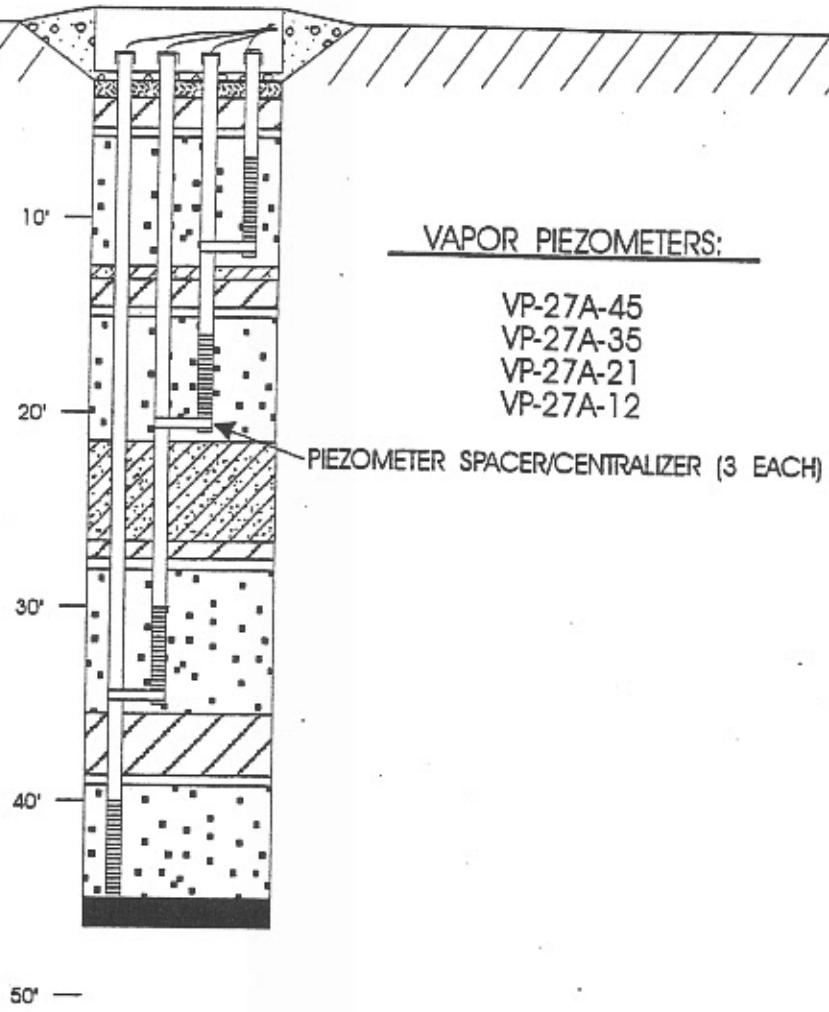
25-30' Brown, CLAY (CL), to silty clay, damp.

30-32' Brown, CLAY to SILTY CLAY, gravels at ~31'. At 32' becomes a fine to medium, well-graded sand, little silt, little coarse sand, trace gravel.

32-38' Fine to medium, well-graded SAND (SW), little silt, little coarse sand, trace gravel, slightly damp.

38-55' CLAYEY GRAVEL to GRAVELLY CLAY (GC), trace to little sand, trace silt, coarser gravels and cobbles at ~50'.

Total depth of 55' below ground surface.
No groundwater encountered.
No odors or PID readings encountered during drilling.



VAPOR PIEZOMETERS:

VP-27A-45
VP-27A-35
VP-27A-21
VP-27A-12

VERTICAL SCALE: 1" = 10'

EXPLANATION

- BENTONITE SEAL - 50% BENTONITE CHIPS AND 50% 8-12 SAND
- GROUT - PORTLAND CEMENT AND 5% VOLCLAY BENTONITE
- BENTONITE SEAL - DRY CRUMBLES TO SEAL WATER TABLE
- BENTONITE SEAL - 75% BENTONITE CHIPS AND 25% 8-12 SAND
- SAND SEAL - COLORADO #30 SILICA
- GRAVEL PACK - COLORADO 8-12 SILICA

* ALL PIEZOMETERS CONSTRUCTED OF 1/2" ID SCH 40 PVC WITH 5 FT. LENGTH OF 0.02" MACHINE SLOT SCREEN

PROJECT: Phoenix - Goodyear Airport

TITLE: Well Construction Log VP-27A

CLIENT: Goodyear Tire & Rubber

LOCATION: VP-27A

JOB NUMBER: 012014-0001

M&E Metcalf & Eddy

VP-27A

JOB NUMBER	CLIENT	LOCATION
012014-0001	GOODYEAR TIRE AND RUBBER	VP-27A

DRILLING METHOD	SAMPLING METHOD
8.25" I.D. HOLLOW STEM AUGER	2" ID X 18" CAL. MODIFIED SPLIT SPOON SAMPLER

CONTRACTOR HEBER MINING AND EXPLORATION - CME 75HT

DRILLER KEVIN ENGINEER WEIDMANN/SPRINGER

START DATE: 7/14/93 TIME: 0615

FINISH DATE: 7/14/93 TIME: 0840

DEPTH (FEET)	SAMPLER TYPE	IN. DRIVEN/RECOVERED	RECOVERED INTERVAL	SAMPLE NUMBER(DEPTH)	TIME	BLOWS PER 6 INCHES	SAMPLE VAPORS (PID IN PPM)	SOIL GRAPH	DESCRIPTION
0									
1									
2									
3									
4									
5	SOIL	18/18		5	0630	12/18/23	18.2	CL	LIGHT BROWN (10YR 8) TO BROWN (10YR 6/8), SILTY CLAY, CL, HARD, DRY TO SLIGHTLY MOIST, TRACE MILDLY FORMED CALICHE, SOME ROOTS
6									
7									
8									
9									
10	SOIL	18/18		10	0642	8/15/28	22.7		BROWN (10YR 6/8), SILTY CLAY, CL, HARD, SLIGHTLY MOIST, SOME WELL FORMED CALICHE, TRACE EUHEDRAL GYPSUM CRYSTALS
11									
12									
13									
14									
15	SOIL	18/15		15	0700	4/10/13	69.3	SW	BROWN (10YR 6/8) TO YELLOWISH RED (5YR 4/6), SAND, SW, WELL GRADED, MEDIUM DENSE, MOIST
16									
17									
18									
19									
20	SOIL	18/18		20	0710	7/12/38	14.1	CL	YELLOWISH RED (5YR 4/6), SILTY CLAY, CL, HARD, MOIST, CALICHE IN NOSE OF SAMPLER, TRACE BLACK ORGANIC MATERIAL
21									
22									
23									
24									
25	SOIL	18/18		25	0725	10/17/24	16.2	ML	YELLOWISH RED (5YR 4/6), CLAYEY SILT, ML, HARD, MOIST, VERY FAINT ODOR
26									
27									
28									
29									
30	SOIL	18/16		30	0740	6/12/20	1.42	SW	BROWNISH YELLOW (10YR 6/8), SILTY SAND, SM, WELL GRADED, HARD, MOIST, BLACK STAINED AT ~30 TO ~30.5 FEET, SLIGHT ODOR
31									
32									
33								SP	
34									
35									

VP-27A

JOB NUMBER	CLIENT	LOCATION
012014-0001	GOODYEAR TIRE AND RUBBER	VP-27A

DRILLING METHOD	SAMPLING METHOD
8.25" I.D. HOLLOW STEM AUGER	2" ID X 18" CAL. MODIFIED SPLIT SPOON SAMPLER

CONTRACTOR HEBER MINING AND EXPLORATION - CME 75HT

DRILLER KEVIN ENGINEER WEIDMANN/SPRINGER

START DATE: 7/14/93 TIME: 0615

FINISH DATE: 7/14/93 TIME: 0840

DEPTH (FEET)	SAMPLER TYPE	IN. DRIVEN/RECOVERED	RECOVERED INTERVAL	SAMPLE NUMBER(DEPTH)	TIME	BLOWS PER 6 INCHES	SAMPLE VAPORS (PID IN PPM)	SOIL GRAPH	DESCRIPTION
35	SOIL	18/18		35	0800	8/22/38	58.7	SP	LIGHT GRAY (N 7), FINE TO MEDIUM SAND, SP, POORLY GRADED, VERY DENSE, MOIST, NO ODOR
36									
37									
38									
39									
40	SOIL	11/11		40	0815	21/50	18.7	SW	YELLOWISH RED (5YR 4/6), SAND, SW, WELL GRADED, SOME ROUND TO ANGULAI GRAVEL, VERY DENSE, MOIST TO VERY MOIST, COBBLE IN NOSE OF SAMPLER
41									
42									
43									
44									
45	SOIL	12/11		45	0840	29/50	NS		YELLOWISH RED (5YR 4/6), SAND, SW, WELL GRADED, SOME ANGULAR GRAV AND COBBLES, VERY DENSE, VERY MOIST, SAMPLER REFUSAL AT ~46 FEET LIKE DUE TO COBBLES
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
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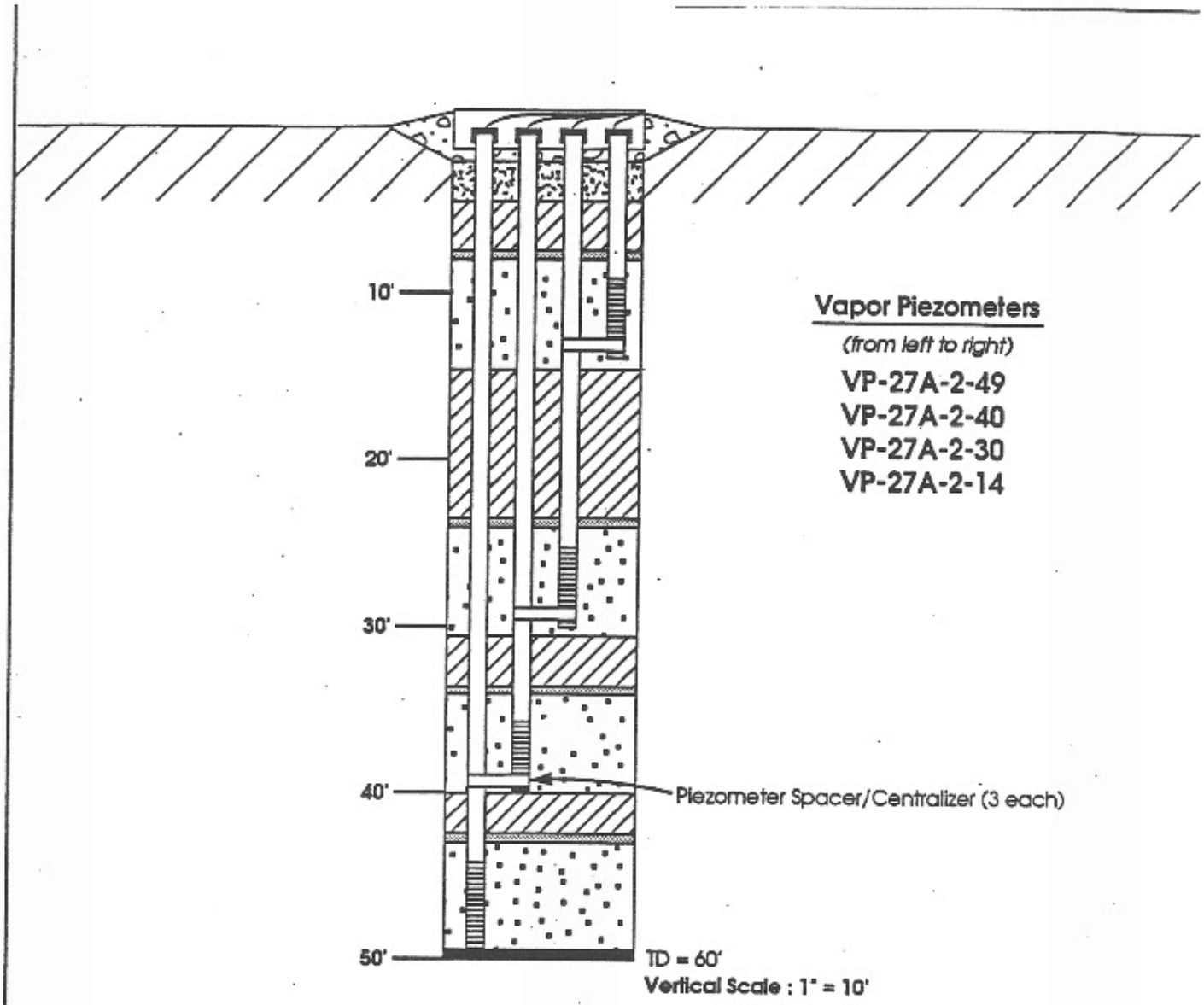

Vapor Piezometers

(from left to right)

VP-27A-2-49
VP-27A-2-40
VP-27A-2-30
VP-27A-2-14

EXPLANATION

Redi-Mix Cement

Grout-
95% Portland Cement and
5% Volclay Bentonite

Bentonite Seal-
Dry crumbles to seal water table

Bentonite Seal-
75% Bentonite Chips and
25% 8-12 Sand

Sand Seal-
Colorado #30 Silica

Gravel Pack-
Colorado 8-12 Silica

Note: All Piezometers constructed of 1/2" ID SCH 40 PVC with 5 ft. length of 0.02" machine slot screen

Note 2: All Piezometer names reference bottom of screened interval

PROJECT: Phoenix-Goodyear Airport
TITLE: Well Construction Log VP-27A-2
CLIENT: Goodyear Tire & Rubber
LOCATION: VP-27A-2
JOB NUMBER: 017761

M&E Metcalf & Eddy

BORING VP-27A-2

Phoenix-Goodyear Airport

CLIENT: Goodyear Tire and Rubber **JOB NUMBER:** 017761

DRILLING METHOD: 8.25" Hollow Stem Auger; CME 75HT

GEOLOGIST: M. Joe Weidmann

CONTRACTOR: Heber Mining & Exploration **START DATE:** 10/4/95 **TIME:** 120

DRILLER: Randy Wilder **FINISH DATE:** 10/4/95 **TIME:**

DEPTH (IN FEET)	SAMPLE DATA: IN. RECOVERED/ IN. DRIVEN	BLOWS PER 6 INCHES	PID/PPM	SAMPLE DEPTH	SAMPLE TYPE	TIME	SOIL TYPE: USCS	SYMBOLS	
0							ML		0-5' Lt brown, SILT (ML), dry, gravel and cobbles encountered at ~2'
5									5-10' Light brown, SILT (ML), dry, hard caliche at ~8', becomes brown, clayey SILT (ML), at ~9', slightly damp.
10									10-15' Brown, clayey SILT (ML), hard caliche at ~12', becomes clay at ~13', slightly damp.
15							CL		15-20' Brown, CLAY (CL), trace silt, damp.
20									20-25' Brown, clay to silty CLAY (CL), damp.
25	18/18	9/12/15	0	25	SS	1242			25-26.5' Brown, clay to silty CLAY (CL), damp.
									26.5-30' Brown, clay to silty CLAY (CL), damp.
30	18/18	15/28/39	0	30	SS	1256	SW		30-31.5' Reddish brown, silty fine to medium SAND (SW), trace coarse sand, grades at 30.25' to a brown, silty clay to clayey silt (ML), damp.
							ML		31.5-35' Brown, silty clay to clayey SILT (ML), damp.
35	18/18	14/17/23	0	35	SS	1311	CL		35-36.5' Brown, silty CLAY (CL), trace fine to medium sand, damp, ~30% of sample fine to medium sand, little coarse sand, trace gravel, filling vertical to diagonal fractures.
							SW		36.5-40' Silty fine to medium SAND (SW), little coarse sand, gravels and cobbles at ~36', slightyl damp.
40	18/12	16/29/36	0	40	SS	1330			40-41.5' Brown, fine to medium SAND (SW), trace to little coarse sand, trace fine to coarse gravel, slightly damp.
							GW		41.5-45' As above, GRAVEL and SAND (GW) begin at ~42'.
45	18/12	40/38/30	0	45	SS	1350	SW		45-46.5' Light brown, fine to medium SAND (SW), little coarse sand, damp.
							GC		46.5-50' Clayey GRAVEL (GC), minor sand, moist at 50'.
50									Total depth 50' below ground surface. No groundwater encountered. No odors or PID reading encountered.
55									

APPENDIX C

LABORATORY DATA, VLEACH/MIXCELL MODELING INPUT, AND RESULTS

Polygon Subarea Groundwater Model Concentrations

Polygon 27A Sub-Area	Subunit Groundwater Concentration (ug/L)
VP-27A	0.0097
VP-27A-2	0.0216

Polygon 92 Sub-Area	Subunit Groundwater Concentration (ug/L)
VP-92	0.8342
VP-92-2	0.0278
VP-92-3	0.037

Polygon 96 Sub-Area	Subunit Groundwater Concentration (ug/L)
VP-96	0.2669
VP-96-1A	0.1767
VP-96-1B	0.1551
VP-96-2	0.0286

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-27A-12

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-36A
Lab File ID: j101223
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 2.06

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.0	U
76-14-2	Freon 114	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl Chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Freon 11	1.0	U
75-35-4	1,1-Dichloroethene	19	
76-13-1	Freon 113	240	
75-09-2	Methylene Chloride	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
67-66-3	Chloroform	2.4	
71-55-6	1,1,1-Trichloroethane	18	
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.1	
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	210	
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	22	
106-93-4	Ethylene Dibromide	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethyl Benzene	1.0	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
100-44-7	Chlorotoluene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
115-07-1	Propylene	4.1	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-27A-12

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-36A
Lab File ID: j101223
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 2.06

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	4.1	U
67-64-1	Acetone	8.4	
75-15-0	Carbon Disulfide	5.1	J
67-63-0	2-Propanol	4.1	U
156-60-5	trans-1,2-Dichloroethene	4.1	U
108-05-4	Vinyl Acetate	4.1	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	4.1	U
110-54-3	Hexane	4.1	U
109-99-9	Tetrahydrofuran	4.1	U
110-82-7	Cyclohexane	4.1	U
123-91-1	1,4-Dioxane	8.8	
75-27-4	Bromodichloromethane	4.1	U
108-10-1	4-Methyl-2-pentanone	4.1	U
591-78-6	2-Hexanone	4.1	U
124-48-1	Dibromochloromethane	4.1	U
75-25-2	Bromoform	4.1	U
622-96-8	4-Ethyltoluene	4.1	U
64-17-5	Ethanol	6.8	
1634-04-4	Methyl tert-Butyl Ether	4.1	U
142-82-5	Heptane	4.1	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-27A-21

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-37A
Lab File ID: j101224
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 1.87

.50

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	0.94	U
76-14-2	Freon 114	0.94	U
74-87-3	Chloromethane	0.94	U
75-01-4	Vinyl Chloride	0.94	U
74-83-9	Bromomethane	0.94	U
75-00-3	Chloroethane	0.94	U
75-69-4	Freon 11	0.94	U
75-35-4	1,1-Dichloroethene	24	
76-13-1	Freon 113	280	
75-09-2	Methylene Chloride	0.94	U
75-34-3	1,1-Dichloroethane	0.94	U
156-59-2	cis-1,2-Dichloroethene	0.94	U
67-66-3	Chloroform	2.7	
71-55-6	1,1,1-Trichloroethane	19	
56-23-5	Carbon Tetrachloride	0.94	U
71-43-2	Benzene	0.94	U
107-06-2	1,2-Dichloroethane	0.94	U
79-01-6	Trichloroethene	270	
78-87-5	1,2-Dichloropropane	0.94	U
10061-01-5	cis-1,3-Dichloropropene	0.94	U
108-88-3	Toluene	0.94	U
10061-02-6	trans-1,3-Dichloropropene	0.94	U
79-00-5	1,1,2-Trichloroethane	0.94	U
127-18-4	Tetrachloroethene	23	
106-93-4	Ethylene Dibromide	0.94	U
108-90-7	Chlorobenzene	0.94	U
100-41-4	Ethyl Benzene	0.94	U
108-38-3	m,p-Xylene	0.94	U
95-47-6	o-Xylene	0.94	U
100-42-5	Styrene	0.94	U
79-34-5	1,1,2,2-Tetrachloroethane	0.94	U
108-67-8	1,3,5-Trimethylbenzene	0.94	U
95-63-6	1,2,4-Trimethylbenzene	0.94	U
541-73-1	1,3-Dichlorobenzene	0.94	U
106-46-7	1,4-Dichlorobenzene	0.94	U
100-44-7	Chlorotoluene	0.94	U
95-50-1	1,2-Dichlorobenzene	0.94	U
120-82-1	1,2,4-Trichlorobenzene	0.94	U
87-68-3	Hexachlorobutadiene	0.94	U
115-07-1	Propylene	3.7	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-27A-21

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-37A
Lab File ID: j101224
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 1.87

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.7	U
67-64-1	Acetone	12	
75-15-0	Carbon Disulfide	5.9	
67-63-0	2-Propanol	3.7	U
156-60-5	trans-1,2-Dichloroethene	3.7	U
108-05-4	Vinyl Acetate	3.7	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	3.7	U
110-54-3	Hexane	3.7	U
109-99-9	Tetrahydrofuran	3.7	U
110-82-7	Cyclohexane	3.7	U
123-91-1	1,4-Dioxane	3.7	U
75-27-4	Bromodichloromethane	3.7	U
108-10-1	4-Methyl-2-pentanone	3.7	U
591-78-6	2-Hexanone	3.7	U
124-48-1	Dibromochloromethane	3.7	U
75-25-2	Bromoform	3.7	U
622-96-8	4-Ethyltoluene	3.7	U
64-17-5	Ethanol	4.2	J
1634-04-4	Methyl tert-Butyl Ether	3.7	U
142-82-5	Heptane	3.7	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-27A-36

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 80 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-38A
Lab File ID: j101225
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 2.45

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.2	U
76-14-2	Freon 114	1.2	U
74-87-3	Chloromethane	1.2	U
75-01-4	Vinyl Chloride	1.2	U
74-83-9	Bromomethane	1.2	U
75-00-3	Chloroethane	1.2	U
75-69-4	Freon 11	1.2	U
75-35-4	1,1-Dichloroethene	59	
76-13-1	Freon 113	350	
75-09-2	Methylene Chloride	1.2	U
75-34-3	1,1-Dichloroethane	1.2	U
156-59-2	cis-1,2-Dichloroethene	1.2	U
67-66-3	Chloroform	2.6	
71-55-6	1,1,1-Trichloroethane	27	
56-23-5	Carbon Tetrachloride	1.2	U
71-43-2	Benzene	1.2	U
107-06-2	1,2-Dichloroethane	1.2	U
79-01-6	Trichloroethene	470	
78-87-5	1,2-Dichloropropane	1.2	U
10061-01-5	cis-1,3-Dichloropropene	1.2	U
108-88-3	Toluene	1.2	U
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.2	U
127-18-4	Tetrachloroethene	26	
106-93-4	Ethylene Dibromide	1.2	U
108-90-7	Chlorobenzene	1.2	U
100-41-4	Ethyl Benzene	1.2	U
108-38-3	m,p-Xylene	1.2	U
95-47-6	o-Xylene	1.2	U
100-42-5	Styrene	1.2	U
79-34-5	1,1,2,2-Tetrachloroethane	1.2	U
108-67-8	1,3,5-Trimethylbenzene	1.2	U
95-63-6	1,2,4-Trimethylbenzene	1.2	U
541-73-1	1,3-Dichlorobenzene	1.2	U
106-46-7	1,4-Dichlorobenzene	1.2	U
100-44-7	Chlorotoluene	1.2	U
95-50-1	1,2-Dichlorobenzene	1.2	U
120-82-1	1,2,4-Trichlorobenzene	1.2	U
87-68-3	Hexachlorobutadiene	1.2	U
115-07-1	Propylene	4.9	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-27A-36

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 80 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-38A
Lab File ID: j101225
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 2.45

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	4.9	U
67-64-1	Acetone	6.1	J
75-15-0	Carbon Disulfide	16	
67-63-0	2-Propanol	4.9	U
156-60-5	trans-1,2-Dichloroethene	4.9	U
108-05-4	Vinyl Acetate	4.9	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	4.9	U
110-54-3	Hexane	4.9	U
109-99-9	Tetrahydrofuran	4.9	U
110-82-7	Cyclohexane	4.9	U
123-91-1	1,4-Dioxane	4.9	U
75-27-4	Bromodichloromethane	4.9	U
108-10-1	4-Methyl-2-pentanone	4.9	U
591-78-6	2-Hexanone	4.9	U
124-48-1	Dibromochloromethane	4.9	U
75-25-2	Bromoform	4.9	U
622-96-8	4-Ethyltoluene	4.9	U
64-17-5	Ethanol	7.5	
1634-04-4	Methyl tert-Butyl Ether	4.9	U
142-82-5	Heptane	4.9	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-27A-45

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 40 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-35A
Lab File ID: j101222
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 4.78

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	2.4	U
76-14-2	Freon 114	2.4	U
74-87-3	Chloromethane	2.4	U
75-01-4	Vinyl Chloride	2.4	U
74-83-9	Bromomethane	2.4	U
75-00-3	Chloroethane	2.4	U
75-69-4	Freon 11	2.4	U
75-35-4	1,1-Dichloroethene	81	
76-13-1	Freon 113	390	
75-09-2	Methylene Chloride	1.5	J
75-34-3	1,1-Dichloroethane	2.4	U
156-59-2	cis-1,2-Dichloroethene	2.4	U
67-66-3	Chloroform	2.4	U
71-55-6	1,1,1-Trichloroethane	35	
56-23-5	Carbon Tetrachloride	2.4	U
71-43-2	Benzene	2.4	U
107-06-2	1,2-Dichloroethane	2.4	U
79-01-6	Trichloroethene	710	
78-87-5	1,2-Dichloropropane	2.4	U
10061-01-5	cis-1,3-Dichloropropene	2.4	U
108-88-3	Toluene	2.4	U
10061-02-6	trans-1,3-Dichloropropene	2.4	U
79-00-5	1,1,2-Trichloroethane	2.4	U
127-18-4	Tetrachloroethene	27	
106-93-4	Ethylene Dibromide	2.4	U
108-90-7	Chlorobenzene	2.4	U
100-41-4	Ethyl Benzene	2.4	U
108-38-3	m,p-Xylene	2.4	U
95-47-6	o-Xylene	2.4	U
100-42-5	Styrene	2.4	U
79-34-5	1,1,2,2-Tetrachloroethane	2.4	U
108-67-8	1,3,5-Trimethylbenzene	2.4	U
95-63-6	1,2,4-Trimethylbenzene	2.5	
541-73-1	1,3-Dichlorobenzene	2.4	U
106-46-7	1,4-Dichlorobenzene	3.2	
100-44-7	Chlorotoluene	2.4	U
95-50-1	1,2-Dichlorobenzene	5.1	
120-82-1	1,2,4-Trichlorobenzene	8.4	
87-68-3	Hexachlorobutadiene	18	
115-07-1	Propylene	9.6	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-27A-45

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 40 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-35A
Lab File ID: j101222
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 4.78

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	9.6	U
67-64-1	Acetone	34	
75-15-0	Carbon Disulfide	27	
67-63-0	2-Propanol	9.6	U
156-60-5	trans-1,2-Dichloroethene	9.6	U
108-05-4	Vinyl Acetate	9.6	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	9.6	U
110-54-3	Hexane	9.6	U
109-99-9	Tetrahydrofuran	9.6	U
110-82-7	Cyclohexane	9.6	U
123-91-1	1,4-Dioxane	9.6	U
75-27-4	Bromodichloromethane	9.6	U
108-10-1	4-Methyl-2-pentanone	9.6	U
591-78-6	2-Hexanone	9.6	U
124-48-1	Dibromochloromethane	9.6	U
75-25-2	Bromoform	9.6	U
622-96-8	4-Ethyltoluene	9.6	U
64-17-5	Ethanol	11	J
1634-04-4	Methyl tert-Butyl Ether	9.6	U
142-82-5	Heptane	9.6	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-27A-45D

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 50 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-34A
Lab File ID: j101221
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 3.74

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.9	U
76-14-2	Freon 114	1.9	U
74-87-3	Chloromethane	1.9	U
75-01-4	Vinyl Chloride	1.9	U
74-83-9	Bromomethane	1.9	U
75-00-3	Chloroethane	1.9	U
75-69-4	Freon 11	1.9	U
75-35-4	1,1-Dichloroethene	110	
76-13-1	Freon 113	500	
75-09-2	Methylene Chloride	0.80	J
75-34-3	1,1-Dichloroethane	1.9	U
156-59-2	cis-1,2-Dichloroethene	1.9	U
67-66-3	Chloroform	2.5	
71-55-6	1,1,1-Trichloroethane	45	
56-23-5	Carbon Tetrachloride	1.9	U
71-43-2	Benzene	1.9	U
107-06-2	1,2-Dichloroethane	1.9	U
79-01-6	Trichloroethene	740	
78-87-5	1,2-Dichloropropane	1.9	U
10061-01-5	cis-1,3-Dichloropropene	1.9	U
108-88-3	Toluene	1.9	U
10061-02-6	trans-1,3-Dichloropropene	1.9	U
79-00-5	1,1,2-Trichloroethane	1.9	U
127-18-4	Tetrachloroethene	38	
106-93-4	Ethylene Dibromide	1.9	U
108-90-7	Chlorobenzene	1.9	U
100-41-4	Ethyl Benzene	1.9	U
108-38-3	m,p-Xylene	1.9	U
95-47-6	o-Xylene	1.9	U
100-42-5	Styrene	1.9	U
79-34-5	1,1,2,2-Tetrachloroethane	1.9	U
108-67-8	1,3,5-Trimethylbenzene	1.9	U
95-63-6	1,2,4-Trimethylbenzene	1.9	U
541-73-1	1,3-Dichlorobenzene	1.9	U
106-46-7	1,4-Dichlorobenzene	1.9	U
100-44-7	Chlorotoluene	1.9	U
95-50-1	1,2-Dichlorobenzene	1.9	U
120-82-1	1,2,4-Trichlorobenzene	1.9	U
87-68-3	Hexachlorobutadiene	1.9	U
115-07-1	Propylene	7.5	U

FORM I-ATL

LEVEL-IV VALIDATABLE

000084

SAMPLE NO.
VP-27A-45D

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 50 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-34A
Lab File ID: j101221
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 3.74

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	7.5	U
67-64-1	Acetone	10	
75-15-0	Carbon Disulfide	28	
67-63-0	2-Propanol	7.5	U
156-60-5	trans-1,2-Dichloroethene	7.5	U
108-05-4	Vinyl Acetate	7.5	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	7.5	U
110-54-3	Hexane	7.5	U
109-99-9	Tetrahydrofuran	7.5	U
110-82-7	Cyclohexane	7.5	U
123-91-1	1,4-Dioxane	180	
75-27-4	Bromodichloromethane	7.5	U
108-10-1	4-Methyl-2-pentanone	7.5	U
591-78-6	2-Hexanone	7.5	U
124-48-1	Dibromochloromethane	7.5	U
75-25-2	Bromoform	7.5	U
622-96-8	4-Ethyltoluene	7.5	U
64-17-5	Ethanol	10	
1634-04-4	Methyl tert-Butyl Ether	7.5	U
142-82-5	Heptane	7.5	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-27A-45D-DUP

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-34AA
Lab File ID: j101220
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 1.87

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	0.94	U
76-14-2	Freon 114	0.94	U
74-87-3	Chloromethane	0.94	U
75-01-4	Vinyl Chloride	0.94	U
74-83-9	Bromomethane	0.94	U
75-00-3	Chloroethane	0.94	U
75-69-4	Freon 11	0.94	U
75-35-4	1,1-Dichloroethene	110	
76-13-1	Freon 113	490	E
75-09-2	Methylene Chloride	0.28	J
75-34-3	1,1-Dichloroethane	0.94	U
156-59-2	cis-1,2-Dichloroethene	0.94	U
67-66-3	Chloroform	2.5	
71-55-6	1,1,1-Trichloroethane	43	
56-23-5	Carbon Tetrachloride	0.94	U
71-43-2	Benzene	0.94	U
107-06-2	1,2-Dichloroethane	0.94	U
79-01-6	Trichloroethene	720	E
78-87-5	1,2-Dichloropropane	0.94	U
10061-01-5	cis-1,3-Dichloropropene	0.94	U
108-88-3	Toluene	0.94	U
10061-02-6	trans-1,3-Dichloropropene	0.94	U
79-00-5	1,1,2-Trichloroethane	0.94	U
127-18-4	Tetrachloroethene	35	
106-93-4	Ethylene Dibromide	0.94	U
108-90-7	Chlorobenzene	0.94	U
100-41-4	Ethyl Benzene	0.94	U
108-38-3	m,p-Xylene	0.94	U
95-47-6	o-Xylene	0.94	U
100-42-5	Styrene	0.94	U
79-34-5	1,1,2,2-Tetrachloroethane	0.94	U
108-67-8	1,3,5-Trimethylbenzene	0.94	U
95-63-6	1,2,4-Trimethylbenzene	0.94	U
541-73-1	1,3-Dichlorobenzene	0.94	U
106-46-7	1,4-Dichlorobenzene	0.94	U
100-44-7	Chlorotoluene	0.94	U
95-50-1	1,2-Dichlorobenzene	0.94	U
120-82-1	1,2,4-Trichlorobenzene	0.94	U
87-68-3	Hexachlorobutadiene	0.94	U
115-07-1	Propylene	3.7	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-27A-45D-DUP

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-34AA
Lab File ID: j101220
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 1.87

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.7	U
67-64-1	Acetone	9.0	
75-15-0	Carbon Disulfide	27	
67-63-0	2-Propanol	3.7	U
156-60-5	trans-1,2-Dichloroethene	3.7	U
108-05-4	Vinyl Acetate	3.7	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	3.7	U
110-54-3	Hexane	3.7	U
109-99-9	Tetrahydrofuran	3.7	U
110-82-7	Cyclohexane	3.7	U
123-91-1	1,4-Dioxane	210	
75-27-4	Bromodichloromethane	3.7	U
108-10-1	4-Methyl-2-pentanone	3.7	U
591-78-6	2-Hexanone	3.7	U
124-48-1	Dibromochloromethane	3.7	U
75-25-2	Bromoform	3.7	U
622-96-8	4-Ethyltoluene	3.7	U
64-17-5	Ethanol	7.9	
1634-04-4	Methyl tert-Butyl Ether	3.7	U
142-82-5	Heptane	3.7	U

FORM I-ATL

Polygon 27A Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-27A, October 1998 Rebound Samples

Sample #	Total Clx (ppbV as TCE)	Total Clx Conc (ug/L)*	Total Clx Conc (ug/Kg)**
VP-27A-12	269	1.48	0.88
VP-27A-21	336	1.84	1.10
VP-27A-36	582	3.13	1.88
VP-27A-45D	933	5.00	2.99
VP-27A-45***	853	4.58	2.75
VP-27A-45DUP***	908	4.86	2.91
	2120	11.44	6.85

*Divided by (24.04/131.39)
**Multiply ug/L concentration by 0.599 L/Kg (calculated Kgt based on revised soil physical data).
***Sample not used for modeling- if duplicate samples collected, highest result used for modeling
D/DUP Duplicate soil gas sample

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-27A, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-27A-12	19	0.08	0.05
VP-27A-21	24	0.10	0.06
VP-27A-36	59	0.24	0.14
VP-27A-45D	110	0.44	0.27
VP-27A-45***	81	0.33	0.20
VP-27A-45DUP***	110	0.44	0.27
	212	0.85	0.51

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-27A, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-27A-12	18	0.10	0.06
VP-27A-21	19	0.11	0.06
VP-27A-36	27	0.15	0.09
VP-27A-45D	45	0.25	0.15
VP-27A-45***	35	0.19	0.12
VP-27A-45DUP***	43	0.24	0.14
	109	0.60	0.36

Polygon 27A Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-27A, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-27A-12	210	1.15	0.69
VP-27A-21	270	1.47	0.88
VP-27A-36	470	2.57	1.54
VP-27A-45D	740	4.04	2.42
VP-27A-45***	710	3.88	2.32
VP-27A-45DUP***	720	3.93	2.36
	1690	9.23	5.53

PCE Soil Concentration Calculations from Soil Gas Data
VP-27A, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-27A-12	22	0.15	0.09
VP-27A-21	23	0.16	0.09
VP-27A-36	26	0.18	0.11
VP-27A-45D	38	0.26	0.16
VP-27A-45***	27	0.19	0.11
VP-27A-45DUP***	35	0.24	0.14
	109	0.75	0.45

Polygon 27A Final Closure Soil Gas Data

Interpolated Total Soil Concentrations
VP-27A, October 1998 Rebound Samples

Depth (feet)	*Conc. (ug/kg)*
3	0.221
9	0.663
15	1.104
21	1.099
27	1.243
33	1.722
39	2.033
45	2.99
51	2.99
57	2.99
60	2.99

```
PGA VLEACH model, Polygon 27 VP-27A  OCT-98 LAB Data
    1
       1.0      50.       1.0       10.
     123.6       .473     1100.      .7029
Polygon VP-27A
    50000         1.   .0234      1.64      .381       .255       .00074
        0.         0.        -1.
   60
    1     6       0.221
    7    12       0.663
   13    18       1.104
   19    24       1.099
   25    30       1.243
   31    36       1.722
   37    42       2.033
   43    48       2.990
   49    54       2.990
   55    60       2.990
```

V-Leach, VER 1.1
Jake Turin, 11/91
PGA VLEACH model, Polygon 27 VP-27A OCT-98 LAB Data
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 1.00 years. Vertical profile stored every 10.00 years.
Koc = 123.60 ml/g, .43649E-02cu.ft./g
Kh = .47300 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .70290 sq. m/day, 2761.7 sq.ft./yr

Polygon 1
Polygon VP-27A
Polygon area = 50000. sq. ft.
60 cells, each cell 1.000 ft. thick.
Soil Properties:
Bulk density = 1.6400 g/ml, 46440. g/cu.ft.
Porosity = .3810 Volumetric water content = .2550
Organic carbon content = .00074000
Recharge Rate = .02340000 ft/yr
Conc. in recharge water = .00000 mg/l, .00000 g/cu.ft
Atmospheric concentration = .00000 mg/l, .00000 g/cu.ft
Water table is impermeable to gas diffusion.

MIXCELL OUTPUT FILE

PGA VLEACH model

Polygon 27 VP-27A OCT-98 LAB Data

Year	Mass (grams)	GW Conc (ug/L)
1	0.350	0.0046
2	0.349	0.0070
3	0.349	0.0083
4	0.349	0.0090
5	0.348	0.0093
6	0.348	0.0095
7	0.347	0.0096
8	0.347	0.0097
9	0.346	0.0097
10	0.346	0.0097
11	0.345	0.0097
12	0.345	0.0096
13	0.344	0.0096
14	0.343	0.0096
15	0.343	0.0096
16	0.342	0.0096
17	0.341	0.0096
18	0.340	0.0095
19	0.339	0.0095
20	0.339	0.0095
21	0.338	0.0095
22	0.337	0.0094
23	0.336	0.0094
24	0.335	0.0094
25	0.334	0.0094
26	0.333	0.0093
27	0.332	0.0093
28	0.331	0.0093
29	0.330	0.0093
30	0.329	0.0092
31	0.328	0.0092
32	0.327	0.0092
33	0.326	0.0092
34	0.325	0.0091
35	0.324	0.0091
36	0.323	0.0091
37	0.322	0.0090
38	0.321	0.0090
39	0.320	0.0090
40	0.319	0.0090
41	0.318	0.0089
42	0.317	0.0089
43	0.316	0.0089
44	0.315	0.0088
45	0.314	0.0088
46	0.313	0.0088
47	0.312	0.0088
48	0.311	0.0087
49	0.310	0.0087
50	0.309	0.0087

Polygon VP-27A
Time: .000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.10401E-04	.21990E-04	.71027E-10
2	.10401E-04	.21990E-04	.71027E-10
3	.10401E-04	.21990E-04	.71027E-10
4	.10401E-04	.21990E-04	.71027E-10
5	.10401E-04	.21990E-04	.71027E-10
6	.10401E-04	.21990E-04	.71027E-10
7	.31204E-04	.65969E-04	.21308E-09
8	.31204E-04	.65969E-04	.21308E-09
9	.31204E-04	.65969E-04	.21308E-09
10	.31204E-04	.65969E-04	.21308E-09
11	.31204E-04	.65969E-04	.21308E-09
12	.31204E-04	.65969E-04	.21308E-09
13	.52006E-04	.10995E-03	.35514E-09
14	.52006E-04	.10995E-03	.35514E-09
15	.52006E-04	.10995E-03	.35514E-09
16	.52006E-04	.10995E-03	.35514E-09
17	.52006E-04	.10995E-03	.35514E-09
18	.52006E-04	.10995E-03	.35514E-09
19	.51533E-04	.10895E-03	.35191E-09
20	.51533E-04	.10895E-03	.35191E-09
21	.51533E-04	.10895E-03	.35191E-09
22	.51533E-04	.10895E-03	.35191E-09
23	.51533E-04	.10895E-03	.35191E-09
24	.51533E-04	.10895E-03	.35191E-09
25	.58625E-04	.12394E-03	.40033E-09
26	.58625E-04	.12394E-03	.40033E-09
27	.58625E-04	.12394E-03	.40033E-09
28	.58625E-04	.12394E-03	.40033E-09
29	.58625E-04	.12394E-03	.40033E-09
30	.58625E-04	.12394E-03	.40033E-09
31	.81318E-04	.17192E-03	.55530E-09
32	.81318E-04	.17192E-03	.55530E-09
33	.81318E-04	.17192E-03	.55530E-09
34	.81318E-04	.17192E-03	.55530E-09
35	.81318E-04	.17192E-03	.55530E-09
36	.81318E-04	.17192E-03	.55530E-09
37	.95974E-04	.20291E-03	.65539E-09
38	.95974E-04	.20291E-03	.65539E-09
39	.95974E-04	.20291E-03	.65539E-09
40	.95974E-04	.20291E-03	.65539E-09
41	.95974E-04	.20291E-03	.65539E-09
42	.95974E-04	.20291E-03	.65539E-09
43	.14136E-03	.29886E-03	.96532E-09
44	.14136E-03	.29886E-03	.96532E-09
45	.14136E-03	.29886E-03	.96532E-09
46	.14136E-03	.29886E-03	.96532E-09
47	.14136E-03	.29886E-03	.96532E-09
48	.14136E-03	.29886E-03	.96532E-09
49	.14136E-03	.29886E-03	.96532E-09
50	.14136E-03	.29886E-03	.96532E-09

51	.14136E-03	.29886E-03	.96532E-09
52	.14136E-03	.29886E-03	.96532E-09
53	.14136E-03	.29886E-03	.96532E-09
54	.14136E-03	.29886E-03	.96532E-09
55	.14136E-03	.29886E-03	.96532E-09
56	.14136E-03	.29886E-03	.96532E-09
57	.14136E-03	.29886E-03	.96532E-09
58	.14136E-03	.29886E-03	.96532E-09
59	.14136E-03	.29886E-03	.96532E-09
60	.14136E-03	.29886E-03	.96532E-09

Polygon VP-27A
Time: 10.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.34126E-05	.72149E-05	.23304E-10
2	.64320E-05	.13598E-04	.43922E-10
3	.88440E-05	.18698E-04	.60393E-10
4	.11033E-04	.23325E-04	.75341E-10
5	.13196E-04	.27899E-04	.90115E-10
6	.15425E-04	.32611E-04	.10533E-09
7	.20767E-04	.43905E-04	.14181E-09
8	.24737E-04	.52298E-04	.16892E-09
9	.27411E-04	.57950E-04	.18718E-09
10	.29597E-04	.62573E-04	.20211E-09
11	.31649E-04	.66911E-04	.21612E-09
12	.33689E-04	.71225E-04	.23006E-09
13	.38769E-04	.81963E-04	.26474E-09
14	.42395E-04	.89631E-04	.28951E-09
15	.44637E-04	.94371E-04	.30482E-09
16	.46293E-04	.97872E-04	.31613E-09
17	.47704E-04	.10085E-03	.32576E-09
18	.48977E-04	.10355E-03	.33445E-09
19	.50094E-04	.10591E-03	.34208E-09
20	.51192E-04	.10823E-03	.34958E-09
21	.52304E-04	.11058E-03	.35717E-09
22	.53445E-04	.11299E-03	.36496E-09
23	.54641E-04	.11552E-03	.37313E-09
24	.55922E-04	.11823E-03	.38188E-09
25	.58343E-04	.12335E-03	.39841E-09
26	.60392E-04	.12768E-03	.41240E-09
27	.62113E-04	.13132E-03	.42415E-09
28	.63805E-04	.13489E-03	.43571E-09
29	.65615E-04	.13872E-03	.44807E-09
30	.67613E-04	.14294E-03	.46171E-09
31	.73113E-04	.15457E-03	.49927E-09
32	.77211E-04	.16324E-03	.52726E-09
33	.79986E-04	.16910E-03	.54621E-09
34	.82317E-04	.17403E-03	.56212E-09
35	.84586E-04	.17883E-03	.57762E-09
36	.86931E-04	.18379E-03	.59363E-09
37	.91528E-04	.19350E-03	.62502E-09
38	.95240E-04	.20135E-03	.65037E-09
39	.98145E-04	.20749E-03	.67021E-09
40	.10084E-03	.21319E-03	.68860E-09

41	.10360E-03	.21903E-03	.70746E-09
42	.10654E-03	.22525E-03	.72757E-09
43	.11627E-03	.24582E-03	.79398E-09
44	.12294E-03	.25991E-03	.83950E-09
45	.12665E-03	.26776E-03	.86488E-09
46	.12913E-03	.27300E-03	.88178E-09
47	.13107E-03	.27711E-03	.89506E-09
48	.13269E-03	.28052E-03	.90609E-09
49	.13404E-03	.28339E-03	.91536E-09
50	.13518E-03	.28580E-03	.92313E-09
51	.13614E-03	.28781E-03	.92964E-09
52	.13693E-03	.28949E-03	.93506E-09
53	.13759E-03	.29088E-03	.93954E-09
54	.13812E-03	.29202E-03	.94322E-09
55	.13856E-03	.29294E-03	.94620E-09
56	.13891E-03	.29367E-03	.94857E-09
57	.13918E-03	.29424E-03	.95039E-09
58	.13937E-03	.29465E-03	.95174E-09
59	.13950E-03	.29493E-03	.95263E-09
60	.13957E-03	.29508E-03	.95310E-09

Polygon VP-27A
Time: 20.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.21599E-05	.45664E-05	.14749E-10
2	.48295E-05	.10210E-04	.32980E-10
3	.75099E-05	.15877E-04	.51283E-10
4	.10125E-04	.21406E-04	.69141E-10
5	.12713E-04	.26878E-04	.86817E-10
6	.15318E-04	.32385E-04	.10460E-09
7	.18399E-04	.38898E-04	.12564E-09
8	.21533E-04	.45525E-04	.14705E-09
9	.24416E-04	.51620E-04	.16673E-09
10	.27067E-04	.57224E-04	.18483E-09
11	.29586E-04	.62549E-04	.20203E-09
12	.32043E-04	.67744E-04	.21881E-09
13	.34908E-04	.73801E-04	.23838E-09
14	.37760E-04	.79830E-04	.25785E-09
15	.40293E-04	.85186E-04	.27515E-09
16	.42527E-04	.89909E-04	.29041E-09
17	.44562E-04	.94211E-04	.30430E-09
18	.46468E-04	.98241E-04	.31732E-09
19	.48278E-04	.10207E-03	.32968E-09
20	.50033E-04	.10578E-03	.34166E-09
21	.51765E-04	.10944E-03	.35349E-09
22	.53502E-04	.11311E-03	.36535E-09
23	.55266E-04	.11684E-03	.37740E-09
24	.57082E-04	.12068E-03	.38980E-09
25	.59120E-04	.12499E-03	.40372E-09
26	.61252E-04	.12950E-03	.41828E-09
27	.63391E-04	.13402E-03	.43288E-09
28	.65559E-04	.13860E-03	.44769E-09
29	.67808E-04	.14336E-03	.46304E-09
30	.70178E-04	.14837E-03	.47923E-09

31	.73168E-04	.15469E-03	.49965E-09
32	.76314E-04	.16134E-03	.52113E-09
33	.79281E-04	.16761E-03	.54139E-09
34	.82091E-04	.17355E-03	.56058E-09
35	.84852E-04	.17939E-03	.57943E-09
36	.87641E-04	.18529E-03	.59848E-09
37	.90807E-04	.19198E-03	.62010E-09
38	.94065E-04	.19887E-03	.64235E-09
39	.97211E-04	.20552E-03	.66383E-09
40	.10027E-03	.21198E-03	.68471E-09
41	.10332E-03	.21843E-03	.70552E-09
42	.10641E-03	.22497E-03	.72665E-09
43	.11052E-03	.23366E-03	.75473E-09
44	.11469E-03	.24248E-03	.78321E-09
45	.11823E-03	.24995E-03	.80734E-09
46	.12113E-03	.25609E-03	.82718E-09
47	.12359E-03	.26130E-03	.84399E-09
48	.12573E-03	.26582E-03	.85861E-09
49	.12761E-03	.26979E-03	.87144E-09
50	.12926E-03	.27327E-03	.88267E-09
51	.13069E-03	.27631E-03	.89247E-09
52	.13193E-03	.27893E-03	.90095E-09
53	.13300E-03	.28118E-03	.90822E-09
54	.13390E-03	.28309E-03	.91439E-09
55	.13466E-03	.28469E-03	.91955E-09
56	.13527E-03	.28599E-03	.92376E-09
57	.13576E-03	.28702E-03	.92709E-09
58	.13613E-03	.28780E-03	.92959E-09
59	.13638E-03	.28833E-03	.93131E-09
60	.13652E-03	.28862E-03	.93226E-09

Polygon VP-27A
Time: 30.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.18344E-05	.38783E-05	.12527E-10
2	.41917E-05	.88620E-05	.28624E-10
3	.67051E-05	.14176E-04	.45787E-10
4	.92557E-05	.19568E-04	.63205E-10
5	.11817E-04	.24983E-04	.80696E-10
6	.14390E-04	.30424E-04	.98269E-10
7	.17044E-04	.36034E-04	.11639E-09
8	.19748E-04	.41751E-04	.13486E-09
9	.22426E-04	.47413E-04	.15314E-09
10	.25041E-04	.52941E-04	.17100E-09
11	.27595E-04	.58339E-04	.18844E-09
12	.30102E-04	.63640E-04	.20556E-09
13	.32638E-04	.69003E-04	.22288E-09
14	.35178E-04	.74373E-04	.24022E-09
15	.37648E-04	.79595E-04	.25709E-09
16	.40014E-04	.84597E-04	.27325E-09
17	.42283E-04	.89392E-04	.28874E-09
18	.44473E-04	.94024E-04	.30370E-09
19	.46605E-04	.98530E-04	.31825E-09
20	.48695E-04	.10295E-03	.33253E-09

21	.50762E-04	.10732E-03	.34664E-09
22	.52822E-04	.11167E-03	.36071E-09
23	.54891E-04	.11605E-03	.37484E-09
24	.56984E-04	.12047E-03	.38913E-09
25	.59136E-04	.12502E-03	.40383E-09
26	.61350E-04	.12970E-03	.41895E-09
27	.63612E-04	.13449E-03	.43439E-09
28	.65919E-04	.13936E-03	.45014E-09
29	.68282E-04	.14436E-03	.46628E-09
30	.70715E-04	.14950E-03	.48290E-09
31	.73298E-04	.15496E-03	.50053E-09
32	.76000E-04	.16068E-03	.51899E-09
33	.78742E-04	.16647E-03	.53771E-09
34	.81481E-04	.17226E-03	.55641E-09
35	.84222E-04	.17806E-03	.57513E-09
36	.86980E-04	.18389E-03	.59397E-09
37	.89813E-04	.18988E-03	.61331E-09
38	.92704E-04	.19599E-03	.63305E-09
39	.95602E-04	.20212E-03	.65284E-09
40	.98480E-04	.20820E-03	.67249E-09
41	.10134E-03	.21424E-03	.69201E-09
42	.10418E-03	.22026E-03	.71144E-09
43	.10715E-03	.22654E-03	.73173E-09
44	.11017E-03	.23292E-03	.75234E-09
45	.11306E-03	.23902E-03	.77203E-09
46	.11571E-03	.24463E-03	.79014E-09
47	.11812E-03	.24972E-03	.80660E-09
48	.12031E-03	.25435E-03	.82155E-09
49	.12229E-03	.25854E-03	.83509E-09
50	.12408E-03	.26233E-03	.84732E-09
51	.12569E-03	.26572E-03	.85828E-09
52	.12711E-03	.26873E-03	.86801E-09
53	.12836E-03	.27138E-03	.87656E-09
54	.12945E-03	.27368E-03	.88398E-09
55	.13037E-03	.27563E-03	.89030E-09
56	.13114E-03	.27726E-03	.89556E-09
57	.13176E-03	.27857E-03	.89979E-09
58	.13224E-03	.27957E-03	.90302E-09
59	.13257E-03	.28027E-03	.90527E-09
60	.13275E-03	.28067E-03	.90655E-09

Polygon VP-27A
Time: 40.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.16879E-05	.35685E-05	.11526E-10
2	.38576E-05	.81555E-05	.26342E-10
3	.61984E-05	.13104E-04	.42327E-10
4	.86066E-05	.18196E-04	.58772E-10
5	.11047E-04	.23355E-04	.75438E-10
6	.13509E-04	.28560E-04	.92248E-10
7	.15996E-04	.33819E-04	.10924E-09
8	.18507E-04	.39127E-04	.12638E-09
9	.21024E-04	.44448E-04	.14357E-09
10	.23531E-04	.49748E-04	.16069E-09

11	.26019E-04	.55008E-04	.17768E-09
12	.28486E-04	.60225E-04	.19453E-09
13	.30943E-04	.65419E-04	.21130E-09
14	.33390E-04	.70591E-04	.22801E-09
15	.35813E-04	.75714E-04	.24456E-09
16	.38199E-04	.80759E-04	.26085E-09
17	.40544E-04	.85718E-04	.27687E-09
18	.42852E-04	.90596E-04	.29263E-09
19	.45128E-04	.95407E-04	.30817E-09
20	.47379E-04	.10017E-03	.32354E-09
21	.49615E-04	.10489E-03	.33881E-09
22	.51844E-04	.10961E-03	.35403E-09
23	.54075E-04	.11432E-03	.36926E-09
24	.56315E-04	.11906E-03	.38456E-09
25	.58578E-04	.12384E-03	.40001E-09
26	.60869E-04	.12869E-03	.41566E-09
27	.63191E-04	.13360E-03	.43152E-09
28	.65546E-04	.13858E-03	.44760E-09
29	.67936E-04	.14363E-03	.46392E-09
30	.70366E-04	.14877E-03	.48051E-09
31	.72849E-04	.15401E-03	.49747E-09
32	.75386E-04	.15938E-03	.51480E-09
33	.77964E-04	.16483E-03	.53239E-09
34	.80564E-04	.17033E-03	.55015E-09
35	.83179E-04	.17585E-03	.56801E-09
36	.85805E-04	.18141E-03	.58594E-09
37	.88449E-04	.18700E-03	.60400E-09
38	.91108E-04	.19262E-03	.62215E-09
39	.93768E-04	.19824E-03	.64032E-09
40	.96415E-04	.20384E-03	.65840E-09
41	.99039E-04	.20938E-03	.67631E-09
42	.10163E-03	.21487E-03	.69402E-09
43	.10421E-03	.22031E-03	.71160E-09
44	.10675E-03	.22569E-03	.72898E-09
45	.10923E-03	.23092E-03	.74588E-09
46	.11159E-03	.23592E-03	.76201E-09
47	.11381E-03	.24062E-03	.77720E-09
48	.11589E-03	.24501E-03	.79138E-09
49	.11781E-03	.24907E-03	.80451E-09
50	.11958E-03	.25281E-03	.81659E-09
51	.12120E-03	.25623E-03	.82761E-09
52	.12265E-03	.25931E-03	.83757E-09
53	.12395E-03	.26206E-03	.84645E-09
54	.12510E-03	.26448E-03	.85426E-09
55	.12609E-03	.26657E-03	.86101E-09
56	.12692E-03	.26833E-03	.86670E-09
57	.12760E-03	.26976E-03	.87132E-09
58	.12812E-03	.27086E-03	.87489E-09
59	.12849E-03	.27164E-03	.87741E-09
60	.12870E-03	.27209E-03	.87886E-09

Polygon VP-27A
Time: 50.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol

1	.15924E-05	.33667E-05	.10874E-10
2	.36355E-05	.76861E-05	.24826E-10
3	.58435E-05	.12354E-04	.39904E-10
4	.81242E-05	.17176E-04	.55478E-10
5	.10445E-04	.22083E-04	.71329E-10
6	.12794E-04	.27049E-04	.87370E-10
7	.15166E-04	.32064E-04	.10357E-09
8	.17558E-04	.37120E-04	.11990E-09
9	.19962E-04	.42204E-04	.13632E-09
10	.22374E-04	.47301E-04	.15278E-09
11	.24786E-04	.52401E-04	.16925E-09
12	.27194E-04	.57493E-04	.18570E-09
13	.29599E-04	.62576E-04	.20212E-09
14	.31998E-04	.67648E-04	.21850E-09
15	.34388E-04	.72702E-04	.23483E-09
16	.36766E-04	.77729E-04	.25107E-09
17	.39128E-04	.82724E-04	.26720E-09
18	.41475E-04	.87685E-04	.28322E-09
19	.43807E-04	.92615E-04	.29915E-09
20	.46127E-04	.97521E-04	.31499E-09
21	.48439E-04	.10241E-03	.33078E-09
22	.50747E-04	.10729E-03	.34654E-09
23	.53055E-04	.11217E-03	.36230E-09
24	.55367E-04	.11706E-03	.37809E-09
25	.57688E-04	.12196E-03	.39394E-09
26	.60023E-04	.12690E-03	.40988E-09
27	.62373E-04	.13187E-03	.42593E-09
28	.64740E-04	.13687E-03	.44210E-09
29	.67127E-04	.14192E-03	.45839E-09
30	.69534E-04	.14701E-03	.47483E-09
31	.71963E-04	.15214E-03	.49142E-09
32	.74415E-04	.15733E-03	.50816E-09
33	.76887E-04	.16255E-03	.52504E-09
34	.79372E-04	.16781E-03	.54201E-09
35	.81865E-04	.17308E-03	.55903E-09
36	.84360E-04	.17835E-03	.57607E-09
37	.86854E-04	.18362E-03	.59311E-09
38	.89343E-04	.18889E-03	.61010E-09
39	.91821E-04	.19412E-03	.62702E-09
40	.94277E-04	.19932E-03	.64380E-09
41	.96704E-04	.20445E-03	.66037E-09
42	.99093E-04	.20950E-03	.67668E-09
43	.10144E-03	.21446E-03	.69270E-09
44	.10373E-03	.21931E-03	.70836E-09
45	.10596E-03	.22402E-03	.72358E-09
46	.10811E-03	.22855E-03	.73823E-09
47	.11015E-03	.23288E-03	.75219E-09
48	.11208E-03	.23696E-03	.76540E-09
49	.11390E-03	.24080E-03	.77778E-09
50	.11559E-03	.24437E-03	.78930E-09
51	.11714E-03	.24765E-03	.79992E-09
52	.11856E-03	.25065E-03	.80961E-09
53	.11984E-03	.25335E-03	.81833E-09
54	.12097E-03	.25575E-03	.82607E-09

55	.12196E-03	.25784E-03	.83282E-09
56	.12280E-03	.25961E-03	.83854E-09
57	.12348E-03	.26106E-03	.84323E-09
58	.12402E-03	.26219E-03	.84688E-09
59	.12439E-03	.26299E-03	.84946E-09
60	.12462E-03	.26346E-03	.85097E-09

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-27A-2-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-01A
Lab File ID: j101424
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 2.68

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.3	U
76-14-2	Freon 114	1.3	U
74-87-3	Chloromethane	1.3	U
75-01-4	Vinyl Chloride	1.3	U
74-83-9	Bromomethane	1.3	U
75-00-3	Chloroethane	1.3	U
75-69-4	Freon 11	1.3	U
75-35-4	1,1-Dichloroethene	1.3	U
76-13-1	Freon 113	3.5	
75-09-2	Methylene Chloride	1.3	U
75-34-3	1,1-Dichloroethane	1.3	U
156-59-2	cis-1,2-Dichloroethene	1.3	U
67-66-3	Chloroform	1.3	U
71-55-6	1,1,1-Trichloroethane	1.3	U
56-23-5	Carbon Tetrachloride	1.3	U
71-43-2	Benzene	1.3	U
107-06-2	1,2-Dichloroethane	1.3	U
79-01-6	Trichloroethene	12	
78-87-5	1,2-Dichloropropane	1.3	U
10061-01-5	cis-1,3-Dichloropropene	1.3	U
108-88-3	Toluene	1.3	U
10061-02-6	trans-1,3-Dichloropropene	1.3	U
79-00-5	1,1,2-Trichloroethane	1.3	U
127-18-4	Tetrachloroethene	1.3	U
106-93-4	Ethylene Dibromide	1.3	U
108-90-7	Chlorobenzene	1.3	U
100-41-4	Ethyl Benzene	1.3	U
108-38-3	m,p-Xylene	1.3	U
95-47-6	o-Xylene	1.3	U
100-42-5	Styrene	1.3	U
79-34-5	1,1,2,2-Tetrachloroethane	1.3	U
108-67-8	1,3,5-Trimethylbenzene	1.3	U
95-63-6	1,2,4-Trimethylbenzene	1.3	U
541-73-1	1,3-Dichlorobenzene	1.3	U
106-46-7	1,4-Dichlorobenzene	1.3	U
100-44-7	Chlorotoluene	1.3	U
95-50-1	1,2-Dichlorobenzene	1.3	U
120-82-1	1,2,4-Trichlorobenzene	1.3	U
87-68-3	Hexachlorobutadiene	1.3	U
115-07-1	Propylene	5.4	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-27A-2-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-01A
Lab File ID: j101424
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 2.68

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	5.4	U
67-64-1	Acetone	10	
75-15-0	Carbon Disulfide	5.4	U
67-63-0	2-Propanol	5.4	U
156-60-5	trans-1,2-Dichloroethene	5.4	U
108-05-4	Vinyl Acetate	5.4	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	5.4	U
110-54-3	Hexane	5.4	U
109-99-9	Tetrahydrofuran	5.4	U
110-82-7	Cyclohexane	5.4	U
123-91-1	1,4-Dioxane	5.4	U
75-27-4	Bromodichloromethane	5.4	U
108-10-1	4-Methyl-2-pentanone	5.4	U
591-78-6	2-Hexanone	5.4	U
124-48-1	Dibromochloromethane	5.4	U
75-25-2	Bromoform	5.4	U
622-96-8	4-Ethyltoluene	5.4	U
64-17-5	Ethanol	5.4	U
1634-04-4	Methyl tert-Butyl Ether	5.4	U
142-82-5	Heptane	5.4	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-27A-2-30

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-03A
Lab File ID: j101425
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 2.44

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.2	U
76-14-2	Freon 114	1.2	U
74-87-3	Chloromethane	1.2	U
75-01-4	Vinyl Chloride	1.2	U
74-83-9	Bromomethane	1.2	U
75-00-3	Chloroethane	1.2	U
75-69-4	Freon 11	1.2	U
75-35-4	1,1-Dichloroethene	23	
76-13-1	Freon 113	58	
75-09-2	Methylene Chloride	1.2	U
75-34-3	1,1-Dichloroethane	1.2	U
156-59-2	cis-1,2-Dichloroethene	1.2	U
67-66-3	Chloroform	1.8	
71-55-6	1,1,1-Trichloroethane	1.2	U
56-23-5	Carbon Tetrachloride	1.2	U
71-43-2	Benzene	1.2	U
107-06-2	1,2-Dichloroethane	1.2	U
79-01-6	Trichloroethene	350	
78-87-5	1,2-Dichloropropane	1.2	U
10061-01-5	cis-1,3-Dichloropropene	1.2	U
108-88-3	Toluene	1.2	U
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.2	U
127-18-4	Tetrachloroethene	1.4	
106-93-4	Ethylene Dibromide	1.2	U
108-90-7	Chlorobenzene	1.2	U
100-41-4	Ethyl Benzene	1.2	U
108-38-3	m,p-Xylene	1.2	U
95-47-6	o-Xylene	1.2	U
100-42-5	Styrene	1.2	U
79-34-5	1,1,2,2-Tetrachloroethane	1.2	U
108-67-8	1,3,5-Trimethylbenzene	1.2	U
95-63-6	1,2,4-Trimethylbenzene	1.2	U
541-73-1	1,3-Dichlorobenzene	1.2	U
106-46-7	1,4-Dichlorobenzene	1.2	U
100-44-7	Chlorotoluene	1.2	U
95-50-1	1,2-Dichlorobenzene	1.2	U
120-82-1	1,2,4-Trichlorobenzene	1.2	U
87-68-3	Hexachlorobutadiene	1.2	U
115-07-1	Propylene	4.9	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-27A-2-30

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-03A
Lab File ID: j101425
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 2.44

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	4.9	U
67-64-1	Acetone	6.2	
75-15-0	Carbon Disulfide	4.9	U
67-63-0	2-Propanol	4.9	U
156-60-5	trans-1,2-Dichloroethene	4.9	U
108-05-4	Vinyl Acetate	4.9	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	4.9	U
110-54-3	Hexane	4.9	U
109-99-9	Tetrahydrofuran	4.9	U
110-82-7	Cyclohexane	4.9	U
123-91-1	1,4-Dioxane	4.9	U
75-27-4	Bromodichloromethane	4.9	U
108-10-1	4-Methyl-2-pentanone	4.9	U
591-78-6	2-Hexanone	4.9	U
124-48-1	Dibromochloromethane	4.9	U
75-25-2	Bromoform	4.9	U
622-96-8	4-Ethyltoluene	4.9	U
64-17-5	Ethanol	4.9	U
1634-04-4	Methyl tert-Butyl Ether	4.9	U
142-82-5	Heptane	4.9	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-27A-2-40

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 20 mL
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-02A
Lab File ID: j101422
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 10.0

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	5.0	U
76-14-2	Freon 114	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Freon 11	5.0	U
75-35-4	1,1-Dichloroethene	61	
76-13-1	Freon 113	140	
75-09-2	Methylene Chloride	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.2	
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
79-01-6	Trichloroethene	810	
78-87-5	1,2-Dichloropropane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
106-93-4	Ethylene Dibromide	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethyl Benzene	5.0	U
108-38-3	m,p-Xylene	5.0	U
95-47-6	o-Xylene	5.0	U
100-42-5	Styrene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
108-67-8	1,3,5-Trimethylbenzene	5.0	U
95-63-6	1,2,4-Trimethylbenzene	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
100-44-7	Chlorotoluene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
115-07-1	Propylene	20	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-27A-2-40

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 20 mL
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-02A
Lab File ID: j101422
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 10.0

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	20	U
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	20	U
67-63-0	2-Propanol	20	U
156-60-5	trans-1,2-Dichloroethene	20	U
108-05-4	Vinyl Acetate	20	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	20	U
110-54-3	Hexane	20	U
109-99-9	Tetrahydrofuran	20	U
110-82-7	Cyclohexane	20	U
123-91-1	1,4-Dioxane	20	U
75-27-4	Bromodichloromethane	20	U
108-10-1	4-Methyl-2-pentanone	20	U
591-78-6	2-Hexanone	20	U
124-48-1	Dibromochloromethane	20	U
75-25-2	Bromoform	20	U
622-96-8	4-Ethyltoluene	20	U
64-17-5	Ethanol	20	U
1634-04-4	Methyl tert-Butyl Ether	20	U
142-82-5	Heptane	20	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-27A-2-49

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 10 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-05A
Lab File ID: j101427
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 20.6

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	10	U
76-14-2	Freon 114	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Freon 11	10	U
75-35-4	1,1-Dichloroethene	10	U
76-13-1	Freon 113	200	
75-09-2	Methylene Chloride	560	
75-34-3	1,1-Dichloroethane	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	22	
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	1900	
10061-01-5	cis-1,3-Dichloropropene	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
127-18-4	Tetrachloroethene	10	U
106-93-4	Ethylene Dibromide	10	
108-90-7	Chlorobenzene	10	U
100-41-4	Ethyl Benzene	10	U
108-38-3	m,p-Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-67-8	1,3,5-Trimethylbenzene	10	U
95-63-6	1,2,4-Trimethylbenzene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-44-7	Chlorotoluene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
115-07-1	Propylene	41	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-27A-2-49

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 10 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-05A
Lab File ID: j101427
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 20.6

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	41	U
67-64-1	Acetone	41	U
75-15-0	Carbon Disulfide	41	U
67-63-0	2-Propanol	41	U
156-60-5	trans-1,2-Dichloroethene	41	U
108-05-4	Vinyl Acetate	41	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	41	U
110-54-3	Hexane	41	U
109-99-9	Tetrahydrofuran	41	U
110-82-7	Cyclohexane	41	U
123-91-1	1,4-Dioxane	41	U
75-27-4	Bromodichloromethane	41	U
108-10-1	4-Methyl-2-pentanone	41	U
591-78-6	2-Hexanone	41	U
124-48-1	Dibromochloromethane	41	U
75-25-2	Bromoform	41	U
622-96-8	4-Ethyltoluene	41	U
64-17-5	Ethanol	41	U
1634-04-4	Methyl tert-Butyl Ether	41	U
142-82-5	Heptane	41	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-27A-2EB-3-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-04A
Lab File ID: j101426
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 1.91

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	0.96	U
76-14-2	Freon 114	0.96	U
74-87-3	Chloromethane	1.1	
75-01-4	Vinyl Chloride	0.96	U
74-83-9	Bromomethane	0.96	U
75-00-3	Chloroethane	0.96	U
75-69-4	Freon 11	0.96	U
75-35-4	1,1-Dichloroethene	0.96	U
76-13-1	Freon 113	0.96	U
75-09-2	Methylene Chloride	0.96	U
75-34-3	1,1-Dichloroethane	0.96	U
156-59-2	cis-1,2-Dichloroethene	0.96	U
67-66-3	Chloroform	0.96	U
71-55-6	1,1,1-Trichloroethane	0.96	U
56-23-5	Carbon Tetrachloride	0.96	U
71-43-2	Benzene	0.99	
107-06-2	1,2-Dichloroethane	0.96	U
79-01-6	Trichloroethene	0.96	U
78-87-5	1,2-Dichloropropane	0.96	U
10061-01-5	cis-1,3-Dichloropropene	1.2	
108-88-3	Toluene	2.2	
10061-02-6	trans-1,3-Dichloropropene	1.7	
79-00-5	1,1,2-Trichloroethane	0.96	U
127-18-4	Tetrachloroethene	0.96	U
106-93-4	Ethylene Dibromide	0.96	U
108-90-7	Chlorobenzene	0.96	U
100-41-4	Ethyl Benzene	0.96	U
108-38-3	m,p-Xylene	1.2	J
95-47-6	o-Xylene	0.96	U
100-42-5	Styrene	0.96	U
79-34-5	1,1,2,2-Tetrachloroethane	0.96	U
108-67-8	1,3,5-Trimethylbenzene	0.96	U
95-63-6	1,2,4-Trimethylbenzene	0.96	U
541-73-1	1,3-Dichlorobenzene	0.96	U
106-46-7	1,4-Dichlorobenzene	0.96	U
100-44-7	Chlorotoluene	0.96	U
95-50-1	1,2-Dichlorobenzene	0.96	U
120-82-1	1,2,4-Trichlorobenzene	0.96	U
87-68-3	Hexachlorobutadiene	0.96	U
115-07-1	Propylene	3.8	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-27A-2EB-3-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-04A
Lab File ID: j101426
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 1.91

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.8	U
67-64-1	Acetone	5.6	
75-15-0	Carbon Disulfide	3.8	U
67-63-0	2-Propanol	3.8	U
156-60-5	trans-1,2-Dichloroethene	3.8	U
108-05-4	Vinyl Acetate	3.8	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	3.8	U
110-54-3	Hexane	3.8	U
109-99-9	Tetrahydrofuran	3.8	U
110-82-7	Cyclohexane	3.8	U
123-91-1	1,4-Dioxane	3.8	U
75-27-4	Bromodichloromethane	3.8	U
108-10-1	4-Methyl-2-pentanone	3.8	U
591-78-6	2-Hexanone	3.8	U
124-48-1	Dibromochloromethane	3.8	U
75-25-2	Bromoform	3.8	U
622-96-8	4-Ethyltoluene	3.8	U
64-17-5	Ethanol	3.8	U
1634-04-4	Methyl tert-Butyl Ether	3.8	U
142-82-5	Heptane	3.8	U

FORM I-ATL

Polygon 27A Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-27A-2, October 1998 Rebound Samples

Sample #	Total Clx (ppbV as TCE)	Total Clx Conc (ug/L)*	Total Clx Conc (ug/Kg)**
VP-27A-2-14	12.0	0.07	0.04
VP-27A-2-30	374	2.01	1.20
VP-27A-2-40	876	4.70	2.81
VP-27A-2-49	2132	11.37	6.81
	3395	18.15	10.87

*Divided by (24.04/131.39)
**Multiply ug/L concentration by 0.599 L/Kg (calculated Kgt based on revised soil physical data).
***Sample not used for modeling- if duplicate samples collected, highest result used for modeling
D/DUP Duplicate soil gas sample

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-27A-2, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-27A-2-14	0.0	0.00	0.00
VP-27A-2-30	23	0.09	0.05
VP-27A-2-40	61	0.25	0.15
VP-27A-2-49	200	0.81	0.48
	284	1.14	0.68

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-27A-2, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-27A-2-14	0.0	0.00	0.00
VP-27A-2-30	0.0	0.00	0.00
VP-27A-2-40	5.2	0.03	0.02
VP-27A-2-49	22.0	0.12	0.07
	27.2	0.15	0.09

Polygon 27A Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-27A-2, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-27A-2-14	12	0.07	0.04
VP-27A-2-30	350	1.91	1.15
VP-27A-2-40	810	4.42	2.65
VP-27A-2-49	1900	10.38	6.22
	3072	16.78	10.05

PCE Soil Concentration Calculations from Soil Gas Data
VP-27A-2, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-27A-2-14	0.0	0.00	0.00
VP-27A-2-30	1.4	0.01	0.01
VP-27A-2-40	0.0	0.00	0.00
VP-27A-2-49	10.0	0.07	0.04
	11.4	0.08	0.05

Polygon 27A Final Closure Soil Gas Data

Interpolated Total Soil Concentrations
VP-27A-2, October 1998 Rebound Samples

Depth (feet)	*Conc. (ug/kg)*
3	0.008
9	0.025
15	0.042
21	0.549
27	0.986
33	1.688
39	2.654
45	5.04
51	6.81
57	6.81
60	6.81

```
PGA VLEACH model, Polygon 27 VP-27A-2  OCT-98 LAB Data
    1
       1.0      50.       1.0       10.
     123.6       .473     1100.      .7029
Polygon VP-27A-2
    50000        1.    .0234      1.64      .381      .255      .00074
       0.         0.       -1.
   60
    1    6      0.008
    7   12      0.025
   13   18      0.042
   19   24      0.549
   25   30      0.986
   31   36      1.688
   37   42      2.654
   43   48      5.040
   49   54      6.810
   55   60      6.810
```

V-Leach, VER 1.1
Jake Turin, 11/91
PGA VLEACH model, Polygon 27 VP-27A-2 OCT-98 LAB Data
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 1.00 years. Vertical profile stored every 10.00 years.
Koc = 123.60 ml/g, .43649E-02cu.ft./g
Kh = .47300 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .70290 sq. m/day, 2761.7 sq.ft./yr

Polygon 1
Polygon VP-27A-2
Polygon area = 50000. sq. ft.
60 cells, each cell 1.000 ft. thick.
Soil Properties:
Bulk density = 1.6400 g/ml, 46440. g/cu.ft.
Porosity = .3810 Volumetric water content = .2550
Organic carbon content = .00074000
Recharge Rate = .02340000 ft/yr
Conc. in recharge water = .00000 mg/l, .00000 g/cu.ft
Atmospheric concentration = .00000 mg/l, .00000 g/cu.ft
Water table is impermeable to gas diffusion.

MIXCELL OUTPUT FILE

PGA VLEACH model

Polygon 27 VP-27A-2 OCT-98 LAB Data

Year	Mass (grams)	GW Conc (ug/L)
1	0.796	0.0104
2	0.794	0.0159
3	0.791	0.0188
4	0.789	0.0203
5	0.786	0.0211
6	0.783	0.0215
7	0.779	0.0216
8	0.776	0.0216
9	0.772	0.0216
10	0.768	0.0216
11	0.765	0.0215
12	0.761	0.0214
13	0.757	0.0213
14	0.753	0.0212
15	0.749	0.0211
16	0.744	0.0209
17	0.740	0.0208
18	0.736	0.0207
19	0.732	0.0206
20	0.727	0.0205
21	0.723	0.0203
22	0.719	0.0202
23	0.714	0.0201
24	0.710	0.0200
25	0.705	0.0199
26	0.701	0.0197
27	0.697	0.0196
28	0.692	0.0195
29	0.688	0.0194
30	0.684	0.0192
31	0.679	0.0191
32	0.675	0.0190
33	0.671	0.0189
34	0.666	0.0188
35	0.662	0.0186
36	0.658	0.0185
37	0.654	0.0184
38	0.650	0.0183
39	0.646	0.0182
40	0.642	0.0181
41	0.638	0.0180
42	0.634	0.0178
43	0.630	0.0177
44	0.626	0.0176
45	0.622	0.0175
46	0.618	0.0174
47	0.614	0.0173
48	0.610	0.0172
49	0.607	0.0171
50	0.603	0.0170

Polygon VP-27A-2
Time: .000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.00000	.00000	.00000
2	.00000	.00000	.00000
3	.00000	.00000	.00000
4	.00000	.00000	.00000
5	.00000	.00000	.00000
6	.00000	.00000	.00000
7	.94556E-06	.19991E-05	.64570E-11
8	.94556E-06	.19991E-05	.64570E-11
9	.94556E-06	.19991E-05	.64570E-11
10	.94556E-06	.19991E-05	.64570E-11
11	.94556E-06	.19991E-05	.64570E-11
12	.94556E-06	.19991E-05	.64570E-11
13	.18911E-05	.39981E-05	.12914E-10
14	.18911E-05	.39981E-05	.12914E-10
15	.18911E-05	.39981E-05	.12914E-10
16	.18911E-05	.39981E-05	.12914E-10
17	.18911E-05	.39981E-05	.12914E-10
18	.18911E-05	.39981E-05	.12914E-10
19	.25530E-04	.53975E-04	.17434E-09
20	.25530E-04	.53975E-04	.17434E-09
21	.25530E-04	.53975E-04	.17434E-09
22	.25530E-04	.53975E-04	.17434E-09
23	.25530E-04	.53975E-04	.17434E-09
24	.25530E-04	.53975E-04	.17434E-09
25	.46332E-04	.97954E-04	.31639E-09
26	.46332E-04	.97954E-04	.31639E-09
27	.46332E-04	.97954E-04	.31639E-09
28	.46332E-04	.97954E-04	.31639E-09
29	.46332E-04	.97954E-04	.31639E-09
30	.46332E-04	.97954E-04	.31639E-09
31	.79427E-04	.16792E-03	.54239E-09
32	.79427E-04	.16792E-03	.54239E-09
33	.79427E-04	.16792E-03	.54239E-09
34	.79427E-04	.16792E-03	.54239E-09
35	.79427E-04	.16792E-03	.54239E-09
36	.79427E-04	.16792E-03	.54239E-09
37	.12529E-03	.26488E-03	.85555E-09
38	.12529E-03	.26488E-03	.85555E-09
39	.12529E-03	.26488E-03	.85555E-09
40	.12529E-03	.26488E-03	.85555E-09
41	.12529E-03	.26488E-03	.85555E-09
42	.12529E-03	.26488E-03	.85555E-09
43	.23828E-03	.50377E-03	.16272E-08
44	.23828E-03	.50377E-03	.16272E-08
45	.23828E-03	.50377E-03	.16272E-08
46	.23828E-03	.50377E-03	.16272E-08
47	.23828E-03	.50377E-03	.16272E-08
48	.23828E-03	.50377E-03	.16272E-08
49	.32196E-03	.68068E-03	.21986E-08
50	.32196E-03	.68068E-03	.21986E-08

51	.32196E-03	.68068E-03	.21986E-08
52	.32196E-03	.68068E-03	.21986E-08
53	.32196E-03	.68068E-03	.21986E-08
54	.32196E-03	.68068E-03	.21986E-08
55	.32196E-03	.68068E-03	.21986E-08
56	.32196E-03	.68068E-03	.21986E-08
57	.32196E-03	.68068E-03	.21986E-08
58	.32196E-03	.68068E-03	.21986E-08
59	.32196E-03	.68068E-03	.21986E-08
60	.32196E-03	.68068E-03	.21986E-08

Polygon VP-27A-2
Time: 10.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.20850E-06	.44081E-06	.14238E-11
2	.45212E-06	.95586E-06	.30874E-11
3	.71434E-06	.15102E-05	.48780E-11
4	.99962E-06	.21134E-05	.68262E-11
5	.13162E-05	.27828E-05	.89883E-11
6	.16738E-05	.35386E-05	.11430E-10
7	.22186E-05	.46906E-05	.15151E-10
8	.27563E-05	.58273E-05	.18822E-10
9	.33012E-05	.69793E-05	.22543E-10
10	.39029E-05	.82514E-05	.26652E-10
11	.45924E-05	.97091E-05	.31360E-10
12	.53928E-05	.11401E-04	.36826E-10
13	.64631E-05	.13664E-04	.44135E-10
14	.76232E-05	.16117E-04	.52057E-10
15	.89039E-05	.18824E-04	.60803E-10
16	.10374E-04	.21933E-04	.70842E-10
17	.12087E-04	.25554E-04	.82538E-10
18	.14091E-04	.29790E-04	.96223E-10
19	.19832E-04	.41928E-04	.13543E-09
20	.24203E-04	.51170E-04	.16528E-09
21	.27289E-04	.57694E-04	.18635E-09
22	.30012E-04	.63450E-04	.20494E-09
23	.32779E-04	.69301E-04	.22384E-09
24	.35745E-04	.75570E-04	.24409E-09
25	.41987E-04	.88767E-04	.28672E-09
26	.47046E-04	.99463E-04	.32127E-09
27	.51031E-04	.10789E-03	.34848E-09
28	.54787E-04	.11583E-03	.37413E-09
29	.58711E-04	.12412E-03	.40092E-09
30	.62977E-04	.13314E-03	.43006E-09
31	.72462E-04	.15320E-03	.49483E-09
32	.80057E-04	.16925E-03	.54669E-09
33	.85921E-04	.18165E-03	.58673E-09
34	.91385E-04	.19320E-03	.62405E-09
35	.97065E-04	.20521E-03	.66284E-09
36	.10322E-03	.21823E-03	.70489E-09
37	.11662E-03	.24656E-03	.79637E-09
38	.12741E-03	.26937E-03	.87007E-09
39	.13582E-03	.28715E-03	.92750E-09
40	.14370E-03	.30380E-03	.98128E-09

41	.15189E-03	.32113E-03	.10372E-08
42	.16077E-03	.33990E-03	.10979E-08
43	.18680E-03	.39493E-03	.12756E-08
44	.20553E-03	.43452E-03	.14035E-08
45	.21728E-03	.45938E-03	.14838E-08
46	.22639E-03	.47863E-03	.15460E-08
47	.23468E-03	.49616E-03	.16026E-08
48	.24275E-03	.51321E-03	.16577E-08
49	.26287E-03	.55575E-03	.17951E-08
50	.27697E-03	.58555E-03	.18913E-08
51	.28530E-03	.60316E-03	.19482E-08
52	.29104E-03	.61532E-03	.19875E-08
53	.29555E-03	.62485E-03	.20183E-08
54	.29923E-03	.63261E-03	.20433E-08
55	.30221E-03	.63891E-03	.20637E-08
56	.30458E-03	.64394E-03	.20799E-08
57	.30642E-03	.64783E-03	.20925E-08
58	.30778E-03	.65069E-03	.21017E-08
59	.30868E-03	.65260E-03	.21079E-08
60	.30916E-03	.65362E-03	.21112E-08

Polygon VP-27A-2
Time: 20.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.40249E-06	.85093E-06	.27485E-11
2	.89184E-06	.18855E-05	.60901E-11
3	.14179E-05	.29976E-05	.96823E-11
4	.19777E-05	.41812E-05	.13505E-10
5	.25795E-05	.54535E-05	.17615E-10
6	.32341E-05	.68375E-05	.22085E-10
7	.39732E-05	.84000E-05	.27132E-10
8	.47892E-05	.10125E-04	.32704E-10
9	.56812E-05	.12011E-04	.38796E-10
10	.66643E-05	.14089E-04	.45509E-10
11	.77583E-05	.16402E-04	.52979E-10
12	.89832E-05	.18992E-04	.61344E-10
13	.10379E-04	.21942E-04	.70873E-10
14	.11945E-04	.25254E-04	.81572E-10
15	.13691E-04	.28945E-04	.93492E-10
16	.15639E-04	.33064E-04	.10680E-09
17	.17819E-04	.37673E-04	.12168E-09
18	.20260E-04	.42834E-04	.13835E-09
19	.23478E-04	.49637E-04	.16033E-09
20	.26993E-04	.57068E-04	.18433E-09
21	.30463E-04	.64403E-04	.20802E-09
22	.33917E-04	.71705E-04	.23161E-09
23	.37479E-04	.79237E-04	.25594E-09
24	.41243E-04	.87195E-04	.28164E-09
25	.45701E-04	.96619E-04	.31208E-09
26	.50454E-04	.10667E-03	.34454E-09
27	.55224E-04	.11675E-03	.37711E-09
28	.60059E-04	.12697E-03	.41013E-09
29	.65088E-04	.13761E-03	.44447E-09
30	.70418E-04	.14888E-03	.48087E-09

31	.76807E-04	.16238E-03	.52449E-09
32	.83608E-04	.17676E-03	.57094E-09
33	.90363E-04	.19104E-03	.61706E-09
34	.97133E-04	.20536E-03	.66330E-09
35	.10411E-03	.22011E-03	.71095E-09
36	.11145E-03	.23561E-03	.76103E-09
37	.12018E-03	.25408E-03	.82069E-09
38	.12941E-03	.27360E-03	.88373E-09
39	.13849E-03	.29279E-03	.94573E-09
40	.14749E-03	.31181E-03	.10072E-08
41	.15664E-03	.33117E-03	.10697E-08
42	.16614E-03	.35125E-03	.11345E-08
43	.17842E-03	.37721E-03	.12184E-08
44	.19112E-03	.40405E-03	.13051E-08
45	.20252E-03	.42816E-03	.13830E-08
46	.21267E-03	.44962E-03	.14523E-08
47	.22205E-03	.46944E-03	.15163E-08
48	.23097E-03	.48832E-03	.15773E-08
49	.24133E-03	.51022E-03	.16480E-08
50	.25140E-03	.53151E-03	.17168E-08
51	.25992E-03	.54952E-03	.17750E-08
52	.26693E-03	.56434E-03	.18228E-08
53	.27279E-03	.57673E-03	.18628E-08
54	.27774E-03	.58718E-03	.18966E-08
55	.28189E-03	.59595E-03	.19249E-08
56	.28530E-03	.60317E-03	.19482E-08
57	.28802E-03	.60892E-03	.19668E-08
58	.29008E-03	.61327E-03	.19809E-08
59	.29150E-03	.61628E-03	.19906E-08
60	.29229E-03	.61796E-03	.19960E-08

Polygon VP-27A-2
Time: 30.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.57960E-06	.12254E-05	.39579E-11
2	.12965E-05	.27409E-05	.88532E-11
3	.20679E-05	.43720E-05	.14121E-10
4	.28812E-05	.60913E-05	.19675E-10
5	.37414E-05	.79100E-05	.25549E-10
6	.46586E-05	.98490E-05	.31812E-10
7	.56468E-05	.11938E-04	.38561E-10
8	.67166E-05	.14200E-04	.45866E-10
9	.78769E-05	.16653E-04	.53789E-10
10	.91389E-05	.19321E-04	.62408E-10
11	.10517E-04	.22234E-04	.71815E-10
12	.12025E-04	.25422E-04	.82112E-10
13	.13681E-04	.28924E-04	.93424E-10
14	.15500E-04	.32769E-04	.10585E-09
15	.17494E-04	.36984E-04	.11946E-09
16	.19676E-04	.41599E-04	.13436E-09
17	.22064E-04	.46647E-04	.15067E-09
18	.24673E-04	.52163E-04	.16849E-09
19	.27589E-04	.58329E-04	.18840E-09
20	.30788E-04	.65092E-04	.21025E-09

21	.34192E-04	.72287E-04	.23349E-09
22	.37768E-04	.79847E-04	.25791E-09
23	.41529E-04	.87800E-04	.28359E-09
24	.45505E-04	.96205E-04	.31074E-09
25	.49785E-04	.10525E-03	.33997E-09
26	.54357E-04	.11492E-03	.37119E-09
27	.59162E-04	.12508E-03	.40400E-09
28	.64179E-04	.13569E-03	.43827E-09
29	.69430E-04	.14679E-03	.47412E-09
30	.74947E-04	.15845E-03	.51180E-09
31	.80859E-04	.17095E-03	.55217E-09
32	.87136E-04	.18422E-03	.59503E-09
33	.93673E-04	.19804E-03	.63967E-09
34	.10042E-03	.21231E-03	.68577E-09
35	.10741E-03	.22707E-03	.73345E-09
36	.11466E-03	.24240E-03	.78295E-09
37	.12234E-03	.25865E-03	.83543E-09
38	.13040E-03	.27569E-03	.89049E-09
39	.13868E-03	.29320E-03	.94703E-09
40	.14709E-03	.31098E-03	.10045E-08
41	.15564E-03	.32904E-03	.10628E-08
42	.16434E-03	.34745E-03	.11223E-08
43	.17355E-03	.36692E-03	.11852E-08
44	.18308E-03	.38706E-03	.12502E-08
45	.19247E-03	.40691E-03	.13143E-08
46	.20147E-03	.42594E-03	.13758E-08
47	.21006E-03	.44410E-03	.14345E-08
48	.21827E-03	.46147E-03	.14905E-08
49	.22639E-03	.47862E-03	.15459E-08
50	.23426E-03	.49526E-03	.15997E-08
51	.24156E-03	.51069E-03	.16495E-08
52	.24811E-03	.52454E-03	.16943E-08
53	.25388E-03	.53674E-03	.17337E-08
54	.25892E-03	.54739E-03	.17681E-08
55	.26325E-03	.55654E-03	.17976E-08
56	.26688E-03	.56423E-03	.18225E-08
57	.26983E-03	.57047E-03	.18426E-08
58	.27211E-03	.57528E-03	.18582E-08
59	.27371E-03	.57866E-03	.18691E-08
60	.27463E-03	.58060E-03	.18753E-08

Polygon VP-27A-2
Time: 40.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.73717E-06	.15585E-05	.50339E-11
2	.16573E-05	.35039E-05	.11318E-10
3	.26486E-05	.55995E-05	.18087E-10
4	.36882E-05	.77976E-05	.25186E-10
5	.47779E-05	.10101E-04	.32627E-10
6	.59259E-05	.12528E-04	.40466E-10
7	.71426E-05	.15101E-04	.48775E-10
8	.84389E-05	.17841E-04	.57627E-10
9	.98253E-05	.20772E-04	.67095E-10
10	.11313E-04	.23917E-04	.77251E-10

11	.12912E-04	.27298E-04	.88174E-10
12	.14636E-04	.30943E-04	.99946E-10
13	.16497E-04	.34876E-04	.11265E-09
14	.18506E-04	.39125E-04	.12637E-09
15	.20676E-04	.43712E-04	.14119E-09
16	.23017E-04	.48662E-04	.15718E-09
17	.25541E-04	.53999E-04	.17442E-09
18	.28260E-04	.59746E-04	.19298E-09
19	.31193E-04	.65947E-04	.21301E-09
20	.34349E-04	.72620E-04	.23456E-09
21	.37722E-04	.79750E-04	.25759E-09
22	.41301E-04	.87317E-04	.28203E-09
23	.45088E-04	.95323E-04	.30789E-09
24	.49090E-04	.10378E-03	.33522E-09
25	.53326E-04	.11274E-03	.36415E-09
26	.57805E-04	.12221E-03	.39474E-09
27	.62521E-04	.13218E-03	.42694E-09
28	.67469E-04	.14264E-03	.46073E-09
29	.72648E-04	.15359E-03	.49609E-09
30	.78065E-04	.16504E-03	.53308E-09
31	.83742E-04	.17704E-03	.57185E-09
32	.89683E-04	.18961E-03	.61243E-09
33	.95871E-04	.20269E-03	.65468E-09
34	.10228E-03	.21624E-03	.69847E-09
35	.10891E-03	.23025E-03	.74372E-09
36	.11575E-03	.24471E-03	.79040E-09
37	.12281E-03	.25964E-03	.83865E-09
38	.13010E-03	.27505E-03	.88841E-09
39	.13757E-03	.29084E-03	.93941E-09
40	.14517E-03	.30691E-03	.99132E-09
41	.15287E-03	.32320E-03	.10439E-08
42	.16065E-03	.33965E-03	.10971E-08
43	.16854E-03	.35633E-03	.11509E-08
44	.17650E-03	.37316E-03	.12053E-08
45	.18442E-03	.38990E-03	.12594E-08
46	.19219E-03	.40632E-03	.13124E-08
47	.19972E-03	.42224E-03	.13638E-08
48	.20697E-03	.43757E-03	.14134E-08
49	.21395E-03	.45233E-03	.14610E-08
50	.22063E-03	.46645E-03	.15066E-08
51	.22691E-03	.47973E-03	.15495E-08
52	.23271E-03	.49199E-03	.15891E-08
53	.23796E-03	.50308E-03	.16250E-08
54	.24263E-03	.51297E-03	.16569E-08
55	.24671E-03	.52159E-03	.16847E-08
56	.25019E-03	.52894E-03	.17085E-08
57	.25304E-03	.53497E-03	.17280E-08
58	.25526E-03	.53967E-03	.17431E-08
59	.25684E-03	.54301E-03	.17539E-08
60	.25777E-03	.54496E-03	.17602E-08

Polygon VP-27A-2
Time: 50.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol

1	.87476E-06	.18494E-05	.59735E-11
2	.19729E-05	.41710E-05	.13472E-10
3	.31566E-05	.66736E-05	.21556E-10
4	.43944E-05	.92905E-05	.30008E-10
5	.56842E-05	.12017E-04	.38816E-10
6	.70325E-05	.14868E-04	.48024E-10
7	.84481E-05	.17861E-04	.57690E-10
8	.99405E-05	.21016E-04	.67881E-10
9	.11519E-04	.24354E-04	.78663E-10
10	.13195E-04	.27895E-04	.90102E-10
11	.14976E-04	.31662E-04	.10227E-09
12	.16874E-04	.35674E-04	.11523E-09
13	.18898E-04	.39954E-04	.12905E-09
14	.21059E-04	.44522E-04	.14380E-09
15	.23366E-04	.49399E-04	.15956E-09
16	.25828E-04	.54604E-04	.17637E-09
17	.28455E-04	.60158E-04	.19431E-09
18	.31254E-04	.66077E-04	.21343E-09
19	.34237E-04	.72382E-04	.23380E-09
20	.37410E-04	.79090E-04	.25546E-09
21	.40777E-04	.86209E-04	.27846E-09
22	.44340E-04	.93743E-04	.30279E-09
23	.48101E-04	.10169E-03	.32847E-09
24	.52064E-04	.11007E-03	.35553E-09
25	.56233E-04	.11889E-03	.38400E-09
26	.60612E-04	.12814E-03	.41390E-09
27	.65203E-04	.13785E-03	.44525E-09
28	.70004E-04	.14800E-03	.47804E-09
29	.75013E-04	.15859E-03	.51225E-09
30	.80231E-04	.16962E-03	.54787E-09
31	.85656E-04	.18109E-03	.58493E-09
32	.91289E-04	.19300E-03	.62339E-09
33	.97121E-04	.20533E-03	.66322E-09
34	.10314E-03	.21806E-03	.70433E-09
35	.10934E-03	.23116E-03	.74665E-09
36	.11570E-03	.24461E-03	.79009E-09
37	.12222E-03	.25839E-03	.83459E-09
38	.12887E-03	.27246E-03	.88005E-09
39	.13565E-03	.28679E-03	.92634E-09
40	.14252E-03	.30132E-03	.97326E-09
41	.14946E-03	.31598E-03	.10206E-08
42	.15642E-03	.33071E-03	.10682E-08
43	.16340E-03	.34546E-03	.11158E-08
44	.17036E-03	.36018E-03	.11634E-08
45	.17726E-03	.37476E-03	.12105E-08
46	.18404E-03	.38909E-03	.12568E-08
47	.19064E-03	.40305E-03	.13019E-08
48	.19702E-03	.41654E-03	.13454E-08
49	.20315E-03	.42948E-03	.13872E-08
50	.20898E-03	.44181E-03	.14271E-08
51	.21447E-03	.45343E-03	.14646E-08
52	.21957E-03	.46422E-03	.14994E-08
53	.22424E-03	.47409E-03	.15313E-08
54	.22844E-03	.48297E-03	.15600E-08

55	.23214E-03	.49079E-03	.15852E-08
56	.23531E-03	.49749E-03	.16069E-08
57	.23794E-03	.50304E-03	.16248E-08
58	.23999E-03	.50739E-03	.16389E-08
59	.24146E-03	.51050E-03	.16489E-08
60	.24233E-03	.51233E-03	.16548E-08

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-17'

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-11A
Lab File ID: j101321
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 2.01

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.0	U
76-14-2	Freon 114	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl Chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Freon 11	1.0	U
75-35-4	1,1-Dichloroethene	200	
76-13-1	Freon 113	280	
75-09-2	Methylene Chloride	1.0	U
75-34-3	1,1-Dichloroethane	7.7	
156-59-2	cis-1,2-Dichloroethene	1.0	U
67-66-3	Chloroform	1.5	
71-55-6	1,1,1-Trichloroethane	14	
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	27	
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	1.1	
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	6.3	
106-93-4	Ethylene Dibromide	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethyl Benzene	1.0	U
108-38-3	m,p-Xylene	1.3	J
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.4	
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
100-44-7	Chlorotoluene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
115-07-1	Propylene	4.0	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.

VP-92-17'

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-11A
Lab File ID: j101321
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 2.01

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	4.0	U
67-64-1	Acetone	8.9	
75-15-0	Carbon Disulfide	12	
67-63-0	2-Propanol	6.2	
156-60-5	trans-1,2-Dichloroethene	4.0	U
108-05-4	Vinyl Acetate	4.0	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	4.0	U
110-54-3	Hexane	4.0	U
109-99-9	Tetrahydrofuran	4.0	U
110-82-7	Cyclohexane	4.0	U
123-91-1	1,4-Dioxane	4.0	U
75-27-4	Bromodichloromethane	4.0	U
108-10-1	4-Methyl-2-pentanone	4.0	U
591-78-6	2-Hexanone	4.0	U
124-48-1	Dibromochloromethane	4.0	U
75-25-2	Bromoform	4.0	U
622-96-8	4-Ethyltoluene	4.0	U
64-17-5	Ethanol	78	
1634-04-4	Methyl tert-Butyl Ether	4.0	U
142-82-5	Heptane	4.0	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-28

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 10 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-07A
Lab File ID: j101428
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 19.6

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	9.8	U
76-14-2	Freon 114	9.8	U
74-87-3	Chloromethane	9.8	U
75-01-4	Vinyl Chloride	9.8	U
74-83-9	Bromomethane	9.8	U
75-00-3	Chloroethane	9.8	U
75-69-4	Freon 11	9.8	U
75-35-4	1,1-Dichloroethene	930	
76-13-1	Freon 113	1200	
75-09-2	Methylene Chloride	9.8	U
75-34-3	1,1-Dichloroethane	100	
156-59-2	cis-1,2-Dichloroethene	9.8	U
67-66-3	Chloroform	9.8	U
71-55-6	1,1,1-Trichloroethane	140	
56-23-5	Carbon Tetrachloride	9.8	U
71-43-2	Benzene	9.8	U
107-06-2	1,2-Dichloroethane	9.8	U
79-01-6	Trichloroethene	100	
78-87-5	1,2-Dichloropropane	9.8	U
10061-01-5	cis-1,3-Dichloropropene	9.8	U
108-88-3	Toluene	9.8	U
10061-02-6	trans-1,3-Dichloropropene	9.8	U
79-00-5	1,1,2-Trichloroethane	9.8	U
127-18-4	Tetrachloroethene	28	
106-93-4	Ethylene Dibromide	9.8	U
108-90-7	Chlorobenzene	9.8	U
100-41-4	Ethyl Benzene	9.8	U
108-38-3	m,p-Xylene	9.8	U
95-47-6	o-Xylene	9.8	U
100-42-5	Styrene	9.8	U
79-34-5	1,1,2,2-Tetrachloroethane	9.8	U
108-67-8	1,3,5-Trimethylbenzene	9.8	U
95-63-6	1,2,4-Trimethylbenzene	9.8	U
541-73-1	1,3-Dichlorobenzene	9.8	U
106-46-7	1,4-Dichlorobenzene	9.8	U
100-44-7	Chlorotoluene	9.8	U
95-50-1	1,2-Dichlorobenzene	9.8	U
120-82-1	1,2,4-Trichlorobenzene	9.8	U
87-68-3	Hexachlorobutadiene	9.8	U
115-07-1	Propylene	39	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-28

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 10 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-07A
Lab File ID: j101428
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 19.6

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	39	U
67-64-1	Acetone	39	U
75-15-0	Carbon Disulfide	39	U
67-63-0	2-Propanol	39	U
156-60-5	trans-1,2-Dichloroethene	39	U
108-05-4	Vinyl Acetate	39	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	39	U
110-54-3	Hexane	39	U
109-99-9	Tetrahydrofuran	39	U
110-82-7	Cyclohexane	39	U
123-91-1	1,4-Dioxane	39	U
75-27-4	Bromodichloromethane	39	U
108-10-1	4-Methyl-2-pentanone	39	U
591-78-6	2-Hexanone	39	U
124-48-1	Dibromochloromethane	39	U
75-25-2	Bromoform	39	U
622-96-8	4-Ethyltoluene	39	U
64-17-5	Ethanol	39	U
1634-04-4	Methyl tert-Butyl Ether	39	U
142-82-5	Heptane	39	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-28D

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 20 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-09A
Lab File ID: j101430
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 9.35

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	4.7	U
76-14-2	Freon 114	4.7	U
74-87-3	Chloromethane	4.7	U
75-01-4	Vinyl Chloride	4.7	U
74-83-9	Bromomethane	4.7	U
75-00-3	Chloroethane	4.7	U
75-69-4	Freon 11	4.7	U
75-35-4	1,1-Dichloroethene	960	
76-13-1	Freon 113	1300	
75-09-2	Methylene Chloride	4.7	U
75-34-3	1,1-Dichloroethane	110	
156-59-2	cis-1,2-Dichloroethene	4.7	U
67-66-3	Chloroform	7.6	
71-55-6	1,1,1-Trichloroethane	150	
56-23-5	Carbon Tetrachloride	4.7	U
71-43-2	Benzene	4.7	U
107-06-2	1,2-Dichloroethane	4.7	U
79-01-6	Trichloroethene	110	
78-87-5	1,2-Dichloropropane	4.7	U
10061-01-5	cis-1,3-Dichloropropene	4.7	U
108-88-3	Toluene	17	
10061-02-6	trans-1,3-Dichloropropene	4.7	U
79-00-5	1,1,2-Trichloroethane	4.7	U
127-18-4	Tetrachloroethene	30	
106-93-4	Ethylene Dibromide	4.7	U
108-90-7	Chlorobenzene	4.7	U
100-41-4	Ethyl Benzene	4.7	U
108-38-3	m,p-Xylene	4.7	U
95-47-6	o-Xylene	4.7	U
100-42-5	Styrene	4.7	U
79-34-5	1,1,2,2-Tetrachloroethane	4.7	U
108-67-8	1,3,5-Trimethylbenzene	4.7	U
95-63-6	1,2,4-Trimethylbenzene	4.7	U
541-73-1	1,3-Dichlorobenzene	4.7	U
106-46-7	1,4-Dichlorobenzene	4.7	U
100-44-7	Chlorotoluene	4.7	U
95-50-1	1,2-Dichlorobenzene	4.7	U
120-82-1	1,2,4-Trichlorobenzene	4.7	U
87-68-3	Hexachlorobutadiene	4.7	U
115-07-1	Propylene	19	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-28D

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 20 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-09A
Lab File ID: j101430
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 9.35

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	19	U
67-64-1	Acetone	19	U
75-15-0	Carbon Disulfide	19	U
67-63-0	2-Propanol	19	U
156-60-5	trans-1,2-Dichloroethene	19	U
108-05-4	Vinyl Acetate	19	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	19	U
110-54-3	Hexane	19	U
109-99-9	Tetrahydrofuran	19	U
110-82-7	Cyclohexane	19	U
123-91-1	1,4-Dioxane	19	U
75-27-4	Bromodichloromethane	19	U
108-10-1	4-Methyl-2-pentanone	19	U
591-78-6	2-Hexanone	19	U
124-48-1	Dibromochloromethane	19	U
75-25-2	Bromoform	19	U
622-96-8	4-Ethyltoluene	19	U
64-17-5	Ethanol	19	U
1634-04-4	Methyl tert-Butyl Ether	19	U
142-82-5	Heptane	19	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-40

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 6 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-08A
Lab File ID: j101429
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 32.7

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	16	U
76-14-2	Freon 114	16	U
74-87-3	Chloromethane	16	U
75-01-4	Vinyl Chloride	16	U
74-83-9	Bromomethane	16	U
75-00-3	Chloroethane	16	U
75-69-4	Freon 11	16	U
75-35-4	1,1-Dichloroethene	3000	
76-13-1	Freon 113	5100	
75-09-2	Methylene Chloride	36	
75-34-3	1,1-Dichloroethane	750	
156-59-2	cis-1,2-Dichloroethene	16	U
67-66-3	Chloroform	64	
71-55-6	1,1,1-Trichloroethane	940	
56-23-5	Carbon Tetrachloride	16	U
71-43-2	Benzene	16	U
107-06-2	1,2-Dichloroethane	270	
79-01-6	Trichloroethene	340	
78-87-5	1,2-Dichloropropane	16	U
10061-01-5	cis-1,3-Dichloropropene	16	U
108-88-3	Toluene	16	U
10061-02-6	trans-1,3-Dichloropropene	16	U
79-00-5	1,1,2-Trichloroethane	120	
127-18-4	Tetrachloroethene	130	
106-93-4	Ethylene Dibromide	16	U
108-90-7	Chlorobenzene	16	U
100-41-4	Ethyl Benzene	16	U
108-38-3	m,p-Xylene	16	U
95-47-6	o-Xylene	16	U
100-42-5	Styrene	16	U
79-34-5	1,1,2,2-Tetrachloroethane	16	U
108-67-8	1,3,5-Trimethylbenzene	16	U
95-63-6	1,2,4-Trimethylbenzene	16	U
541-73-1	1,3-Dichlorobenzene	16	U
106-46-7	1,4-Dichlorobenzene	16	U
100-44-7	Chlorotoluene	16	U
95-50-1	1,2-Dichlorobenzene	16	U
120-82-1	1,2,4-Trichlorobenzene	16	U
87-68-3	Hexachlorobutadiene	16	U
115-07-1	Propylene	65	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-40

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 6 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-08A
Lab File ID: j101429
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 32.7

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	65	U
67-64-1	Acetone	74	J
75-15-0	Carbon Disulfide	65	U
67-63-0	2-Propanol	65	U
156-60-5	trans-1,2-Dichloroethene	65	U
108-05-4	Vinyl Acetate	65	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	65	U
110-54-3	Hexane	65	U
109-99-9	Tetrahydrofuran	65	U
110-82-7	Cyclohexane	65	U
123-91-1	1,4-Dioxane	65	U
75-27-4	Bromodichloromethane	65	U
108-10-1	4-Methyl-2-pentanone	65	U
591-78-6	2-Hexanone	65	U
124-48-1	Dibromochloromethane	65	U
75-25-2	Bromoform	65	U
622-96-8	4-Ethyltoluene	65	U
64-17-5	Ethanol	65	U
1634-04-4	Methyl tert-Butyl Ether	65	U
142-82-5	Heptane	65	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-52

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 1.5 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-06A
Lab File ID: j101421
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 105

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	53	U
76-14-2	Freon 114	53	U
74-87-3	Chloromethane	53	U
75-01-4	Vinyl Chloride	53	U
74-83-9	Bromomethane	53	U
75-00-3	Chloroethane	53	U
75-69-4	Freon 11	53	U
75-35-4	1,1-Dichloroethene	14000	
76-13-1	Freon 113	15000	
75-09-2	Methylene Chloride	53	U
75-34-3	1,1-Dichloroethane	3300	
156-59-2	cis-1,2-Dichloroethene	53	U
67-66-3	Chloroform	150	
71-55-6	1,1,1-Trichloroethane	19000	
56-23-5	Carbon Tetrachloride	53	U
71-43-2	Benzene	53	U
107-06-2	1,2-Dichloroethane	1200	
79-01-6	Trichloroethene	620	
78-87-5	1,2-Dichloropropane	53	U
10061-01-5	cis-1,3-Dichloropropene	53	U
108-88-3	Toluene	53	U
10061-02-6	trans-1,3-Dichloropropene	53	U
79-00-5	1,1,2-Trichloroethane	1200	
127-18-4	Tetrachloroethene	960	
106-93-4	Ethylene Dibromide	53	U
108-90-7	Chlorobenzene	53	U
100-41-4	Ethyl Benzene	53	U
108-38-3	m,p-Xylene	53	U
95-47-6	o-Xylene	53	U
100-42-5	Styrene	53	U
79-34-5	1,1,2,2-Tetrachloroethane	53	U
108-67-8	1,3,5-Trimethylbenzene	53	U
95-63-6	1,2,4-Trimethylbenzene	53	U
541-73-1	1,3-Dichlorobenzene	53	U
106-46-7	1,4-Dichlorobenzene	53	U
100-44-7	Chlorotoluene	53	U
95-50-1	1,2-Dichlorobenzene	53	U
120-82-1	1,2,4-Trichlorobenzene	53	U
87-68-3	Hexachlorobutadiene	53	U
115-07-1	Propylene	210	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-52D

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 1.5 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-10A
Lab File ID: j101431
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 125

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	63	U
76-14-2	Freon 114	63	U
74-87-3	Chloromethane	63	U
75-01-4	Vinyl Chloride	63	U
74-83-9	Bromomethane	63	U
75-00-3	Chloroethane	63	U
75-69-4	Freon 11	63	U
75-35-4	1,1-Dichloroethene	17000	
76-13-1	Freon 113	17000	
75-09-2	Methylene Chloride	63	U
75-34-3	1,1-Dichloroethane	4100	
156-59-2	cis-1,2-Dichloroethene	63	U
67-66-3	Chloroform	180	
71-55-6	1,1,1-Trichloroethane	26000	
56-23-5	Carbon Tetrachloride	63	U
71-43-2	Benzene	63	U
107-06-2	1,2-Dichloroethane	1300	
79-01-6	Trichloroethene	700	
78-87-5	1,2-Dichloropropane	63	U
10061-01-5	cis-1,3-Dichloropropene	63	U
108-88-3	Toluene	63	U
10061-02-6	trans-1,3-Dichloropropene	63	U
79-00-5	1,1,2-Trichloroethane	1400	
127-18-4	Tetrachloroethene	1200	
106-93-4	Ethylene Dibromide	63	U
108-90-7	Chlorobenzene	63	U
100-41-4	Ethyl Benzene	63	U
108-38-3	m,p-Xylene	63	U
95-47-6	o-Xylene	63	U
100-42-5	Styrene	63	U
79-34-5	1,1,2,2-Tetrachloroethane	63	U
108-67-8	1,3,5-Trimethylbenzene	63	U
95-63-6	1,2,4-Trimethylbenzene	63	U
541-73-1	1,3-Dichlorobenzene	63	U
106-46-7	1,4-Dichlorobenzene	63	U
100-44-7	Chlorotoluene	63	U
95-50-1	1,2-Dichlorobenzene	63	U
120-82-1	1,2,4-Trichlorobenzene	63	U
87-68-3	Hexachlorobutadiene	63	U
115-07-1	Propylene	250	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-52D

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 1.5 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-10A
Lab File ID: j101431
Date Received: 10/2/98
Date Analyzed: 10/15/98
Dilution Factor: 125

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	250	U
67-64-1	Acetone	250	U
75-15-0	Carbon Disulfide	250	U
67-63-0	2-Propanol	250	U
156-60-5	trans-1,2-Dichloroethene	250	U
108-05-4	Vinyl Acetate	250	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	250	U
110-54-3	Hexane	250	U
109-99-9	Tetrahydrofuran	250	U
110-82-7	Cyclohexane	250	U
123-91-1	1,4-Dioxane	250	U
75-27-4	Bromodichloromethane	250	U
108-10-1	4-Methyl-2-pentanone	250	U
591-78-6	2-Hexanone	250	U
124-48-1	Dibromochloromethane	250	U
75-25-2	Bromoform	250	U
622-96-8	4-Ethyltoluene	250	U
64-17-5	Ethanol	250	U
1634-04-4	Methyl tert-Butyl Ether	250	U
142-82-5	Heptane	250	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-52-DUP

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 2.0 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-06AA
Lab File ID: j101419
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 79.0

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	40	U
76-14-2	Freon 114	40	U
74-87-3	Chloromethane	40	U
75-01-4	Vinyl Chloride	48	
74-83-9	Bromomethane	40	U
75-00-3	Chloroethane	40	U
75-69-4	Freon 11	40	U
75-35-4	1,1-Dichloroethene	15000	
76-13-1	Freon 113	16000	
75-09-2	Methylene Chloride	40	U
75-34-3	1,1-Dichloroethane	3400	
156-59-2	cis-1,2-Dichloroethene	40	U
67-66-3	Chloroform	150	
71-55-6	1,1,1-Trichloroethane	20000	E
56-23-5	Carbon Tetrachloride	40	U
71-43-2	Benzene	40	U
107-06-2	1,2-Dichloroethane	1200	
79-01-6	Trichloroethene	650	
78-87-5	1,2-Dichloropropane	40	U
10061-01-5	cis-1,3-Dichloropropene	40	U
108-88-3	Toluene	40	U
10061-02-6	trans-1,3-Dichloropropene	40	U
79-00-5	1,1,2-Trichloroethane	1200	
127-18-4	Tetrachloroethene	920	
106-93-4	Ethylene Dibromide	40	U
108-90-7	Chlorobenzene	40	U
100-41-4	Ethyl Benzene	40	U
108-38-3	m,p-Xylene	40	U
95-47-6	o-Xylene	40	U
100-42-5	Styrene	40	U
79-34-5	1,1,2,2-Tetrachloroethane	40	U
108-67-8	1,3,5-Trimethylbenzene	40	U
95-63-6	1,2,4-Trimethylbenzene	40	U
541-73-1	1,3-Dichlorobenzene	40	U
106-46-7	1,4-Dichlorobenzene	40	U
100-44-7	Chlorotoluene	40	U
95-50-1	1,2-Dichlorobenzene	40	U
120-82-1	1,2,4-Trichlorobenzene	40	U
87-68-3	Hexachlorobutadiene	40	U
115-07-1	Propylene	160	U

FORM I-ATL

LEVEL-IV VALIDATABLE

000090

SAMPLE NO.

VP-92-52-DUP

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 2.0 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810055-06AA
Lab File ID: j101419
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 79.0

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	160	U
67-64-1	Acetone	190	J
75-15-0	Carbon Disulfide	160	U
67-63-0	2-Propanol	160	U
156-60-5	trans-1,2-Dichloroethene	160	U
108-05-4	Vinyl Acetate	160	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	160	U
110-54-3	Hexane	160	U
109-99-9	Tetrahydrofuran	160	U
110-82-7	Cyclohexane	160	U
123-91-1	1,4-Dioxane	160	U
75-27-4	Bromodichloromethane	160	U
108-10-1	4-Methyl-2-pentanone	160	U
591-78-6	2-Hexanone	160	U
124-48-1	Dibromochloromethane	160	U
75-25-2	Bromoform	160	U
622-96-8	4-Ethyltoluene	160	U
64-17-5	Ethanol	160	U
1634-04-4	Methyl tert-Butyl Ether	160	U
142-82-5	Heptane	160	U

FORM I-ATL

Polygon 92 Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-92, October 1998 Rebound Samples

Sample #	Total Clx (ppbV as TCE)	Total Clx Conc (ug/L)*	Total Clx Conc (ug/Kg)**
VP-92-17	247	1.07	0.64
VP-92-28D	1250	5.51	3.30
VP-92-40	4410	20.06	12.01
VP-92-52D	44900	224.80	134.66
VP-92-28***	1198	5.26	3.15
VP-92-52***	34580	171.80	102.91
VP-92-52DUP***	36570	181.26	108.58
	50807	251.44	150.61

*Divided by (24.04/131.39)
**Multiply ug/L concentration by 0.599 L/Kg (calculated Kgt based on revised soil physical data).
***Sample not used for modeling- if duplicate samples collected, highest result used for modeling
D/DUP Duplicate soil gas sample

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-92, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-92-17	200	0.81	0.48
VP-92-28D	960	3.87	2.32
VP-92-40	3,000	12	7.24
VP-92-52D	17,000	69	41.04
VP-92-28***	930	3.75	2.24
VP-92-52***	14,000	56	33.80
VP-92-52DUP***	15,000	60	36.21
	21160	85.27	51.08

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-92, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-92-17	14	0.08	0.05
VP-92-28D	150	0.83	0.50
VP-92-40	940	5.2	3.12
VP-92-52D	26000	144	86.37
VP-92-28***	140	0.78	0.47
VP-92-52***	19000	105	63.12
VP-92-52DUP***	20000	111	66.44
	27104	150.32	90.04

Polygon 92 Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-92, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-92-17	27	0.15	0.09
VP-92-28D	110	0.60	0.36
VP-92-40	340	1.86	1.11
VP-92-52D	700	3.8	2.29
VP-92-28***	100	0.55	0.33
VP-92-52***	620	3.4	2.03
VP-92-52DUP***	650	3.6	2.13
	1177	6.43	3.85

PCE Soil Concentration Calculations from Soil Gas Data
VP-92, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-92-17	6.3	0.04	0.03
VP-92-28D	30	0.21	0.12
VP-92-40	130	0.90	0.54
VP-92-52D	1200	8.27	4.96
VP-92-28***	28	0.19	0.12
VP-92-52***	960	6.62	3.96
VP-92-52DUP***	920	6.34	3.80
	1366	9.42	5.64

Polygon 92 Final Closure Soil Gas Data

Interpolated Total Soil Concentrations
VP-92, October 1998 Rebound Samples

Depth (feet)	*Conc. (ug/kg)*
3	0.114
9	0.341
15	0.568
21	1.609
27	3.058
33	6.930
39	11.288
45	63.11
51	124.44
57	134.66
60	134.66

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PGA VLEACH model, Polygon 92 VP-92  OCT-98 LAB Data
    1
       1.0      50.       1.0       10.
     123.6       .473      1100.      .7029
Polygon VP-92
    87500         1.    .026670      1.64      .381       .255       .00074
        0.         0.        -1.
   60
    1     6       0.114
    7    12       0.341
   13    18       0.568
   19    24       1.609
   25    30       3.058
   31    36       6.930
   37    42      11.288
   43    48      63.110
   49    54      124.44
   55    60      134.66
```

V-Leach, VER 1.1
Jake Turin, 11/91
PGA VLEACH model, Polygon 92 VP-92 OCT-98 LAB Data
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 1.00 years. Vertical profile stored every 10.00 years.
Koc = 123.60 ml/g, .43649E-02cu.ft./g
Kh = .47300 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .70290 sq. m/day, 2761.7 sq.ft./yr

Polygon 1
Polygon VP-92
Polygon area = 87500. sq. ft.
60 cells, each cell 1.000 ft. thick.
Soil Properties:
Bulk density = 1.6400 g/ml, 46440. g/cu.ft.
Porosity = .3810 Volumetric water content = .2550
Organic carbon content = .00074000
Recharge Rate = .02667000 ft/yr
Conc. in recharge water = .00000 mg/l, .00000 g/cu.ft
Atmospheric concentration = .00000 mg/l, .00000 g/cu.ft
Water table is impermeable to gas diffusion.

MIXCELL OUTPUT FILE

PGA VLEACH model Polygon 92 VP-92 OCT-98 LAB Data

Year	Mass (grams)	GW Conc (ug/L)
1	31.396	0.4105
2	31.174	0.6261
3	30.941	0.7379
4	30.700	0.7942
5	30.451	0.8209
6	30.195	0.8318
7	29.934	0.8342
8	29.668	0.8320
9	29.398	0.8273
10	29.124	0.8212
11	28.848	0.8143
12	28.570	0.8070
13	28.291	0.7995
14	28.011	0.7919
15	27.731	0.7841
16	27.451	0.7763
17	27.172	0.7685
18	26.894	0.7608
19	26.618	0.7530
20	26.343	0.7453
21	26.070	0.7376
22	25.799	0.7300
23	25.531	0.7224
24	25.265	0.7149
25	25.002	0.7075
26	24.742	0.7001
27	24.486	0.6928
28	24.232	0.6857
29	23.982	0.6786
30	23.735	0.6716
31	23.492	0.6646
32	23.252	0.6578
33	23.015	0.6511
34	22.783	0.6445
35	22.553	0.6380
36	22.328	0.6315
37	22.105	0.6252
38	21.887	0.6190
39	21.672	0.6129
40	21.460	0.6068
41	21.252	0.6009
42	21.048	0.5951
43	20.847	0.5894
44	20.649	0.5837
45	20.454	0.5782
46	20.263	0.5727
47	20.076	0.5674
48	19.891	0.5621
49	19.709	0.5569
50	19.531	0.5518

Polygon VP-92
Time: .000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.52006E-05	.10995E-04	.35514E-10
2	.52006E-05	.10995E-04	.35514E-10
3	.52006E-05	.10995E-04	.35514E-10
4	.52006E-05	.10995E-04	.35514E-10
5	.52006E-05	.10995E-04	.35514E-10
6	.52006E-05	.10995E-04	.35514E-10
7	.16075E-04	.33984E-04	.10977E-09
8	.16075E-04	.33984E-04	.10977E-09
9	.16075E-04	.33984E-04	.10977E-09
10	.16075E-04	.33984E-04	.10977E-09
11	.16075E-04	.33984E-04	.10977E-09
12	.16075E-04	.33984E-04	.10977E-09
13	.26476E-04	.55974E-04	.18080E-09
14	.26476E-04	.55974E-04	.18080E-09
15	.26476E-04	.55974E-04	.18080E-09
16	.26476E-04	.55974E-04	.18080E-09
17	.26476E-04	.55974E-04	.18080E-09
18	.26476E-04	.55974E-04	.18080E-09
19	.75645E-04	.15993E-03	.51656E-09
20	.75645E-04	.15993E-03	.51656E-09
21	.75645E-04	.15993E-03	.51656E-09
22	.75645E-04	.15993E-03	.51656E-09
23	.75645E-04	.15993E-03	.51656E-09
24	.75645E-04	.15993E-03	.51656E-09
25	.14420E-03	.30486E-03	.98469E-09
26	.14420E-03	.30486E-03	.98469E-09
27	.14420E-03	.30486E-03	.98469E-09
28	.14420E-03	.30486E-03	.98469E-09
29	.14420E-03	.30486E-03	.98469E-09
30	.14420E-03	.30486E-03	.98469E-09
31	.32764E-03	.69268E-03	.22374E-08
32	.32764E-03	.69268E-03	.22374E-08
33	.32764E-03	.69268E-03	.22374E-08
34	.32764E-03	.69268E-03	.22374E-08
35	.32764E-03	.69268E-03	.22374E-08
36	.32764E-03	.69268E-03	.22374E-08
37	.53330E-03	.11275E-02	.36418E-08
38	.53330E-03	.11275E-02	.36418E-08
39	.53330E-03	.11275E-02	.36418E-08
40	.53330E-03	.11275E-02	.36418E-08
41	.53330E-03	.11275E-02	.36418E-08
42	.53330E-03	.11275E-02	.36418E-08
43	.29837E-02	.63081E-02	.20375E-07
44	.29837E-02	.63081E-02	.20375E-07
45	.29837E-02	.63081E-02	.20375E-07
46	.29837E-02	.63081E-02	.20375E-07
47	.29837E-02	.63081E-02	.20375E-07
48	.29837E-02	.63081E-02	.20375E-07
49	.58814E-02	.12434E-01	.40163E-07
50	.58814E-02	.12434E-01	.40163E-07

51	.58814E-02	.12434E-01	.40163E-07
52	.58814E-02	.12434E-01	.40163E-07
53	.58814E-02	.12434E-01	.40163E-07
54	.58814E-02	.12434E-01	.40163E-07
55	.63636E-02	.13454E-01	.43456E-07
56	.63636E-02	.13454E-01	.43456E-07
57	.63636E-02	.13454E-01	.43456E-07
58	.63636E-02	.13454E-01	.43456E-07
59	.63636E-02	.13454E-01	.43456E-07
60	.63636E-02	.13454E-01	.43456E-07

Polygon VP-92
Time: 10.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.22237E-05	.47013E-05	.15185E-10
2	.44479E-05	.94037E-05	.30374E-10
3	.64364E-05	.13608E-04	.43953E-10
4	.83718E-05	.17699E-04	.57169E-10
5	.10385E-04	.21955E-04	.70915E-10
6	.12555E-04	.26544E-04	.85736E-10
7	.16394E-04	.34660E-04	.11195E-09
8	.19881E-04	.42032E-04	.13576E-09
9	.22942E-04	.48503E-04	.15666E-09
10	.26011E-04	.54992E-04	.17762E-09
11	.29349E-04	.62048E-04	.20042E-09
12	.33100E-04	.69979E-04	.22603E-09
13	.38767E-04	.81959E-04	.26473E-09
14	.44476E-04	.94029E-04	.30371E-09
15	.50227E-04	.10619E-03	.34299E-09
16	.56520E-04	.11949E-03	.38596E-09
17	.63700E-04	.13467E-03	.43499E-09
18	.72021E-04	.15226E-03	.49181E-09
19	.88258E-04	.18659E-03	.60270E-09
20	.10324E-03	.21826E-03	.70499E-09
21	.11660E-03	.24651E-03	.79622E-09
22	.13028E-03	.27544E-03	.88968E-09
23	.14546E-03	.30752E-03	.99330E-09
24	.16277E-03	.34413E-03	.11115E-08
25	.19187E-03	.40564E-03	.13102E-08
26	.22014E-03	.46542E-03	.15033E-08
27	.24731E-03	.52285E-03	.16888E-08
28	.27632E-03	.58418E-03	.18869E-08
29	.30907E-03	.65342E-03	.21106E-08
30	.34679E-03	.73317E-03	.23681E-08
31	.41496E-03	.87729E-03	.28336E-08
32	.47954E-03	.10138E-02	.32746E-08
33	.53939E-03	.11404E-02	.36833E-08
34	.60201E-03	.12727E-02	.41110E-08
35	.67200E-03	.14207E-02	.45889E-08
36	.75208E-03	.15900E-02	.51358E-08
37	.87190E-03	.18433E-02	.59540E-08
38	.99445E-03	.21024E-02	.67909E-08
39	.11197E-02	.23673E-02	.76462E-08
40	.12575E-02	.26586E-02	.85874E-08

41	.14147E-02	.29909E-02	.96606E-08
42	.15961E-02	.33744E-02	.10899E-07
43	.21317E-02	.45068E-02	.14557E-07
44	.25556E-02	.54031E-02	.17452E-07
45	.28396E-02	.60035E-02	.19391E-07
46	.30688E-02	.64879E-02	.20956E-07
47	.32870E-02	.69492E-02	.22446E-07
48	.35100E-02	.74208E-02	.23969E-07
49	.41303E-02	.87322E-02	.28205E-07
50	.45968E-02	.97184E-02	.31390E-07
51	.48752E-02	.10307E-01	.33291E-07
52	.50646E-02	.10708E-01	.34585E-07
53	.52151E-02	.11026E-01	.35613E-07
54	.53428E-02	.11296E-01	.36485E-07
55	.55175E-02	.11665E-01	.37678E-07
56	.56498E-02	.11945E-01	.38581E-07
57	.57355E-02	.12126E-01	.39166E-07
58	.57921E-02	.12245E-01	.39553E-07
59	.58287E-02	.12323E-01	.39803E-07
60	.58483E-02	.12364E-01	.39936E-07

Polygon VP-92
Time: 20.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.25677E-05	.54286E-05	.17535E-10
2	.57536E-05	.12164E-04	.39290E-10
3	.91239E-05	.19289E-04	.62305E-10
4	.12619E-04	.26679E-04	.86173E-10
5	.16291E-04	.34442E-04	.11125E-09
6	.20214E-04	.42735E-04	.13803E-09
7	.24654E-04	.52124E-04	.16836E-09
8	.29521E-04	.62412E-04	.20159E-09
9	.34723E-04	.73410E-04	.23712E-09
10	.40328E-04	.85261E-04	.27539E-09
11	.46471E-04	.98247E-04	.31734E-09
12	.53291E-04	.11267E-03	.36391E-09
13	.61110E-04	.12920E-03	.41731E-09
14	.69909E-04	.14780E-03	.47739E-09
15	.79678E-04	.16845E-03	.54410E-09
16	.90568E-04	.19148E-03	.61847E-09
17	.10280E-03	.21734E-03	.70202E-09
18	.11662E-03	.24656E-03	.79640E-09
19	.13315E-03	.28151E-03	.90926E-09
20	.15188E-03	.32110E-03	.10371E-08
21	.17231E-03	.36430E-03	.11767E-08
22	.19467E-03	.41157E-03	.13294E-08
23	.21946E-03	.46398E-03	.14987E-08
24	.24722E-03	.52267E-03	.16882E-08
25	.27967E-03	.59128E-03	.19098E-08
26	.31626E-03	.66862E-03	.21596E-08
27	.35644E-03	.75357E-03	.24340E-08
28	.40068E-03	.84710E-03	.27361E-08
29	.44986E-03	.95108E-03	.30720E-08
30	.50490E-03	.10674E-02	.34479E-08

31	.56994E-03	.12049E-02	.38920E-08
32	.64298E-03	.13594E-02	.43908E-08
33	.72207E-03	.15266E-02	.49309E-08
34	.80783E-03	.17079E-02	.55165E-08
35	.90193E-03	.19068E-02	.61590E-08
36	.10060E-02	.21269E-02	.68700E-08
37	.11253E-02	.23791E-02	.76844E-08
38	.12579E-02	.26594E-02	.85899E-08
39	.14020E-02	.29641E-02	.95741E-08
40	.15587E-02	.32953E-02	.10644E-07
41	.17299E-02	.36574E-02	.11813E-07
42	.19179E-02	.40547E-02	.13097E-07
43	.21673E-02	.45820E-02	.14800E-07
44	.24409E-02	.51605E-02	.16669E-07
45	.27009E-02	.57101E-02	.18444E-07
46	.29425E-02	.62210E-02	.20094E-07
47	.31743E-02	.67110E-02	.21677E-07
48	.34034E-02	.71954E-02	.23241E-07
49	.36849E-02	.77905E-02	.25163E-07
50	.39750E-02	.84039E-02	.27144E-07
51	.42286E-02	.89400E-02	.28876E-07
52	.44398E-02	.93865E-02	.30319E-07
53	.46181E-02	.97634E-02	.31536E-07
54	.47713E-02	.10087E-01	.32582E-07
55	.49123E-02	.10385E-01	.33545E-07
56	.50353E-02	.10645E-01	.34385E-07
57	.51336E-02	.10853E-01	.35056E-07
58	.52069E-02	.11008E-01	.35557E-07
59	.52571E-02	.11114E-01	.35899E-07
60	.52856E-02	.11175E-01	.36094E-07

Polygon VP-92
Time: 30.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.36254E-05	.76647E-05	.24757E-10
2	.81851E-05	.17305E-04	.55894E-10
3	.13126E-04	.27751E-04	.89637E-10
4	.18337E-04	.38768E-04	.12522E-09
5	.23841E-04	.50403E-04	.16280E-09
6	.29703E-04	.62797E-04	.20283E-09
7	.36030E-04	.76172E-04	.24604E-09
8	.42900E-04	.90699E-04	.29296E-09
9	.50375E-04	.10650E-03	.34400E-09
10	.58530E-04	.12374E-03	.39969E-09
11	.67473E-04	.14265E-03	.46075E-09
12	.77330E-04	.16349E-03	.52807E-09
13	.88264E-04	.18661E-03	.60274E-09
14	.10042E-03	.21230E-03	.68573E-09
15	.11392E-03	.24084E-03	.77792E-09
16	.12892E-03	.27255E-03	.88034E-09
17	.14560E-03	.30783E-03	.99429E-09
18	.16419E-03	.34712E-03	.11212E-08
19	.18502E-03	.39116E-03	.12634E-08
20	.20831E-03	.44039E-03	.14225E-08

21	.23415E-03	.49504E-03	.15990E-08
22	.26274E-03	.55548E-03	.17942E-08
23	.29436E-03	.62233E-03	.20101E-08
24	.32937E-03	.69635E-03	.22492E-08
25	.36833E-03	.77871E-03	.25152E-08
26	.41158E-03	.87015E-03	.28106E-08
27	.45934E-03	.97112E-03	.31367E-08
28	.51190E-03	.10823E-02	.34957E-08
29	.56973E-03	.12045E-02	.38905E-08
30	.63334E-03	.13390E-02	.43249E-08
31	.70374E-03	.14878E-02	.48057E-08
32	.78135E-03	.16519E-02	.53356E-08
33	.86612E-03	.18311E-02	.59146E-08
34	.95824E-03	.20259E-02	.65436E-08
35	.10582E-02	.22372E-02	.72260E-08
36	.11666E-02	.24664E-02	.79664E-08
37	.12846E-02	.27159E-02	.87723E-08
38	.14126E-02	.29866E-02	.96466E-08
39	.15505E-02	.32781E-02	.10588E-07
40	.16982E-02	.35903E-02	.11597E-07
41	.18559E-02	.39237E-02	.12674E-07
42	.20239E-02	.42788E-02	.13821E-07
43	.22079E-02	.46679E-02	.15077E-07
44	.24059E-02	.50865E-02	.16429E-07
45	.26094E-02	.55166E-02	.17819E-07
46	.28120E-02	.59450E-02	.19202E-07
47	.30119E-02	.63676E-02	.20567E-07
48	.32091E-02	.67845E-02	.21914E-07
49	.34106E-02	.72105E-02	.23290E-07
50	.36138E-02	.76402E-02	.24678E-07
51	.38085E-02	.80517E-02	.26007E-07
52	.39871E-02	.84293E-02	.27227E-07
53	.41473E-02	.87680E-02	.28321E-07
54	.42892E-02	.90681E-02	.29290E-07
55	.44146E-02	.93331E-02	.30146E-07
56	.45231E-02	.95627E-02	.30887E-07
57	.46133E-02	.97532E-02	.31503E-07
58	.46836E-02	.99019E-02	.31983E-07
59	.47336E-02	.10008E-01	.32324E-07
60	.47631E-02	.10070E-01	.32526E-07

Polygon VP-92
Time: 40.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.49362E-05	.10436E-04	.33708E-10
2	.11173E-04	.23621E-04	.76297E-10
3	.17951E-04	.37952E-04	.12259E-09
4	.25108E-04	.53083E-04	.17146E-09
5	.32655E-04	.69039E-04	.22299E-09
6	.40660E-04	.85962E-04	.27766E-09
7	.49213E-04	.10404E-03	.33606E-09
8	.58411E-04	.12349E-03	.39887E-09
9	.68353E-04	.14451E-03	.46677E-09
10	.79145E-04	.16732E-03	.54046E-09

11	.90901E-04	.19218E-03	.62074E-09
12	.10375E-03	.21935E-03	.70849E-09
13	.11784E-03	.24912E-03	.80467E-09
14	.13331E-03	.28183E-03	.91032E-09
15	.15032E-03	.31781E-03	.10265E-08
16	.16905E-03	.35739E-03	.11544E-08
17	.18966E-03	.40098E-03	.12952E-08
18	.21236E-03	.44897E-03	.14502E-08
19	.23738E-03	.50186E-03	.16210E-08
20	.26494E-03	.56012E-03	.18092E-08
21	.29525E-03	.62421E-03	.20162E-08
22	.32854E-03	.69458E-03	.22435E-08
23	.36504E-03	.77176E-03	.24928E-08
24	.40504E-03	.85633E-03	.27660E-08
25	.44886E-03	.94895E-03	.30651E-08
26	.49679E-03	.10503E-02	.33925E-08
27	.54914E-03	.11610E-02	.37499E-08
28	.60617E-03	.12816E-02	.41394E-08
29	.66821E-03	.14127E-02	.45630E-08
30	.73556E-03	.15551E-02	.50229E-08
31	.80862E-03	.17096E-02	.55219E-08
32	.88773E-03	.18768E-02	.60621E-08
33	.97312E-03	.20573E-02	.66452E-08
34	.10649E-02	.22515E-02	.72723E-08
35	.11634E-02	.24596E-02	.79446E-08
36	.12687E-02	.26822E-02	.86635E-08
37	.13810E-02	.29198E-02	.94308E-08
38	.15006E-02	.31726E-02	.10247E-07
39	.16274E-02	.34406E-02	.11113E-07
40	.17612E-02	.37234E-02	.12027E-07
41	.19017E-02	.40204E-02	.12986E-07
42	.20486E-02	.43311E-02	.13990E-07
43	.22024E-02	.46561E-02	.15039E-07
44	.23624E-02	.49945E-02	.16132E-07
45	.25268E-02	.53421E-02	.17255E-07
46	.26929E-02	.56933E-02	.18389E-07
47	.28587E-02	.60438E-02	.19522E-07
48	.30228E-02	.63906E-02	.20642E-07
49	.31848E-02	.67332E-02	.21748E-07
50	.33440E-02	.70697E-02	.22835E-07
51	.34976E-02	.73945E-02	.23884E-07
52	.36425E-02	.77008E-02	.24874E-07
53	.37762E-02	.79836E-02	.25787E-07
54	.38973E-02	.82395E-02	.26614E-07
55	.40048E-02	.84667E-02	.27347E-07
56	.40979E-02	.86637E-02	.27984E-07
57	.41759E-02	.88285E-02	.28516E-07
58	.42375E-02	.89589E-02	.28937E-07
59	.42822E-02	.90532E-02	.29242E-07
60	.43091E-02	.91101E-02	.29426E-07

Polygon VP-92
Time: 50.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol

1	.63476E-05	.13420E-04	.43346E-10
2	.14405E-04	.30454E-04	.98367E-10
3	.23169E-04	.48983E-04	.15822E-09
4	.32408E-04	.68515E-04	.22130E-09
5	.42117E-04	.89041E-04	.28760E-09
6	.52363E-04	.11070E-03	.35757E-09
7	.63238E-04	.13369E-03	.43184E-09
8	.74844E-04	.15823E-03	.51109E-09
9	.87290E-04	.18455E-03	.59608E-09
10	.10069E-03	.21288E-03	.68760E-09
11	.11517E-03	.24349E-03	.78646E-09
12	.13085E-03	.27664E-03	.89356E-09
13	.14788E-03	.31265E-03	.10098E-08
14	.16640E-03	.35180E-03	.11363E-08
15	.18657E-03	.39444E-03	.12740E-08
16	.20854E-03	.44090E-03	.14241E-08
17	.23250E-03	.49154E-03	.15877E-08
18	.25861E-03	.54674E-03	.17660E-08
19	.28707E-03	.60691E-03	.19603E-08
20	.31808E-03	.67247E-03	.21721E-08
21	.35183E-03	.74383E-03	.24026E-08
22	.38854E-03	.82144E-03	.26533E-08
23	.42841E-03	.90574E-03	.29255E-08
24	.47167E-03	.99719E-03	.32209E-08
25	.51853E-03	.10963E-02	.35409E-08
26	.56924E-03	.12035E-02	.38872E-08
27	.62400E-03	.13192E-02	.42612E-08
28	.68305E-03	.14441E-02	.46644E-08
29	.74659E-03	.15784E-02	.50983E-08
30	.81481E-03	.17227E-02	.55642E-08
31	.88793E-03	.18772E-02	.60635E-08
32	.96612E-03	.20425E-02	.65974E-08
33	.10495E-02	.22189E-02	.71669E-08
34	.11382E-02	.24064E-02	.77726E-08
35	.12323E-02	.26052E-02	.84149E-08
36	.13317E-02	.28155E-02	.90939E-08
37	.14365E-02	.30370E-02	.98096E-08
38	.15466E-02	.32698E-02	.10561E-07
39	.16619E-02	.35134E-02	.11348E-07
40	.17820E-02	.37674E-02	.12169E-07
41	.19066E-02	.40310E-02	.13020E-07
42	.20354E-02	.43032E-02	.13899E-07
43	.21679E-02	.45833E-02	.14804E-07
44	.23035E-02	.48700E-02	.15730E-07
45	.24413E-02	.51613E-02	.16671E-07
46	.25801E-02	.54547E-02	.17619E-07
47	.27185E-02	.57474E-02	.18564E-07
48	.28554E-02	.60367E-02	.19499E-07
49	.29896E-02	.63204E-02	.20415E-07
50	.31201E-02	.65963E-02	.21306E-07
51	.32455E-02	.68615E-02	.22163E-07
52	.33643E-02	.71127E-02	.22974E-07
53	.34749E-02	.73465E-02	.23729E-07
54	.35759E-02	.75600E-02	.24419E-07

55	.36661E-02	.77508E-02	.25035E-07
56	.37447E-02	.79168E-02	.25571E-07
57	.38106E-02	.80562E-02	.26022E-07
58	.38630E-02	.81671E-02	.26380E-07
59	.39012E-02	.82478E-02	.26640E-07
60	.39245E-02	.82970E-02	.26799E-07

55	.36661E-02	.77508E-02	.25035E-07
56	.37447E-02	.79168E-02	.25571E-07
57	.38106E-02	.80562E-02	.26022E-07
58	.38630E-02	.81671E-02	.26380E-07
59	.39012E-02	.82478E-02	.26640E-07
60	.39245E-02	.82970E-02	.26799E-07

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-92-2-19'

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-33A
Lab File ID: j101219
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 1.68

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	0.84	U
76-14-2	Freon 114	0.84	U
74-87-3	Chloromethane	0.84	U
75-01-4	Vinyl Chloride	0.84	U
74-83-9	Bromomethane	0.84	U
75-00-3	Chloroethane	0.84	U
75-69-4	Freon 11	0.84	U
75-35-4	1,1-Dichloroethene	0.84	U
76-13-1	Freon 113	170	
75-09-2	Methylene Chloride	0.83	J
75-34-3	1,1-Dichloroethane	0.84	U
156-59-2	cis-1,2-Dichloroethene	0.84	U
67-66-3	Chloroform	2.4	
71-55-6	1,1,1-Trichloroethane	0.84	U
56-23-5	Carbon Tetrachloride	0.84	U
71-43-2	Benzene	0.84	U
107-06-2	1,2-Dichloroethane	0.84	U
79-01-6	Trichloroethene	1.3	
78-87-5	1,2-Dichloropropane	0.84	U
10061-01-5	cis-1,3-Dichloropropene	0.84	U
108-88-3	Toluene	2.0	
10061-02-6	trans-1,3-Dichloropropene	0.84	U
79-00-5	1,1,2-Trichloroethane	0.84	U
127-18-4	Tetrachloroethene	0.84	U
106-93-4	Ethylene Dibromide	0.84	U
108-90-7	Chlorobenzene	0.84	U
100-41-4	Ethyl Benzene	0.84	U
108-38-3	m,p-Xylene	0.84	U
95-47-6	o-Xylene	0.84	U
100-42-5	Styrene	0.84	U
79-34-5	1,1,2,2-Tetrachloroethane	0.84	U
108-67-8	1,3,5-Trimethylbenzene	0.84	U
95-63-6	1,2,4-Trimethylbenzene	0.84	U
541-73-1	1,3-Dichlorobenzene	0.84	U
106-46-7	1,4-Dichlorobenzene	1.3	
100-44-7	Chlorotoluene	0.84	U
95-50-1	1,2-Dichlorobenzene	3.3	
120-82-1	1,2,4-Trichlorobenzene	0.84	U
87-68-3	Hexachlorobutadiene	0.84	U
115-07-1	Propylene	3.4	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-92-2-19'

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-33A
Lab File ID: j101219
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 1.68

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.4	U
67-64-1	Acetone	11	
75-15-0	Carbon Disulfide	3.4	U
67-63-0	2-Propanol	3.4	U
156-60-5	trans-1,2-Dichloroethene	3.4	U
108-05-4	Vinyl Acetate	3.4	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	3.4	U
110-54-3	Hexane	3.4	U
109-99-9	Tetrahydrofuran	3.4	U
110-82-7	Cyclohexane	3.4	U
123-91-1	1,4-Dioxane	3.4	U
75-27-4	Bromodichloromethane	3.4	U
108-10-1	4-Methyl-2-pentanone	3.4	U
591-78-6	2-Hexanone	3.4	U
124-48-1	Dibromochloromethane	3.4	U
75-25-2	Bromoform	3.4	U
622-96-8	4-Ethyltoluene	3.4	U
64-17-5	Ethanol	10	
1634-04-4	Methyl tert-Butyl Ether	3.4	U
142-82-5	Heptane	3.4	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-92-2-32

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 25 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-20A
Lab File ID: j101333
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 6.20

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	3.1	U
76-14-2	Freon 114	3.1	U
74-87-3	Chloromethane	3.1	U
75-01-4	Vinyl Chloride	3.1	U
74-83-9	Bromomethane	3.1	U
75-00-3	Chloroethane	3.1	U
75-69-4	Freon 11	3.1	U
75-35-4	1,1-Dichloroethene	7.3	
76-13-1	Freon 113	560	
75-09-2	Methylene Chloride	3.1	U
75-34-3	1,1-Dichloroethane	3.1	U
156-59-2	cis-1,2-Dichloroethene	3.1	U
67-66-3	Chloroform	3.1	U
71-55-6	1,1,1-Trichloroethane	3.1	U
56-23-5	Carbon Tetrachloride	3.1	U
71-43-2	Benzene	3.1	U
107-06-2	1,2-Dichloroethane	3.1	U
79-01-6	Trichloroethene	11	
78-87-5	1,2-Dichloropropane	3.1	U
10061-01-5	cis-1,3-Dichloropropene	3.1	U
108-88-3	Toluene	3.1	U
10061-02-6	trans-1,3-Dichloropropene	3.1	U
79-00-5	1,1,2-Trichloroethane	3.1	U
127-18-4	Tetrachloroethene	3.1	U
106-93-4	Ethylene Dibromide	3.1	U
108-90-7	Chlorobenzene	3.1	U
100-41-4	Ethyl Benzene	3.1	U
108-38-3	m,p-Xylene	3.1	U
95-47-6	o-Xylene	3.1	U
100-42-5	Styrene	3.1	U
79-34-5	1,1,2,2-Tetrachloroethane	3.1	U
108-67-8	1,3,5-Trimethylbenzene	3.1	U
95-63-6	1,2,4-Trimethylbenzene	3.1	U
541-73-1	1,3-Dichlorobenzene	3.1	U
106-46-7	1,4-Dichlorobenzene	3.1	U
100-44-7	Chlorotoluene	3.1	U
95-50-1	1,2-Dichlorobenzene	3.1	U
120-82-1	1,2,4-Trichlorobenzene	3.1	U
87-68-3	Hexachlorobutadiene	3.1	U
115-07-1	Propylene	12	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-92-2-32

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 25 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-20A
Lab File ID: j101333
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 6.20

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	12	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
67-63-0	2-Propanol	12	U
156-60-5	trans-1,2-Dichloroethene	12	U
108-05-4	Vinyl Acetate	12	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	12	U
110-54-3	Hexane	12	U
109-99-9	Tetrahydrofuran	12	U
110-82-7	Cyclohexane	12	U
123-91-1	1,4-Dioxane	12	U
75-27-4	Bromodichloromethane	12	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	12	U
75-25-2	Bromoform	12	U
622-96-8	4-Ethyltoluene	12	U
64-17-5	Ethanol	22	
1634-04-4	Methyl tert-Butyl Ether	12	U
142-82-5	Heptane	12	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-92-2-41

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 20 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-13A
Lab File ID: j101322
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 11.2

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	5.6	U
76-14-2	Freon 114	5.6	U
74-87-3	Chloromethane	5.6	U
75-01-4	Vinyl Chloride	5.6	U
74-83-9	Bromomethane	5.6	U
75-00-3	Chloroethane	5.6	U
75-69-4	Freon 11	5.6	U
75-35-4	1,1-Dichloroethene	350	
76-13-1	Freon 113	2000	
75-09-2	Methylene Chloride	5.6	U
75-34-3	1,1-Dichloroethane	5.6	U
156-59-2	cis-1,2-Dichloroethene	5.6	U
67-66-3	Chloroform	5.6	U
71-55-6	1,1,1-Trichloroethane	17	
56-23-5	Carbon Tetrachloride	5.6	U
71-43-2	Benzene	5.6	U
107-06-2	1,2-Dichloroethane	5.6	U
79-01-6	Trichloroethene	140	
78-87-5	1,2-Dichloropropane	5.6	U
10061-01-5	cis-1,3-Dichloropropene	5.6	U
108-88-3	Toluene	5.6	U
10061-02-6	trans-1,3-Dichloropropene	5.6	U
79-00-5	1,1,2-Trichloroethane	5.6	U
127-18-4	Tetrachloroethene	10	
106-93-4	Ethylene Dibromide	5.6	U
108-90-7	Chlorobenzene	5.6	U
100-41-4	Ethyl Benzene	5.6	U
108-38-3	m,p-Xylene	5.6	U
95-47-6	o-Xylene	5.6	U
100-42-5	Styrene	5.6	U
79-34-5	1,1,2,2-Tetrachloroethane	5.6	U
108-67-8	1,3,5-Trimethylbenzene	5.6	U
95-63-6	1,2,4-Trimethylbenzene	5.6	U
541-73-1	1,3-Dichlorobenzene	5.6	U
106-46-7	1,4-Dichlorobenzene	5.6	U
100-44-7	Chlorotoluene	5.6	U
95-50-1	1,2-Dichlorobenzene	5.6	U
120-82-1	1,2,4-Trichlorobenzene	5.6	U
87-68-3	Hexachlorobutadiene	5.6	U
115-07-1	Propylene	22	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-92-2-41

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 20 ml
% Moisture: NA
Instrument ID: msdi.i

Contract:
SDG No.:

Lab Sample ID: 9810056-13A
Lab File ID: j101322
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 11.2

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	22	U
67-64-1	Acetone	28	
75-15-0	Carbon Disulfide	22	U
67-63-0	2-Propanol	22	U
156-60-5	trans-1,2-Dichloroethene	22	U
108-05-4	Vinyl Acetate	22	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	22	U
110-54-3	Hexane	22	U
109-99-9	Tetrahydrofuran	22	U
110-82-7	Cyclohexane	22	U
123-91-1	1,4-Dioxane	22	U
75-27-4	Bromodichloromethane	22	U
108-10-1	4-Methyl-2-pentanone	22	U
591-78-6	2-Hexanone	22	U
124-48-1	Dibromochloromethane	22	U
75-25-2	Bromoform	22	U
622-96-8	4-Ethyltoluene	22	U
64-17-5	Ethanol	22	U
1634-04-4	Methyl tert-Butyl Ether	22	U
142-82-5	Heptane	22	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-92-2-50'

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 10 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-32A
Lab File ID: j101218
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 23.6

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	12	U
76-14-2	Freon 114	12	U
74-87-3	Chloromethane	12	U
75-01-4	Vinyl Chloride	12	U
74-83-9	Bromomethane	12	U
75-00-3	Chloroethane	12	U
75-69-4	Freon 11	12	U
75-35-4	1,1-Dichloroethene	1100	
76-13-1	Freon 113	4200	
75-09-2	Methylene Chloride	9.4	J
75-34-3	1,1-Dichloroethane	27	
156-59-2	cis-1,2-Dichloroethene	12	U
67-66-3	Chloroform	12	U
71-55-6	1,1,1-Trichloroethane	50	
56-23-5	Carbon Tetrachloride	12	U
71-43-2	Benzene	12	U
107-06-2	1,2-Dichloroethane	12	U
79-01-6	Trichloroethene	420	
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
108-88-3	Toluene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
79-00-5	1,1,2-Trichloroethane	12	U
127-18-4	Tetrachloroethene	51	
106-93-4	Ethylene Dibromide	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethyl Benzene	12	U
108-38-3	m,p-Xylene	12	U
95-47-6	o-Xylene	12	U
100-42-5	Styrene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-67-8	1,3,5-Trimethylbenzene	12	U
95-63-6	1,2,4-Trimethylbenzene	12	U
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
100-44-7	Chlorotoluene	12	U
95-50-1	1,2-Dichlorobenzene	12	U
120-82-1	1,2,4-Trichlorobenzene	12	U
87-68-3	Hexachlorobutadiene	12	U
115-07-1	Propylene	47	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-2-50'

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 10 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-32A
Lab File ID: j101218
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 23.6

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	47	U
67-64-1	Acetone	550	
75-15-0	Carbon Disulfide	47	U
67-63-0	2-Propanol	47	U
156-60-5	trans-1,2-Dichloroethene	47	U
108-05-4	Vinyl Acetate	47	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	47	U
110-54-3	Hexane	47	U
109-99-9	Tetrahydrofuran	47	U
110-82-7	Cyclohexane	47	U
123-91-1	1,4-Dioxane	47	U
75-27-4	Bromodichloromethane	47	U
108-10-1	4-Methyl-2-pentanone	47	U
591-78-6	2-Hexanone	47	U
124-48-1	Dibromochloromethane	47	U
75-25-2	Bromoform	47	U
622-96-8	4-Ethyltoluene	47	U
64-17-5	Ethanol	47	U
1634-04-4	Methyl tert-Butyl Ether	47	U
142-82-5	Heptane	47	U

FORM I-ATL

Polygon 92 Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-92-2, October 1998 Rebound Samples

Sample #	Total Clx (ppbV as TCE)	Total Clx Conc (ug/L)*	Total Clx Conc (ug/Kg)**
VP-92-2-19	1.3	0.01	0.00
VP-92-2-32	18.3	0.09	0.05
VP-92-2-41	517	2.34	1.40
VP-92-2-50	1621	7.36	4.41
	2158	9.79	5.86

*Divided by (24.04/131.39)
**Multiply ug/L concentration by 0.599 L/Kg (calculated Kgt based on revised soil physical data).

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-92-2, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-92-2-19	0.0	0.00	0.00
VP-92-2-32	7.3	0.03	0.02
VP-92-2-41	350	1.41	0.84
VP-92-2-50	1100	4.43	2.66
	1457	5.87	3.52

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-92-2, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-92-2-19	0.0	0.00	0.00
VP-92-2-32	0.0	0.00	0.00
VP-92-2-41	17	0.09	0.06
VP-92-2-50	50	0.28	0.17
	67	0.37	0.22

Polygon 92 Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-92-2, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-92-2-19	1.3	0.01	0.00
VP-92-2-32	11	0.06	0.04
VP-92-2-41	140	0.76	0.46
VP-92-2-50	420	2.29	1.37
	572	3.13	1.87

PCE Soil Concentration Calculations from Soil Gas Data
VP-92-2, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-92-2-19	0.0	0.00	0.00
VP-92-2-32	0.0	0.00	0.00
VP-92-2-41	10	0.07	0.04
VP-92-2-50	51	0.35	0.21
	61	0.42	0.25

Polygon 92 Final Closure Soil Gas Data

Interpolated Total Soil Concentrations
VP-92-2, October 1998 Rebound Samples

Depth (feet)	*Conc. (ug/kg)*
3	0.001
9	0.002
15	0.003
21	0.012
27	0.035
33	0.203
39	1.101
45	2.74
51	4.41
57	4.41
60	4.41

```
PGA VLEACH model, Polygon 92 VP-92-2  OCT-98 LAB Data
    1
       1.0      50.       1.0        10.
     123.6       .473      1100.      .7029
Polygon VP-92
    87500          1.    .026670       1.64      .381       .255       .00074
        0.          0.        -1.
   60
    1     6       0.001
    7    12       0.002
   13    18       0.003
   19    24       0.012
   25    30       0.035
   31    36       0.203
   37    42       1.101
   43    48       2.740
   49    54       4.410
   55    60       4.410
```

V-Leach, VER 1.1
Jake Turin, 11/91
PGA VLEACH model, Polygon 92 VP-92-2 OCT-98 LAB Data
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 1.00 years. Vertical profile stored every 10.00 years.
Koc = 123.60 ml/g, .43649E-02cu.ft./g
Kh = .47300 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .70290 sq. m/day, 2761.7 sq.ft./yr

Polygon 1
Polygon VP-92
Polygon area = 87500. sq. ft.
60 cells, each cell 1.000 ft. thick.
Soil Properties:
Bulk density = 1.6400 g/ml, 46440. g/cu.ft.
Porosity = .3810 Volumetric water content = .2550
Organic carbon content = .00074000
Recharge Rate = .02667000 ft/yr
Conc. in recharge water = .00000 mg/l, .00000 g/cu.ft
Atmospheric concentration = .00000 mg/l, .00000 g/cu.ft
Water table is impermeable to gas diffusion.

MIXCELL OUTPUT FILE

PGA VLEACH model Polygon 92 VP-92-2 OCT-98 LAB Data

Year	Mass (grams)	GW Conc (ug/L)
1	1.029	0.0135
2	1.025	0.0206
3	1.020	0.0243
4	1.015	0.0262
5	1.010	0.0272
6	1.005	0.0276
7	0.999	0.0277
8	0.993	0.0278
9	0.987	0.0277
10	0.980	0.0276
11	0.974	0.0274
12	0.967	0.0272
13	0.961	0.0271
14	0.954	0.0269
15	0.947	0.0267
16	0.940	0.0265
17	0.932	0.0263
18	0.925	0.0261
19	0.918	0.0259
20	0.911	0.0257
21	0.903	0.0255
22	0.896	0.0253
23	0.889	0.0251
24	0.882	0.0249
25	0.874	0.0247
26	0.867	0.0245
27	0.860	0.0243
28	0.853	0.0241
29	0.845	0.0239
30	0.838	0.0237
31	0.831	0.0235
32	0.824	0.0233
33	0.817	0.0231
34	0.811	0.0229
35	0.804	0.0227
36	0.797	0.0225
37	0.790	0.0223
38	0.784	0.0221
39	0.777	0.0219
40	0.771	0.0218
41	0.764	0.0216
42	0.758	0.0214
43	0.752	0.0212
44	0.746	0.0210
45	0.739	0.0209
46	0.733	0.0207
47	0.728	0.0205
48	0.722	0.0204
49	0.716	0.0202
50	0.710	0.0200

Polygon VP-92
Time: .000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.00000	.00000	.00000
2	.00000	.00000	.00000
3	.00000	.00000	.00000
4	.00000	.00000	.00000
5	.00000	.00000	.00000
6	.00000	.00000	.00000
7	.00000	.00000	.00000
8	.00000	.00000	.00000
9	.00000	.00000	.00000
10	.00000	.00000	.00000
11	.00000	.00000	.00000
12	.00000	.00000	.00000
13	.00000	.00000	.00000
14	.00000	.00000	.00000
15	.00000	.00000	.00000
16	.00000	.00000	.00000
17	.00000	.00000	.00000
18	.00000	.00000	.00000
19	.47278E-06	.99954E-06	.32285E-11
20	.47278E-06	.99954E-06	.32285E-11
21	.47278E-06	.99954E-06	.32285E-11
22	.47278E-06	.99954E-06	.32285E-11
23	.47278E-06	.99954E-06	.32285E-11
24	.47278E-06	.99954E-06	.32285E-11
25	.14183E-05	.29986E-05	.96855E-11
26	.14183E-05	.29986E-05	.96855E-11
27	.14183E-05	.29986E-05	.96855E-11
28	.14183E-05	.29986E-05	.96855E-11
29	.14183E-05	.29986E-05	.96855E-11
30	.14183E-05	.29986E-05	.96855E-11
31	.94556E-05	.19991E-04	.64570E-10
32	.94556E-05	.19991E-04	.64570E-10
33	.94556E-05	.19991E-04	.64570E-10
34	.94556E-05	.19991E-04	.64570E-10
35	.94556E-05	.19991E-04	.64570E-10
36	.94556E-05	.19991E-04	.64570E-10
37	.52006E-04	.10995E-03	.35514E-09
38	.52006E-04	.10995E-03	.35514E-09
39	.52006E-04	.10995E-03	.35514E-09
40	.52006E-04	.10995E-03	.35514E-09
41	.52006E-04	.10995E-03	.35514E-09
42	.52006E-04	.10995E-03	.35514E-09
43	.12954E-03	.27387E-03	.88461E-09
44	.12954E-03	.27387E-03	.88461E-09
45	.12954E-03	.27387E-03	.88461E-09
46	.12954E-03	.27387E-03	.88461E-09
47	.12954E-03	.27387E-03	.88461E-09
48	.12954E-03	.27387E-03	.88461E-09
49	.20850E-03	.44080E-03	.14238E-08
50	.20850E-03	.44080E-03	.14238E-08

51	.20850E-03	.44080E-03	.14238E-08
52	.20850E-03	.44080E-03	.14238E-08
53	.20850E-03	.44080E-03	.14238E-08
54	.20850E-03	.44080E-03	.14238E-08
55	.20850E-03	.44080E-03	.14238E-08
56	.20850E-03	.44080E-03	.14238E-08
57	.20850E-03	.44080E-03	.14238E-08
58	.20850E-03	.44080E-03	.14238E-08
59	.20850E-03	.44080E-03	.14238E-08
60	.20850E-03	.44080E-03	.14238E-08

Polygon VP-92
Time: 10.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.19058E-07	.40291E-07	.13014E-12
2	.41222E-07	.87150E-07	.28149E-12
3	.65209E-07	.13786E-06	.44530E-12
4	.91531E-07	.19351E-06	.62504E-12
5	.12105E-06	.25592E-06	.82661E-12
6	.15477E-06	.32721E-06	.10569E-11
7	.19384E-06	.40980E-06	.13237E-11
8	.23958E-06	.50650E-06	.16360E-11
9	.29352E-06	.62055E-06	.20044E-11
10	.35747E-06	.75574E-06	.24410E-11
11	.43353E-06	.91656E-06	.29605E-11
12	.52422E-06	.11083E-05	.35797E-11
13	.63247E-06	.13371E-05	.43190E-11
14	.76180E-06	.16106E-05	.52021E-11
15	.91634E-06	.19373E-05	.62574E-11
16	.11010E-05	.23277E-05	.75185E-11
17	.13216E-05	.27941E-05	.90249E-11
18	.15850E-05	.33510E-05	.10824E-10
19	.19621E-05	.41483E-05	.13399E-10
20	.23717E-05	.50141E-05	.16196E-10
21	.28185E-05	.59587E-05	.19247E-10
22	.33309E-05	.70421E-05	.22746E-10
23	.39319E-05	.83127E-05	.26850E-10
24	.46413E-05	.98125E-05	.31694E-10
25	.56060E-05	.11852E-04	.38282E-10
26	.66689E-05	.14099E-04	.45540E-10
27	.78453E-05	.16586E-04	.53574E-10
28	.91992E-05	.19449E-04	.62819E-10
29	.10784E-04	.22798E-04	.73638E-10
30	.12647E-04	.26737E-04	.86361E-10
31	.15908E-04	.33632E-04	.10863E-09
32	.19082E-04	.40343E-04	.13031E-09
33	.22126E-04	.46778E-04	.15109E-09
34	.25377E-04	.53651E-04	.17329E-09
35	.29046E-04	.61409E-04	.19835E-09
36	.33265E-04	.70328E-04	.22716E-09
37	.43797E-04	.92595E-04	.29908E-09
38	.52588E-04	.11118E-03	.35911E-09
39	.59185E-04	.12513E-03	.40416E-09
40	.65113E-04	.13766E-03	.44464E-09

41	.71183E-04	.15049E-03	.48609E-09
42	.77733E-04	.16434E-03	.53082E-09
43	.95257E-04	.20139E-03	.65049E-09
44	.10903E-03	.23051E-03	.74455E-09
45	.11817E-03	.24984E-03	.80699E-09
46	.12538E-03	.26508E-03	.85620E-09
47	.13204E-03	.27916E-03	.90169E-09
48	.13866E-03	.29314E-03	.94686E-09
49	.15594E-03	.32968E-03	.10649E-08
50	.16888E-03	.35704E-03	.11533E-08
51	.17656E-03	.37329E-03	.12057E-08
52	.18169E-03	.38413E-03	.12407E-08
53	.18563E-03	.39245E-03	.12676E-08
54	.18881E-03	.39917E-03	.12893E-08
55	.19139E-03	.40462E-03	.13069E-08
56	.19344E-03	.40897E-03	.13210E-08
57	.19504E-03	.41235E-03	.13319E-08
58	.19622E-03	.41483E-03	.13399E-08
59	.19701E-03	.41650E-03	.13453E-08
60	.19743E-03	.41740E-03	.13482E-08

Polygon VP-92
Time: 20.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.56519E-07	.11949E-06	.38596E-12
2	.12492E-06	.26411E-06	.85307E-12
3	.19893E-06	.42058E-06	.13585E-11
4	.27865E-06	.58912E-06	.19029E-11
5	.36570E-06	.77315E-06	.24973E-11
6	.46215E-06	.97705E-06	.31559E-11
7	.57033E-06	.12058E-05	.38947E-11
8	.69286E-06	.14648E-05	.47314E-11
9	.83265E-06	.17604E-05	.56859E-11
10	.99297E-06	.20993E-05	.67807E-11
11	.11775E-05	.24895E-05	.80410E-11
12	.13905E-05	.29397E-05	.94954E-11
13	.16367E-05	.34602E-05	.11176E-10
14	.19214E-05	.40622E-05	.13121E-10
15	.22509E-05	.47588E-05	.15371E-10
16	.26320E-05	.55646E-05	.17974E-10
17	.30728E-05	.64963E-05	.20983E-10
18	.35820E-05	.75729E-05	.24461E-10
19	.41781E-05	.88332E-05	.28531E-10
20	.48650E-05	.10286E-04	.33222E-10
21	.56480E-05	.11941E-04	.38569E-10
22	.65401E-05	.13827E-04	.44661E-10
23	.75589E-05	.15981E-04	.51618E-10
24	.87236E-05	.18443E-04	.59571E-10
25	.10071E-04	.21292E-04	.68774E-10
26	.11609E-04	.24544E-04	.79277E-10
27	.13347E-04	.28218E-04	.91145E-10
28	.15309E-04	.32366E-04	.10454E-09
29	.17528E-04	.37057E-04	.11969E-09
30	.20037E-04	.42361E-04	.13683E-09

31	.23013E-04	.48654E-04	.15715E-09
32	.26367E-04	.55745E-04	.18006E-09
33	.30009E-04	.63445E-04	.20493E-09
34	.33961E-04	.71799E-04	.23191E-09
35	.38289E-04	.80950E-04	.26147E-09
36	.43060E-04	.91036E-04	.29405E-09
37	.49077E-04	.10376E-03	.33514E-09
38	.55719E-04	.11780E-03	.38049E-09
39	.62352E-04	.13182E-03	.42578E-09
40	.68922E-04	.14571E-03	.47065E-09
41	.75603E-04	.15984E-03	.51627E-09
42	.82549E-04	.17452E-03	.56371E-09
43	.91224E-04	.19286E-03	.62295E-09
44	.10047E-03	.21240E-03	.68606E-09
45	.10908E-03	.23062E-03	.74490E-09
46	.11694E-03	.24722E-03	.79853E-09
47	.12430E-03	.26279E-03	.84880E-09
48	.13140E-03	.27780E-03	.89730E-09
49	.13976E-03	.29548E-03	.95441E-09
50	.14821E-03	.31334E-03	.10121E-08
51	.15552E-03	.32880E-03	.10620E-08
52	.16154E-03	.34153E-03	.11031E-08
53	.16654E-03	.35209E-03	.11373E-08
54	.17074E-03	.36097E-03	.11659E-08
55	.17426E-03	.36841E-03	.11900E-08
56	.17716E-03	.37454E-03	.12098E-08
57	.17947E-03	.37944E-03	.12256E-08
58	.18124E-03	.38316E-03	.12376E-08
59	.18246E-03	.38574E-03	.12460E-08
60	.18315E-03	.38721E-03	.12507E-08

Polygon VP-92
Time: 30.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.10748E-06	.22722E-06	.73393E-12
2	.24029E-06	.50800E-06	.16408E-11
3	.38420E-06	.81227E-06	.26236E-11
4	.53774E-06	.11369E-05	.36721E-11
5	.70276E-06	.14858E-05	.47990E-11
6	.88212E-06	.18649E-05	.60238E-11
7	.10791E-05	.22813E-05	.73686E-11
8	.12972E-05	.27424E-05	.88581E-11
9	.15404E-05	.32566E-05	.10519E-10
10	.18129E-05	.38327E-05	.12380E-10
11	.21195E-05	.44809E-05	.14473E-10
12	.24652E-05	.52119E-05	.16834E-10
13	.28559E-05	.60378E-05	.19502E-10
14	.32977E-05	.69719E-05	.22519E-10
15	.37976E-05	.80287E-05	.25933E-10
16	.43631E-05	.92243E-05	.29794E-10
17	.50025E-05	.10576E-04	.34161E-10
18	.57251E-05	.12104E-04	.39095E-10
19	.65417E-05	.13830E-04	.44672E-10
20	.74629E-05	.15778E-04	.50963E-10

21	.84989E-05	.17968E-04	.58037E-10
22	.96614E-05	.20426E-04	.65975E-10
23	.10964E-04	.23179E-04	.74868E-10
24	.12421E-04	.26260E-04	.84818E-10
25	.14051E-04	.29706E-04	.95949E-10
26	.15870E-04	.33551E-04	.10837E-09
27	.17892E-04	.37826E-04	.12218E-09
28	.20134E-04	.42566E-04	.13749E-09
29	.22613E-04	.47807E-04	.15442E-09
30	.25349E-04	.53593E-04	.17310E-09
31	.28381E-04	.60003E-04	.19381E-09
32	.31722E-04	.67065E-04	.21662E-09
33	.35362E-04	.74761E-04	.24148E-09
34	.39301E-04	.83088E-04	.26837E-09
35	.43550E-04	.92071E-04	.29739E-09
36	.48126E-04	.10175E-03	.32864E-09
37	.53145E-04	.11236E-03	.36291E-09
38	.58581E-04	.12385E-03	.40004E-09
39	.64300E-04	.13594E-03	.43909E-09
40	.70205E-04	.14842E-03	.47941E-09
41	.76272E-04	.16125E-03	.52084E-09
42	.82512E-04	.17444E-03	.56346E-09
43	.89118E-04	.18841E-03	.60856E-09
44	.96025E-04	.20301E-03	.65573E-09
45	.10297E-03	.21769E-03	.70315E-09
46	.10975E-03	.23204E-03	.74947E-09
47	.11632E-03	.24592E-03	.79431E-09
48	.12267E-03	.25935E-03	.83771E-09
49	.12902E-03	.27276E-03	.88101E-09
50	.13528E-03	.28600E-03	.92378E-09
51	.14119E-03	.29849E-03	.96414E-09
52	.14655E-03	.30982E-03	.10007E-08
53	.15130E-03	.31986E-03	.10332E-08
54	.15545E-03	.32864E-03	.10615E-08
55	.15903E-03	.33621E-03	.10859E-08
56	.16204E-03	.34258E-03	.11065E-08
57	.16450E-03	.34777E-03	.11233E-08
58	.16640E-03	.35180E-03	.11363E-08
59	.16775E-03	.35465E-03	.11455E-08
60	.16854E-03	.35632E-03	.11509E-08

Polygon VP-92
Time: 40.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.16618E-06	.35134E-06	.11348E-11
2	.37422E-06	.79116E-06	.25554E-11
3	.60000E-06	.12685E-05	.40973E-11
4	.83946E-06	.17748E-05	.57325E-11
5	.10942E-05	.23132E-05	.74717E-11
6	.13673E-05	.28907E-05	.93368E-11
7	.16626E-05	.35151E-05	.11354E-10
8	.19844E-05	.41954E-05	.13551E-10
9	.23371E-05	.49409E-05	.15959E-10
10	.27254E-05	.57619E-05	.18611E-10

11	.31546E-05	.66692E-05	.21542E-10
12	.36301E-05	.76747E-05	.24789E-10
13	.41581E-05	.87909E-05	.28395E-10
14	.47448E-05	.10031E-04	.32401E-10
15	.53973E-05	.11411E-04	.36857E-10
16	.61229E-05	.12945E-04	.41812E-10
17	.69295E-05	.14650E-04	.47320E-10
18	.78256E-05	.16545E-04	.53439E-10
19	.88203E-05	.18648E-04	.60232E-10
20	.99231E-05	.20979E-04	.67763E-10
21	.11144E-04	.23560E-04	.76099E-10
22	.12493E-04	.26412E-04	.85310E-10
23	.13981E-04	.29557E-04	.95470E-10
24	.15619E-04	.33020E-04	.10666E-09
25	.17419E-04	.36826E-04	.11895E-09
26	.19393E-04	.41000E-04	.13243E-09
27	.21553E-04	.45566E-04	.14718E-09
28	.23909E-04	.50548E-04	.16327E-09
29	.26474E-04	.55971E-04	.18079E-09
30	.29258E-04	.61855E-04	.19979E-09
31	.32273E-04	.68230E-04	.22038E-09
32	.35529E-04	.75114E-04	.24262E-09
33	.39030E-04	.82516E-04	.26653E-09
34	.42776E-04	.90436E-04	.29211E-09
35	.46768E-04	.98876E-04	.31937E-09
36	.51006E-04	.10783E-03	.34831E-09
37	.55501E-04	.11734E-03	.37900E-09
38	.60252E-04	.12738E-03	.41145E-09
39	.65229E-04	.13791E-03	.44543E-09
40	.70391E-04	.14882E-03	.48069E-09
41	.75705E-04	.16005E-03	.51697E-09
42	.81147E-04	.17156E-03	.55413E-09
43	.86720E-04	.18334E-03	.59219E-09
44	.92407E-04	.19536E-03	.63103E-09
45	.98142E-04	.20749E-03	.67019E-09
46	.10384E-03	.21954E-03	.70912E-09
47	.10944E-03	.23138E-03	.74736E-09
48	.11490E-03	.24292E-03	.78463E-09
49	.12021E-03	.25414E-03	.82087E-09
50	.12534E-03	.26499E-03	.85592E-09
51	.13023E-03	.27532E-03	.88929E-09
52	.13478E-03	.28495E-03	.92040E-09
53	.13894E-03	.29375E-03	.94882E-09
54	.14267E-03	.30163E-03	.97428E-09
55	.14594E-03	.30855E-03	.99662E-09
56	.14874E-03	.31447E-03	.10157E-08
57	.15106E-03	.31936E-03	.10315E-08
58	.15287E-03	.32320E-03	.10439E-08
59	.15417E-03	.32595E-03	.10528E-08
60	.15495E-03	.32759E-03	.10581E-08

Polygon VP-92
Time: 50.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol

1	.22760E-06	.48119E-06	.15542E-11
2	.51506E-06	.10889E-05	.35172E-11
3	.82743E-06	.17493E-05	.56503E-11
4	.11574E-05	.24470E-05	.79038E-11
5	.15058E-05	.31836E-05	.10283E-10
6	.18758E-05	.39658E-05	.12809E-10
7	.22713E-05	.48020E-05	.15510E-10
8	.26969E-05	.57016E-05	.18416E-10
9	.31570E-05	.66745E-05	.21559E-10
10	.36568E-05	.77311E-05	.24971E-10
11	.42014E-05	.88825E-05	.28690E-10
12	.47964E-05	.10140E-04	.32754E-10
13	.54477E-05	.11517E-04	.37201E-10
14	.61613E-05	.13026E-04	.42074E-10
15	.69438E-05	.14680E-04	.47418E-10
16	.78021E-05	.16495E-04	.53278E-10
17	.87431E-05	.18484E-04	.59705E-10
18	.97744E-05	.20665E-04	.66747E-10
19	.10904E-04	.23052E-04	.74459E-10
20	.12139E-04	.25664E-04	.82895E-10
21	.13489E-04	.28517E-04	.92111E-10
22	.14961E-04	.31629E-04	.10216E-09
23	.16564E-04	.35018E-04	.11311E-09
24	.18306E-04	.38701E-04	.12501E-09
25	.20196E-04	.42697E-04	.13791E-09
26	.22242E-04	.47023E-04	.15188E-09
27	.24452E-04	.51695E-04	.16697E-09
28	.26833E-04	.56729E-04	.18324E-09
29	.29392E-04	.62139E-04	.20071E-09
30	.32135E-04	.67938E-04	.21944E-09
31	.35067E-04	.74137E-04	.23946E-09
32	.38192E-04	.80744E-04	.26080E-09
33	.41512E-04	.87762E-04	.28347E-09
34	.45025E-04	.95190E-04	.30747E-09
35	.48730E-04	.10302E-03	.33276E-09
36	.52621E-04	.11125E-03	.35934E-09
37	.56694E-04	.11986E-03	.38715E-09
38	.60941E-04	.12884E-03	.41615E-09
39	.65348E-04	.13816E-03	.44624E-09
40	.69893E-04	.14777E-03	.47728E-09
41	.74553E-04	.15762E-03	.50910E-09
42	.79303E-04	.16766E-03	.54154E-09
43	.84123E-04	.17785E-03	.57446E-09
44	.88989E-04	.18814E-03	.60769E-09
45	.93868E-04	.19845E-03	.64101E-09
46	.98720E-04	.20871E-03	.67413E-09
47	.10350E-03	.21882E-03	.70678E-09
48	.10817E-03	.22869E-03	.73867E-09
49	.11270E-03	.23826E-03	.76958E-09
50	.11705E-03	.24746E-03	.79929E-09
51	.12119E-03	.25621E-03	.82755E-09
52	.12507E-03	.26441E-03	.85406E-09
53	.12865E-03	.27198E-03	.87851E-09
54	.13189E-03	.27884E-03	.90066E-09

55	.13477E-03	.28492E-03	.92030E-09
56	.13725E-03	.29017E-03	.93725E-09
57	.13932E-03	.29454E-03	.95137E-09
58	.14095E-03	.29799E-03	.96252E-09
59	.14213E-03	.30049E-03	.97058E-09
60	.14284E-03	.30199E-03	.97544E-09

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-92-3-17

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-29A
Lab File ID: 5101318
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 2.01

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	8.7	
76-14-2	Freon 114	1.0	U
74-87-3	Chloromethane	1.4	J
75-01-4	Vinyl Chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Freon 11	3.2	J
75-35-4	1,1-Dichloroethene	1.0	U
76-13-1	Freon 113	5.0	
75-09-2	Methylene Chloride	14	
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	1.6	J
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
106-93-4	Ethylene Dibromide	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethyl Benzene	1.0	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
100-44-7	Chlorotoluene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
115-07-1	Propylene	4.0	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-92-3-17

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-29A
Lab File ID: 5101318
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 2.01

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	4.0	U
67-64-1	Acetone	5.9	J
75-15-0	Carbon Disulfide	9.2	
67-63-0	2-Propanol	4.0	U
156-60-5	trans-1,2-Dichloroethene	4.0	U
108-05-4	Vinyl Acetate	4.0	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	4.0	U
110-54-3	Hexane	18	
109-99-9	Tetrahydrofuran	4.0	U
110-82-7	Cyclohexane	4.0	U
123-91-1	1,4-Dioxane	4.0	U
75-27-4	Bromodichloromethane	4.0	U
108-10-1	4-Methyl-2-pentanone	4.0	U
591-78-6	2-Hexanone	4.0	U
124-48-1	Dibromochloromethane	4.0	U
75-25-2	Bromoform	4.0	U
622-96-8	4-Ethyltoluene	4.0	U
64-17-5	Ethanol	7.7	J
1634-04-4	Methyl tert-Butyl Ether	4.0	U
142-82-5	Heptane	4.0	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-92-3-27'

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdi.i

Contract:
SDG No.:

Lab Sample ID: 9810056-14A
Lab File ID: j101324
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 2.12

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.1	U
76-14-2	Freon 114	1.1	U
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1.1	U
74-83-9	Bromomethane	1.1	U
75-00-3	Chloroethane	1.1	U
75-69-4	Freon 11	1.1	U
75-35-4	1,1-Dichloroethene	15	
76-13-1	Freon 113	190	
75-09-2	Methylene Chloride	1.1	U
75-34-3	1,1-Dichloroethane	1.1	U
156-59-2	cis-1,2-Dichloroethene	1.1	U
67-66-3	Chloroform	2.6	
71-55-6	1,1,1-Trichloroethane	1.1	U
56-23-5	Carbon Tetrachloride	1.1	U
71-43-2	Benzene	1.1	U
107-06-2	1,2-Dichloroethane	1.1	U
79-01-6	Trichloroethene	18	
78-87-5	1,2-Dichloropropane	1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	U
108-88-3	Toluene	1.1	U
10061-02-6	trans-1,3-Dichloropropene	1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
127-18-4	Tetrachloroethene	1.1	U
106-93-4	Ethylene Dibromide	1.1	U
108-90-7	Chlorobenzene	1.1	U
100-41-4	Ethyl Benzene	1.1	U
108-38-3	m,p-Xylene	1.1	U
95-47-6	o-Xylene	1.1	U
100-42-5	Styrene	1.1	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U
108-67-8	1,3,5-Trimethylbenzene	1.1	U
95-63-6	1,2,4-Trimethylbenzene	1.1	U
541-73-1	1,3-Dichlorobenzene	1.1	U
106-46-7	1,4-Dichlorobenzene	1.1	U
100-44-7	Chlorotoluene	1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	U
120-82-1	1,2,4-Trichlorobenzene	1.1	U
87-68-3	Hexachlorobutadiene	1.1	U
115-07-1	Propylene	4.2	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-92-3-27'

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-14A
Lab File ID: j101324
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 2.12

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	4.2	U
67-64-1	Acetone	4.2	U
75-15-0	Carbon Disulfide	4.2	U
67-63-0	2-Propanol	4.2	U
156-60-5	trans-1,2-Dichloroethene	4.2	U
108-05-4	Vinyl Acetate	4.2	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	4.2	U
110-54-3	Hexane	4.2	U
109-99-9	Tetrahydrofuran	4.2	U
110-82-7	Cyclohexane	4.2	U
123-91-1	1,4-Dioxane	4.2	U
75-27-4	Bromodichloromethane	4.2	U
108-10-1	4-Methyl-2-pentanone	4.2	U
591-78-6	2-Hexanone	4.2	U
124-48-1	Dibromochloromethane	4.2	U
75-25-2	Bromoform	4.2	U
622-96-8	4-Ethyltoluene	4.2	U
64-17-5	Ethanol	4.2	U
1634-04-4	Methyl tert-Butyl Ether	4.2	U
142-82-5	Heptane	4.2	U

FORM I-ATL

LEVEL-IV VALIDATABLE

000157

SAMPLE NO.

VP-92-3-37

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 200 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-30A
Lab File ID: 5101319
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 5.02

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	11	
76-14-2	Freon 114	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl Chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Freon 11	2.5	U
75-35-4	1,1-Dichloroethene	98	
76-13-1	Freon 113	1000	
75-09-2	Methylene Chloride	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
67-66-3	Chloroform	24	
71-55-6	1,1,1-Trichloroethane	2.5	U
56-23-5	Carbon Tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	120	
78-87-5	1,2-Dichloropropane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	3.8	J
106-93-4	Ethylene Dibromide	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethyl Benzene	2.5	U
108-38-3	m,p-Xylene	2.5	U
95-47-6	o-Xylene	2.5	U
100-42-5	Styrene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
108-67-8	1,3,5-Trimethylbenzene	2.5	U
95-63-6	1,2,4-Trimethylbenzene	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
100-44-7	Chlorotoluene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-68-3	Hexachlorobutadiene	2.5	U
115-07-1	Propylene	10	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-92-3-37

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 200 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-30A
Lab File ID: 5101319
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 5.02

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
67-63-0	2-Propanol	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	10	U
110-54-3	Hexane	10	U
109-99-9	Tetrahydrofuran	10	U
110-82-7	Cyclohexane	10	U
123-91-1	1,4-Dioxane	10	U
75-27-4	Bromodichloromethane	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
622-96-8	4-Ethyltoluene	10	U
64-17-5	Ethanol	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
142-82-5	Heptane	10	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO. 000116

9810057-27A

VP 02-3-45

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 10 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-27A
Lab File ID: 5101316
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 93.5

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	180	J
76-14-2	Freon 114	47	U
74-87-3	Chloromethane	47	U
75-01-4	Vinyl Chloride	47	U
74-83-9	Bromomethane	47	U
75-00-3	Chloroethane	47	U
75-69-4	Freon 11	47	U
75-35-4	1,1-Dichloroethene	1200	
76-13-1	Freon 113	12000	
75-09-2	Methylene Chloride	47	U
75-34-3	1,1-Dichloroethane	68	J
156-59-2	cis-1,2-Dichloroethene	47	U
67-66-3	Chloroform	62	J
71-55-6	1,1,1-Trichloroethane	47	U
56-23-5	Carbon Tetrachloride	47	U
71-43-2	Benzene	47	U
107-06-2	1,2-Dichloroethane	47	U
79-01-6	Trichloroethene	870	
78-87-5	1,2-Dichloropropane	47	U
10061-01-5	cis-1,3-Dichloropropene	47	U
108-88-3	Toluene	47	U
10061-02-6	trans-1,3-Dichloropropene	47	U
79-00-5	1,1,2-Trichloroethane	47	U
127-18-4	Tetrachloroethene	75	J
106-93-4	Ethylene Dibromide	47	U
108-90-7	Chlorobenzene	47	U
100-41-4	Ethyl Benzene	47	U
108-38-3	m,p-Xylene	47	U
95-47-6	o-Xylene	47	U
100-42-5	Styrene	47	U
79-34-5	1,1,2,2-Tetrachloroethane	47	U
108-67-8	1,3,5-Trimethylbenzene	47	U
95-63-6	1,2,4-Trimethylbenzene	47	U
541-73-1	1,3-Dichlorobenzene	47	U
106-46-7	1,4-Dichlorobenzene	47	U
100-44-7	Chlorotoluene	47	U
95-50-1	1,2-Dichlorobenzene	47	U
120-82-1	1,2,4-Trichlorobenzene	47	U
87-68-3	Hexachlorobutadiene	47	U
115-07-1	Propylene	190	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
9810057-27A

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 10 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-27A
Lab File ID: 5101316
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 93.5

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	190	U
67-64-1	Acetone	190	U
75-15-0	Carbon Disulfide	190	U
67-63-0	2-Propanol	190	U
156-60-5	trans-1,2-Dichloroethene	190	U
108-05-4	Vinyl Acetate	190	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	190	U
110-54-3	Hexane	190	U
109-99-9	Tetrahydrofuran	190	U
110-82-7	Cyclohexane	190	U
123-91-1	1,4-Dioxane	190	U
75-27-4	Bromodichloromethane	190	U
108-10-1	4-Methyl-2-pentanone	190	U
591-78-6	2-Hexanone	190	U
124-48-1	Dibromochloromethane	190	U
75-25-2	Bromoform	190	U
622-96-8	4-Ethyltoluene	190	U
64-17-5	Ethanol	190	U
1634-04-4	Methyl tert-Butyl Ether	190	U
142-82-5	Heptane	190	U

FORM I-ATL

Polygon 92 Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-92-3, October 1998 Rebound Samples

Sample #	Total Clx (ppbV as TCE)	Total Clx Conc (ug/L)*	Total Clx Conc (ug/Kg)**
VP-92-3-17	0.0	0.00	0.00
VP-92-3-27	33	0.16	0.10
VP-92-3-37	222	1.08	0.64
VP-92-3-55	2145	10.10	6.05
	2400	11.34	6.79

*Divided by (24.04/131.39)
**Multiply ug/L concentration by 0.599 L/Kg (calculated Kgt based on revised soil physical data).

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-92-3, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-92-3-17	0.0	0.00	0.00
VP-92-3-27	15	0.06	0.04
VP-92-3-37	98	0.39	0.24
VP-92-3-55	1200	4.84	2.90
	1313	5.29	3.17

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-92-3, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-92-3-17	0.0	0.00	0.00
VP-92-3-27	0.0	0.00	0.00
VP-92-3-37	0.0	0.00	0.00
VP-92-3-55	0.0	0.00	0.00
	0	0.00	0.00

Polygon 92 Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-92-3, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-92-3-17	0.0	0.00	0.00
VP-92-3-27	18	0.10	0.06
VP-92-3-37	120	0.66	0.39
VP-92-3-55	870	4.75	2.85
	1008	5.51	3.30

PCE Soil Concentration Calculations from Soil Gas Data
VP-92-3, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-92-3-17	0.0	0.00	0.00
VP-92-3-27	0.0	0.00	0.00
VP-92-3-37	3.8	0.03	0.02
VP-92-3-55	75	0.52	0.31
	78.8	0.54	0.33

Polygon 92 Final Closure Soil Gas Data

Interpolated Total Soil Concentrations
VP-92-3, October 1998 Rebound Samples

Depth (feet)	*Conc. (ug/kg)*
3	0.000
9	0.000
15	0.000
21	0.038
27	0.095
33	0.425
39	0.755
45	3.05
51	4.85
57	6.05
60	6.05

```
PGA VLEACH model, Polygon 92 VP-92-3  OCT-98 LAB Data
    1
       1.0      50.       1.0        10.
     123.6       .473      1100.      .7029
Polygon VP-92-3
    87500          1.   .026670       1.64      .381       .255       .00074
        0.          0.        -1.
   60
    1     6       0.000
    7    12       0.000
   13    18       0.000
   19    24       0.038
   25    30       0.095
   31    36       0.425
   37    42       0.755
   43    48       3.050
   49    54       4.850
   55    60       6.050
```

V-Leach, VER 1.1
Jake Turin, 11/91
PGA VLEACH model, Polygon 92 VP-92-3 OCT-98 LAB Data
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 1.00 years. Vertical profile stored every 10.00 years.
Koc = 123.60 ml/g, .43649E-02cu.ft./g
Kh = .47300 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .70290 sq. m/day, 2761.7 sq.ft./yr

Polygon 1
Polygon VP-92-3
Polygon area = 87500. sq. ft.
60 cells, each cell 1.000 ft. thick.
Soil Properties:
Bulk density = 1.6400 g/ml, 46440. g/cu.ft.
Porosity = .3810 Volumetric water content = .2550
Organic carbon content = .00074000
Recharge Rate = .02667000 ft/yr
Conc. in recharge water = .00000 mg/l, .00000 g/cu.ft
Atmospheric concentration = .00000 mg/l, .00000 g/cu.ft
Water table is impermeable to gas diffusion.

MIXCELL OUTPUT FILE

PGA VLEACH model Polygon 92 VP-92-3 OCT-98 LAB Data

Year	Mass (grams)	GW Conc (ug/L)
1	1.411	0.0185
2	1.397	0.0281
3	1.383	0.0330
4	1.369	0.0355
5	1.355	0.0366
6	1.341	0.0370
7	1.326	0.0370
8	1.312	0.0369
9	1.298	0.0366
10	1.283	0.0363
11	1.269	0.0359
12	1.255	0.0355
13	1.241	0.0351
14	1.227	0.0347
15	1.214	0.0344
16	1.200	0.0340
17	1.187	0.0336
18	1.173	0.0332
19	1.160	0.0329
20	1.148	0.0325
21	1.135	0.0321
22	1.123	0.0318
23	1.110	0.0314
24	1.098	0.0311
25	1.086	0.0308
26	1.075	0.0304
27	1.063	0.0301
28	1.052	0.0298
29	1.041	0.0295
30	1.030	0.0292
31	1.020	0.0288
32	1.009	0.0285
33	0.999	0.0283
34	0.989	0.0280
35	0.979	0.0277
36	0.969	0.0274
37	0.959	0.0271
38	0.950	0.0269
39	0.941	0.0266
40	0.932	0.0263
41	0.923	0.0261
42	0.914	0.0258
43	0.906	0.0256
44	0.897	0.0254
45	0.889	0.0251
46	0.881	0.0249
47	0.873	0.0247
48	0.865	0.0244
49	0.857	0.0242
50	0.850	0.0240

Polygon VP-92-3
Time: .000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.00000	.00000	.00000
2	.00000	.00000	.00000
3	.00000	.00000	.00000
4	.00000	.00000	.00000
5	.00000	.00000	.00000
6	.00000	.00000	.00000
7	.00000	.00000	.00000
8	.00000	.00000	.00000
9	.00000	.00000	.00000
10	.00000	.00000	.00000
11	.00000	.00000	.00000
12	.00000	.00000	.00000
13	.00000	.00000	.00000
14	.00000	.00000	.00000
15	.00000	.00000	.00000
16	.00000	.00000	.00000
17	.00000	.00000	.00000
18	.00000	.00000	.00000
19	.14183E-05	.29986E-05	.96855E-11
20	.14183E-05	.29986E-05	.96855E-11
21	.14183E-05	.29986E-05	.96855E-11
22	.14183E-05	.29986E-05	.96855E-11
23	.14183E-05	.29986E-05	.96855E-11
24	.14183E-05	.29986E-05	.96855E-11
25	.42550E-05	.89958E-05	.29057E-10
26	.42550E-05	.89958E-05	.29057E-10
27	.42550E-05	.89958E-05	.29057E-10
28	.42550E-05	.89958E-05	.29057E-10
29	.42550E-05	.89958E-05	.29057E-10
30	.42550E-05	.89958E-05	.29057E-10
31	.19857E-04	.41980E-04	.13560E-09
32	.19857E-04	.41980E-04	.13560E-09
33	.19857E-04	.41980E-04	.13560E-09
34	.19857E-04	.41980E-04	.13560E-09
35	.19857E-04	.41980E-04	.13560E-09
36	.19857E-04	.41980E-04	.13560E-09
37	.35459E-04	.74965E-04	.24214E-09
38	.35459E-04	.74965E-04	.24214E-09
39	.35459E-04	.74965E-04	.24214E-09
40	.35459E-04	.74965E-04	.24214E-09
41	.35459E-04	.74965E-04	.24214E-09
42	.35459E-04	.74965E-04	.24214E-09
43	.14420E-03	.30486E-03	.98469E-09
44	.14420E-03	.30486E-03	.98469E-09
45	.14420E-03	.30486E-03	.98469E-09
46	.14420E-03	.30486E-03	.98469E-09
47	.14420E-03	.30486E-03	.98469E-09
48	.14420E-03	.30486E-03	.98469E-09
49	.22930E-03	.48477E-03	.15658E-08
50	.22930E-03	.48477E-03	.15658E-08

51	.22930E-03	.48477E-03	.15658E-08
52	.22930E-03	.48477E-03	.15658E-08
53	.22930E-03	.48477E-03	.15658E-08
54	.22930E-03	.48477E-03	.15658E-08
55	.28603E-03	.60472E-03	.19532E-08
56	.28603E-03	.60472E-03	.19532E-08
57	.28603E-03	.60472E-03	.19532E-08
58	.28603E-03	.60472E-03	.19532E-08
59	.28603E-03	.60472E-03	.19532E-08
60	.28603E-03	.60472E-03	.19532E-08

Polygon VP-92-3
Time: 10.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.27125E-07	.57347E-07	.18523E-12
2	.58793E-07	.12430E-06	.40148E-12
3	.93051E-07	.19673E-06	.63543E-12
4	.13058E-06	.27607E-06	.89170E-12
5	.17257E-06	.36485E-06	.11785E-11
6	.22043E-06	.46602E-06	.15052E-11
7	.27573E-06	.58293E-06	.18829E-11
8	.34030E-06	.71944E-06	.23238E-11
9	.41625E-06	.88002E-06	.28425E-11
10	.50604E-06	.10699E-05	.34556E-11
11	.61256E-06	.12951E-05	.41830E-11
12	.73920E-06	.15628E-05	.50478E-11
13	.88996E-06	.18815E-05	.60773E-11
14	.10695E-05	.22612E-05	.73036E-11
15	.12835E-05	.27135E-05	.87646E-11
16	.15383E-05	.32523E-05	.10505E-10
17	.18418E-05	.38940E-05	.12578E-10
18	.22030E-05	.46576E-05	.15044E-10
19	.28210E-05	.59640E-05	.19264E-10
20	.34354E-05	.72630E-05	.23460E-10
21	.40414E-05	.85443E-05	.27598E-10
22	.47017E-05	.99403E-05	.32107E-10
23	.54576E-05	.11538E-04	.37269E-10
24	.63369E-05	.13397E-04	.43273E-10
25	.77427E-05	.16369E-04	.52873E-10
26	.91591E-05	.19364E-04	.62545E-10
27	.10580E-04	.22369E-04	.72251E-10
28	.12137E-04	.25659E-04	.82879E-10
29	.13916E-04	.29420E-04	.95027E-10
30	.15978E-04	.33781E-04	.10911E-09
31	.20455E-04	.43246E-04	.13968E-09
32	.24412E-04	.51610E-04	.16670E-09
33	.27705E-04	.58574E-04	.18919E-09
34	.30921E-04	.65373E-04	.21116E-09
35	.34391E-04	.72708E-04	.23485E-09
36	.38274E-04	.80917E-04	.26136E-09
37	.44760E-04	.94629E-04	.30565E-09
38	.50968E-04	.10776E-03	.34805E-09
39	.56815E-04	.12012E-03	.38798E-09
40	.62950E-04	.13309E-03	.42987E-09

41	.69774E-04	.14751E-03	.47647E-09
42	.77526E-04	.16390E-03	.52941E-09
43	.10085E-03	.21322E-03	.68869E-09
44	.11906E-03	.25172E-03	.81304E-09
45	.13089E-03	.27672E-03	.89381E-09
46	.14009E-03	.29618E-03	.95666E-09
47	.14859E-03	.31415E-03	.10147E-08
48	.15707E-03	.33208E-03	.10726E-08
49	.17714E-03	.37450E-03	.12096E-08
50	.19265E-03	.40730E-03	.13156E-08
51	.20266E-03	.42846E-03	.13839E-08
52	.21013E-03	.44425E-03	.14349E-08
53	.21657E-03	.45785E-03	.14789E-08
54	.22250E-03	.47039E-03	.15194E-08
55	.23568E-03	.49826E-03	.16094E-08
56	.24535E-03	.51872E-03	.16755E-08
57	.25087E-03	.53037E-03	.17131E-08
58	.25416E-03	.53734E-03	.17356E-08
59	.25620E-03	.54165E-03	.17495E-08
60	.25728E-03	.54394E-03	.17569E-08

Polygon VP-92-3
Time: 20.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.73378E-07	.15513E-06	.50108E-12
2	.16253E-06	.34361E-06	.11099E-11
3	.25899E-06	.54755E-06	.17686E-11
4	.36271E-06	.76682E-06	.24768E-11
5	.47565E-06	.10056E-05	.32481E-11
6	.60040E-06	.12693E-05	.41000E-11
7	.73984E-06	.15642E-05	.50522E-11
8	.89719E-06	.18968E-05	.61267E-11
9	.10760E-05	.22749E-05	.73479E-11
10	.12803E-05	.27068E-05	.87431E-11
11	.15146E-05	.32021E-05	.10343E-10
12	.17839E-05	.37714E-05	.12182E-10
13	.20938E-05	.44267E-05	.14298E-10
14	.24509E-05	.51816E-05	.16737E-10
15	.28623E-05	.60514E-05	.19546E-10
16	.33361E-05	.70532E-05	.22782E-10
17	.38816E-05	.82063E-05	.26506E-10
18	.45089E-05	.95325E-05	.30790E-10
19	.52545E-05	.11109E-04	.35881E-10
20	.61087E-05	.12915E-04	.41715E-10
21	.70632E-05	.14933E-04	.48233E-10
22	.81305E-05	.17189E-04	.55521E-10
23	.93325E-05	.19730E-04	.63729E-10
24	.10692E-04	.22606E-04	.73016E-10
25	.12284E-04	.25970E-04	.83882E-10
26	.14086E-04	.29780E-04	.96191E-10
27	.16081E-04	.33998E-04	.10981E-09
28	.18290E-04	.38669E-04	.12490E-09
29	.20754E-04	.43878E-04	.14173E-09
30	.23514E-04	.49712E-04	.16057E-09

31	.26884E-04	.56838E-04	.18359E-09
32	.30660E-04	.64820E-04	.20937E-09
33	.34633E-04	.73221E-04	.23650E-09
34	.38813E-04	.82057E-04	.26504E-09
35	.43294E-04	.91531E-04	.29565E-09
36	.48168E-04	.10183E-03	.32892E-09
37	.53782E-04	.11370E-03	.36726E-09
38	.59955E-04	.12676E-03	.40942E-09
39	.66501E-04	.14059E-03	.45412E-09
40	.73446E-04	.15528E-03	.50154E-09
41	.80898E-04	.17103E-03	.55243E-09
42	.88959E-04	.18807E-03	.60748E-09
43	.99626E-04	.21063E-03	.68032E-09
44	.11124E-03	.23518E-03	.75964E-09
45	.12212E-03	.25818E-03	.83394E-09
46	.13206E-03	.27919E-03	.90179E-09
47	.14142E-03	.29899E-03	.96575E-09
48	.15054E-03	.31827E-03	.10280E-08
49	.16108E-03	.34055E-03	.11000E-08
50	.17180E-03	.36320E-03	.11731E-08
51	.18138E-03	.38348E-03	.12386E-08
52	.18969E-03	.40104E-03	.12954E-08
53	.19701E-03	.41652E-03	.13454E-08
54	.20360E-03	.43044E-03	.13903E-08
55	.21057E-03	.44519E-03	.14380E-08
56	.21711E-03	.45901E-03	.14826E-08
57	.22234E-03	.47006E-03	.15183E-08
58	.22613E-03	.47808E-03	.15442E-08
59	.22867E-03	.48345E-03	.15616E-08
60	.23011E-03	.48649E-03	.15714E-08

Polygon VP-92-3
Time: 30.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.13284E-06	.28084E-06	.90710E-12
2	.29745E-06	.62886E-06	.20312E-11
3	.47588E-06	.10061E-05	.32497E-11
4	.66598E-06	.14080E-05	.45478E-11
5	.86986E-06	.18390E-05	.59401E-11
6	.10908E-05	.23062E-05	.74490E-11
7	.13327E-05	.28176E-05	.91008E-11
8	.15997E-05	.33820E-05	.10924E-10
9	.18963E-05	.40092E-05	.12950E-10
10	.22276E-05	.47095E-05	.15212E-10
11	.25988E-05	.54943E-05	.17747E-10
12	.30160E-05	.63763E-05	.20596E-10
13	.34856E-05	.73691E-05	.23802E-10
14	.40146E-05	.84876E-05	.27415E-10
15	.46109E-05	.97483E-05	.31487E-10
16	.52829E-05	.11169E-04	.36076E-10
17	.60399E-05	.12769E-04	.41245E-10
18	.68917E-05	.14570E-04	.47062E-10
19	.78527E-05	.16602E-04	.53624E-10
20	.89334E-05	.18887E-04	.61004E-10

21	.10142E-04	.21441E-04	.69255E-10
22	.11488E-04	.24288E-04	.78449E-10
23	.12986E-04	.27455E-04	.88681E-10
24	.14653E-04	.30978E-04	.10006E-09
25	.16511E-04	.34908E-04	.11275E-09
26	.18578E-04	.39277E-04	.12687E-09
27	.20862E-04	.44107E-04	.14246E-09
28	.23377E-04	.49424E-04	.15964E-09
29	.26142E-04	.55269E-04	.17852E-09
30	.29178E-04	.61688E-04	.19925E-09
31	.32546E-04	.68807E-04	.22225E-09
32	.36253E-04	.76645E-04	.24756E-09
33	.40271E-04	.85139E-04	.27500E-09
34	.44584E-04	.94258E-04	.30445E-09
35	.49207E-04	.10403E-03	.33602E-09
36	.54165E-04	.11451E-03	.36988E-09
37	.59523E-04	.12584E-03	.40647E-09
38	.65291E-04	.13804E-03	.44586E-09
39	.71437E-04	.15103E-03	.48783E-09
40	.77940E-04	.16478E-03	.53224E-09
41	.84803E-04	.17929E-03	.57910E-09
42	.92036E-04	.19458E-03	.62849E-09
43	.99900E-04	.21120E-03	.68219E-09
44	.10830E-03	.22896E-03	.73955E-09
45	.11686E-03	.24706E-03	.79802E-09
46	.12531E-03	.26493E-03	.85571E-09
47	.13357E-03	.28238E-03	.91209E-09
48	.14164E-03	.29944E-03	.96720E-09
49	.14974E-03	.31657E-03	.10225E-08
50	.15781E-03	.33363E-03	.10776E-08
51	.16554E-03	.34997E-03	.11304E-08
52	.17271E-03	.36515E-03	.11794E-08
53	.17927E-03	.37900E-03	.12242E-08
54	.18519E-03	.39153E-03	.12646E-08
55	.19064E-03	.40303E-03	.13018E-08
56	.19554E-03	.41341E-03	.13353E-08
57	.19971E-03	.42223E-03	.13638E-08
58	.20299E-03	.42916E-03	.13862E-08
59	.20532E-03	.43409E-03	.14021E-08
60	.20671E-03	.43701E-03	.14116E-08

Polygon VP-92-3
Time: 40.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.19972E-06	.42224E-06	.13639E-11
2	.45023E-06	.95185E-06	.30745E-11
3	.72217E-06	.15268E-05	.49315E-11
4	.10103E-05	.21360E-05	.68994E-11
5	.13164E-05	.27830E-05	.89891E-11
6	.16438E-05	.34753E-05	.11225E-10
7	.19971E-05	.42222E-05	.13638E-10
8	.23810E-05	.50338E-05	.16259E-10
9	.28005E-05	.59207E-05	.19124E-10
10	.32612E-05	.68946E-05	.22270E-10

11	.37688E-05	.79678E-05	.25736E-10
12	.43296E-05	.91535E-05	.29566E-10
13	.49504E-05	.10466E-04	.33805E-10
14	.56383E-05	.11920E-04	.38502E-10
15	.64009E-05	.13533E-04	.43711E-10
16	.72466E-05	.15321E-04	.49485E-10
17	.81840E-05	.17302E-04	.55887E-10
18	.92224E-05	.19498E-04	.62978E-10
19	.10372E-04	.21928E-04	.70828E-10
20	.11643E-04	.24616E-04	.79510E-10
21	.13047E-04	.27583E-04	.89092E-10
22	.14592E-04	.30850E-04	.99645E-10
23	.16291E-04	.34442E-04	.11125E-09
24	.18156E-04	.38384E-04	.12398E-09
25	.20200E-04	.42706E-04	.13794E-09
26	.22436E-04	.47434E-04	.15321E-09
27	.24878E-04	.52595E-04	.16988E-09
28	.27534E-04	.58212E-04	.18803E-09
29	.30419E-04	.64311E-04	.20772E-09
30	.33544E-04	.70917E-04	.22906E-09
31	.36926E-04	.78068E-04	.25216E-09
32	.40578E-04	.85788E-04	.27710E-09
33	.44502E-04	.94085E-04	.30389E-09
34	.48697E-04	.10295E-03	.33254E-09
35	.53164E-04	.11240E-03	.36305E-09
36	.57907E-04	.12243E-03	.39543E-09
37	.62936E-04	.13306E-03	.42977E-09
38	.68253E-04	.14430E-03	.46608E-09
39	.73851E-04	.15613E-03	.50431E-09
40	.79715E-04	.16853E-03	.54435E-09
41	.85828E-04	.18145E-03	.58610E-09
42	.92176E-04	.19487E-03	.62944E-09
43	.98771E-04	.20882E-03	.67449E-09
44	.10560E-03	.22325E-03	.72110E-09
45	.11257E-03	.23798E-03	.76869E-09
46	.11957E-03	.25279E-03	.81650E-09
47	.12651E-03	.26747E-03	.86393E-09
48	.13335E-03	.28192E-03	.91059E-09
49	.14005E-03	.29609E-03	.95637E-09
50	.14659E-03	.30992E-03	.10010E-08
51	.15289E-03	.32323E-03	.10440E-08
52	.15883E-03	.33580E-03	.10846E-08
53	.16435E-03	.34746E-03	.11223E-08
54	.16938E-03	.35810E-03	.11567E-08
55	.17390E-03	.36766E-03	.11875E-08
56	.17789E-03	.37608E-03	.12147E-08
57	.18126E-03	.38322E-03	.12378E-08
58	.18397E-03	.38893E-03	.12563E-08
59	.18593E-03	.39309E-03	.12697E-08
60	.18713E-03	.39562E-03	.12778E-08

Polygon VP-92-3
Time: 50.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol

1	.26910E-06	.56893E-06	.18376E-11
2	.60940E-06	.12884E-05	.41614E-11
3	.97927E-06	.20703E-05	.66872E-11
4	.13698E-05	.28960E-05	.93541E-11
5	.17817E-05	.37667E-05	.12167E-10
6	.22184E-05	.46900E-05	.15149E-10
7	.26845E-05	.56755E-05	.18332E-10
8	.31850E-05	.67335E-05	.21749E-10
9	.37251E-05	.78754E-05	.25438E-10
10	.43105E-05	.91130E-05	.29435E-10
11	.49470E-05	.10459E-04	.33782E-10
12	.56409E-05	.11926E-04	.38520E-10
13	.63987E-05	.13528E-04	.43695E-10
14	.72274E-05	.15280E-04	.49354E-10
15	.81342E-05	.17197E-04	.55547E-10
16	.91267E-05	.19295E-04	.62324E-10
17	.10213E-04	.21591E-04	.69740E-10
18	.11401E-04	.24103E-04	.77853E-10
19	.12699E-04	.26848E-04	.86720E-10
20	.14117E-04	.29846E-04	.96403E-10
21	.15663E-04	.33115E-04	.10696E-09
22	.17347E-04	.36675E-04	.11846E-09
23	.19178E-04	.40545E-04	.13096E-09
24	.21164E-04	.44745E-04	.14453E-09
25	.23317E-04	.49295E-04	.15922E-09
26	.25644E-04	.54215E-04	.17512E-09
27	.28155E-04	.59525E-04	.19227E-09
28	.30859E-04	.65241E-04	.21073E-09
29	.33763E-04	.71381E-04	.23056E-09
30	.36875E-04	.77959E-04	.25181E-09
31	.40201E-04	.84991E-04	.27452E-09
32	.43748E-04	.92490E-04	.29874E-09
33	.47518E-04	.10046E-03	.32449E-09
34	.51513E-04	.10891E-03	.35177E-09
35	.55730E-04	.11782E-03	.38057E-09
36	.60167E-04	.12720E-03	.41087E-09
37	.64821E-04	.13704E-03	.44265E-09
38	.69686E-04	.14733E-03	.47587E-09
39	.74753E-04	.15804E-03	.51047E-09
40	.80009E-04	.16915E-03	.54636E-09
41	.85435E-04	.18062E-03	.58341E-09
42	.91011E-04	.19241E-03	.62149E-09
43	.96718E-04	.20448E-03	.66046E-09
44	.10253E-03	.21677E-03	.70017E-09
45	.10841E-03	.22921E-03	.74034E-09
46	.11431E-03	.24168E-03	.78062E-09
47	.12017E-03	.25406E-03	.82063E-09
48	.12594E-03	.26626E-03	.86002E-09
49	.13158E-03	.27817E-03	.89850E-09
50	.13703E-03	.28971E-03	.93577E-09
51	.14227E-03	.30077E-03	.97150E-09
52	.14722E-03	.31124E-03	.10053E-08
53	.15182E-03	.32098E-03	.10368E-08
54	.15604E-03	.32990E-03	.10656E-08

55	.15983E-03	.33790E-03	.10914E-08
56	.16313E-03	.34489E-03	.11140E-08
57	.16593E-03	.35080E-03	.11331E-08
58	.16816E-03	.35553E-03	.11483E-08
59	.16980E-03	.35898E-03	.11595E-08
60	.17080E-03	.36110E-03	.11664E-08

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-96-13

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-15A
Lab File ID: j101325
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 2.06

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.0	U
76-14-2	Freon 114	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl Chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Freon 11	1.0	U
75-35-4	1,1-Dichloroethene	2.3	
76-13-1	Freon 113	47	
75-09-2	Methylene Chloride	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
67-66-3	Chloroform	2.5	
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	210	
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.8	
106-93-4	Ethylene Dibromide	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethyl Benzene	1.0	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
100-44-7	Chlorotoluene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
115-07-1	Propylene	4.1	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-13

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-15A
Lab File ID: j101325
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 2.06

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	4.1	U
67-64-1	Acetone	7.6	
75-15-0	Carbon Disulfide	4.1	U
67-63-0	2-Propanol	4.1	U
156-60-5	trans-1,2-Dichloroethene	4.1	U
108-05-4	Vinyl Acetate	4.1	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	4.1	U
110-54-3	Hexane	4.1	U
109-99-9	Tetrahydrofuran	4.1	U
110-82-7	Cyclohexane	4.1	U
123-91-1	1,4-Dioxane	6.9	
75-27-4	Bromodichloromethane	4.1	U
108-10-1	4-Methyl-2-pentanone	4.1	U
591-78-6	2-Hexanone	4.1	U
124-48-1	Dibromochloromethane	4.1	U
75-25-2	Bromoform	4.1	U
622-96-8	4-Ethyltoluene	4.1	U
64-17-5	Ethanol	4.1	U
1634-04-4	Methyl tert-Butyl Ether	4.1	U
142-82-5	Heptane	4.1	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-26.5

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 25 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-41A
Lab File ID: j101232
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 6.72

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	3.4	U
76-14-2	Freon 114	3.4	U
74-87-3	Chloromethane	3.4	U
75-01-4	Vinyl Chloride	3.4	U
74-83-9	Bromomethane	3.4	U
75-00-3	Chloroethane	3.4	U
75-69-4	Freon 11	3.4	U
75-35-4	1,1-Dichloroethene	33	
76-13-1	Freon 113	180	
75-09-2	Methylene Chloride	1.5	J
75-34-3	1,1-Dichloroethane	3.4	U
156-59-2	cis-1,2-Dichloroethene	3.4	U
67-66-3	Chloroform	4.4	
71-55-6	1,1,1-Trichloroethane	3.4	
56-23-5	Carbon Tetrachloride	3.4	U
71-43-2	Benzene	3.4	U
107-06-2	1,2-Dichloroethane	3.4	U
79-01-6	Trichloroethene	730	
78-87-5	1,2-Dichloropropane	3.4	U
10061-01-5	cis-1,3-Dichloropropene	3.4	U
108-88-3	Toluene	3.4	U
10061-02-6	trans-1,3-Dichloropropene	3.4	U
79-00-5	1,1,2-Trichloroethane	3.4	U
127-18-4	Tetrachloroethene	9.9	
106-93-4	Ethylene Dibromide	3.4	U
108-90-7	Chlorobenzene	3.4	U
100-41-4	Ethyl Benzene	3.4	U
108-38-3	m,p-Xylene	3.4	U
95-47-6	o-Xylene	3.4	U
100-42-5	Styrene	3.4	U
79-34-5	1,1,2,2-Tetrachloroethane	3.4	U
108-67-8	1,3,5-Trimethylbenzene	3.4	U
95-63-6	1,2,4-Trimethylbenzene	3.4	U
541-73-1	1,3-Dichlorobenzene	3.4	U
106-46-7	1,4-Dichlorobenzene	3.4	U
100-44-7	Chlorotoluene	3.4	U
95-50-1	1,2-Dichlorobenzene	3.4	U
120-82-1	1,2,4-Trichlorobenzene	3.4	U
87-68-3	Hexachlorobutadiene	3.4	U
115-07-1	Propylene	13	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-26.5

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 25 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-41A
Lab File ID: j101232
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 6.72

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	13	U
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	13	U
67-63-0	2-Propanol	13	U
156-60-5	trans-1,2-Dichloroethene	13	U
108-05-4	Vinyl Acetate	13	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	13	U
110-54-3	Hexane	13	U
109-99-9	Tetrahydrofuran	13	U
110-82-7	Cyclohexane	13	U
123-91-1	1,4-Dioxane	13	U
75-27-4	Bromodichloromethane	13	U
108-10-1	4-Methyl-2-pentanone	13	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	13	U
75-25-2	Bromoform	13	U
622-96-8	4-Ethyltoluene	13	U
64-17-5	Ethanol	13	U
1634-04-4	Methyl tert-Butyl Ether	13	U
142-82-5	Heptane	13	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.

VP-96-37.5

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 20 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-42A
Lab File ID: j101231
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 9.55

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	4.8	U
76-14-2	Freon 114	4.8	U
74-87-3	Chloromethane	4.8	U
75-01-4	Vinyl Chloride	4.8	U
74-83-9	Bromomethane	4.8	U
75-00-3	Chloroethane	4.8	U
75-69-4	Freon 11	4.8	U
75-35-4	1,1-Dichloroethene	74	
76-13-1	Freon 113	260	
75-09-2	Methylene Chloride	2.3	J
75-34-3	1,1-Dichloroethane	4.8	U
156-59-2	cis-1,2-Dichloroethene	4.8	U
67-66-3	Chloroform	7.4	
71-55-6	1,1,1-Trichloroethane	6.4	
56-23-5	Carbon Tetrachloride	4.8	U
71-43-2	Benzene	4.8	U
107-06-2	1,2-Dichloroethane	4.8	U
79-01-6	Trichloroethene	1600	
78-87-5	1,2-Dichloropropane	4.8	U
10061-01-5	cis-1,3-Dichloropropene	4.8	U
108-88-3	Toluene	4.8	U
10061-02-6	trans-1,3-Dichloropropene	4.8	U
79-00-5	1,1,2-Trichloroethane	4.8	U
127-18-4	Tetrachloroethene	23	
106-93-4	Ethylene Dibromide	4.8	U
108-90-7	Chlorobenzene	4.8	U
100-41-4	Ethyl Benzene	4.8	U
108-38-3	m,p-Xylene	4.8	U
95-47-6	o-Xylene	4.8	U
100-42-5	Styrene	4.8	U
79-34-5	1,1,2,2-Tetrachloroethane	4.8	U
108-67-8	1,3,5-Trimethylbenzene	4.8	U
95-63-6	1,2,4-Trimethylbenzene	4.8	U
541-73-1	1,3-Dichlorobenzene	4.8	U
106-46-7	1,4-Dichlorobenzene	4.8	U
100-44-7	Chlorotoluene	4.8	U
95-50-1	1,2-Dichlorobenzene	4.8	U
120-82-1	1,2,4-Trichlorobenzene	4.8	U
87-68-3	Hexachlorobutadiene	4.8	U
115-07-1	Propylene	19	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-37.5

Lab Name: AIR.TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 20 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-42A
Lab File ID: j101231
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 9.55

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	19	U
67-64-1	Acetone	30	
75-15-0	Carbon Disulfide	19	U
67-63-0	2-Propanol	19	U
156-60-5	trans-1,2-Dichloroethene	19	U
108-05-4	Vinyl Acetate	19	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	19	U
110-54-3	Hexane	19	U
109-99-9	Tetrahydrofuran	19	U
110-82-7	Cyclohexane	19	U
123-91-1	1,4-Dioxane	19	U
75-27-4	Bromodichloromethane	19	U
108-10-1	4-Methyl-2-pentanone	19	U
591-78-6	2-Hexanone	19	U
124-48-1	Dibromochloromethane	19	U
75-25-2	Bromoform	19	U
622-96-8	4-Ethyltoluene	19	U
64-17-5	Ethanol	19	J
1634-04-4	Methyl tert-Butyl Ether	19	U
142-82-5	Heptane	19	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-50

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 25 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-44A
Lab File ID: j101311
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 7.64

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	3.8	U
76-14-2	Freon 114	3.8	U
74-87-3	Chloromethane	3.8	U
75-01-4	Vinyl Chloride	3.8	U
74-83-9	Bromomethane	3.8	U
75-00-3	Chloroethane	3.8	U
75-69-4	Freon 11	3.8	U
75-35-4	1,1-Dichloroethene	110	
76-13-1	Freon 113	310	
75-09-2	Methylene Chloride	2.6	J
75-34-3	1,1-Dichloroethane	9.0	
156-59-2	cis-1,2-Dichloroethene	3.8	U
67-66-3	Chloroform	14	
71-55-6	1,1,1-Trichloroethane	15	
56-23-5	Carbon Tetrachloride	3.8	U
71-43-2	Benzene	3.8	U
107-06-2	1,2-Dichloroethane	3.8	U
79-01-6	Trichloroethene	1400	
78-87-5	1,2-Dichloropropane	3.8	U
10061-01-5	cis-1,3-Dichloropropene	3.8	U
108-88-3	Toluene	3.8	U
10061-02-6	trans-1,3-Dichloropropene	3.8	U
79-00-5	1,1,2-Trichloroethane	3.8	U
127-18-4	Tetrachloroethene	62	
106-93-4	Ethylene Dibromide	3.8	U
108-90-7	Chlorobenzene	3.8	U
100-41-4	Ethyl Benzene	3.8	U
108-38-3	m,p-Xylene	3.8	U
95-47-6	o-Xylene	3.8	U
100-42-5	Styrene	4.5	
79-34-5	1,1,2,2-Tetrachloroethane	3.8	U
108-67-8	1,3,5-Trimethylbenzene	3.8	U
95-63-6	1,2,4-Trimethylbenzene	3.8	U
541-73-1	1,3-Dichlorobenzene	3.8	U
106-46-7	1,4-Dichlorobenzene	3.8	U
100-44-7	Chlorotoluene	3.8	U
95-50-1	1,2-Dichlorobenzene	3.8	U
120-82-1	1,2,4-Trichlorobenzene	3.8	U
87-68-3	Hexachlorobutadiene	3.8	U
115-07-1	Propylene	15	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-50

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 25 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-44A
Lab File ID: j101311
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 7.64

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	15	U
67-64-1	Acetone	22	
75-15-0	Carbon Disulfide	15	U
67-63-0	2-Propanol	15	U
156-60-5	trans-1,2-Dichloroethene	15	U
108-05-4	Vinyl Acetate	15	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	15	U
110-54-3	Hexane	15	U
109-99-9	Tetrahydrofuran	15	U
110-82-7	Cyclohexane	15	U
123-91-1	1,4-Dioxane	15	U
75-27-4	Bromodichloromethane	15	U
108-10-1	4-Methyl-2-pentanone	15	U
591-78-6	2-Hexanone	15	U
124-48-1	Dibromochloromethane	15	U
75-25-2	Bromoform	15	U
622-96-8	4-Ethyltoluene	15	U
64-17-5	Ethanol	15	U
1634-04-4	Methyl tert-Butyl Ether	15	U
142-82-5	Heptane	15	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-96-50D

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 25 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-43A
Lab File ID: j101233
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 7.64

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	3.8	U
76-14-2	Freon 114	3.8	U
74-87-3	Chloromethane	3.8	U
75-01-4	Vinyl Chloride	3.8	U
74-83-9	Bromomethane	3.8	U
75-00-3	Chloroethane	3.8	U
75-69-4	Freon 11	3.8	U
75-35-4	1,1-Dichloroethene	130	
76-13-1	Freon 113	380	
75-09-2	Methylene Chloride	2.0	J
75-34-3	1,1-Dichloroethane	11	
156-59-2	cis-1,2-Dichloroethene	3.8	U
67-66-3	Chloroform	17	
71-55-6	1,1,1-Trichloroethane	13	
56-23-5	Carbon Tetrachloride	3.8	U
71-43-2	Benzene	3.8	U
107-06-2	1,2-Dichloroethane	3.8	U
79-01-6	Trichloroethene	1600	
78-87-5	1,2-Dichloropropane	3.8	U
10061-01-5	cis-1,3-Dichloropropene	3.8	U
108-88-3	Toluene	3.8	U
10061-02-6	trans-1,3-Dichloropropene	3.8	U
79-00-5	1,1,2-Trichloroethane	3.8	U
127-18-4	Tetrachloroethene	72	
106-93-4	Ethylene Dibromide	3.8	U
108-90-7	Chlorobenzene	3.8	U
100-41-4	Ethyl Benzene	3.8	U
108-38-3	m,p-Xylene	3.8	U
95-47-6	o-Xylene	3.8	U
100-42-5	Styrene	3.8	U
79-34-5	1,1,2,2-Tetrachloroethane	3.8	U
108-67-8	1,3,5-Trimethylbenzene	3.8	U
95-63-6	1,2,4-Trimethylbenzene	3.8	U
541-73-1	1,3-Dichlorobenzene	3.8	U
106-46-7	1,4-Dichlorobenzene	3.8	U
100-44-7	Chlorotoluene	3.8	U
95-50-1	1,2-Dichlorobenzene	3.8	U
120-82-1	1,2,4-Trichlorobenzene	3.8	U
87-68-3	Hexachlorobutadiene	3.8	U
115-07-1	Propylene	15	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-50D

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 25 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-43A
Lab File ID: j101233
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 7.64

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	15	U
67-64-1	Acetone	25	
75-15-0	Carbon Disulfide	15	U
67-63-0	2-Propanol	15	U
156-60-5	trans-1,2-Dichloroethene	15	U
108-05-4	Vinyl Acetate	15	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	15	U
110-54-3	Hexane	15	U
109-99-9	Tetrahydrofuran	15	U
110-82-7	Cyclohexane	15	U
123-91-1	1,4-Dioxane	460	
75-27-4	Bromodichloromethane	15	U
108-10-1	4-Methyl-2-pentanone	15	U
591-78-6	2-Hexanone	15	U
124-48-1	Dibromochloromethane	15	U
75-25-2	Bromoform	15	U
622-96-8	4-Ethyltoluene	15	U
64-17-5	Ethanol	15	U
1634-04-4	Methyl tert-Butyl Ether	15	U
142-82-5	Heptane	15	U

FORM I-ATL

Polygon 96 Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-96, October 1998 Rebound Samples

Sample #	Total Clx (ppbV as TCE)	Total Clx Conc (ug/L)*	Total Clx Conc (ug/Kg)**
VP-96-13	214	1.17	0.70
VP-96-26.5	776	4.21	2.52
VP-96-37.5	1703	9.23	5.53
VP-96-50D	1815	9.83	5.89
VP-96-50***	1587	8.60	5.15
	4509	24.44	14.64

*Divided by (24.04/131.39)
**Multiply ug/L concentration by 0.599 L/Kg (calculated Kgt based on revised soil physical data).
***Sample not used for modeling- if duplicate samples collected, highest result used for modeling
D/DUP Duplicate soil gas sample

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-96, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-96-13	2.3	0.01	0.01
VP-96-26.5	33	0.13	0.08
VP-96-37.5	74	0.30	0.18
VP-96-50D	130	0.52	0.31
VP-96-50***	110	0.44	0.27
	239	0.96	0.58

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-96, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-96-13	0.0	0.00	0.00
VP-96-26.5	3.4	0.02	0.01
VP-96-37.5	6.4	0.04	0.02
VP-96-50D	13	0.07	0.04
VP-96-50***	15	0.08	0.05
	22.8	0.13	0.08

Polygon 96 Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-96, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-96-13	210	1.15	0.69
VP-96-26.5	730	3.99	2.39
VP-96-37.5	1600	8.74	5.23
VP-96-50D	1600	8.74	5.23
VP-96-50***	1400	7.65	4.58
	4140	22.61	13.55

PCE Soil Concentration Calculations from Soil Gas Data
VP-96, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-96-13	1.8	0.01	0.01
VP-96-26.5	9.9	0.07	0.04
VP-96-37.5	23	0.16	0.09
VP-96-50D	72	0.50	0.30
VP-96-50***	62	0.43	0.26
	107	0.74	0.44

Polygon 96 Final Closure Soil Gas Data

Interpolated Total Soil Concentrations
VP-96, October 1998 Rebound Samples

Depth (feet)	*Conc. (ug/kg)*
3	0.162
9	0.485
15	0.808
21	1.779
27	2.588
33	4.299
39	5.940
45	5.75
51	5.89
57	5.89
60	5.89

```
PGA VLEACH model, Polygon 96 VP-96  OCT-98 LAB Data
    1
       1.0      50.       1.0        10.
     123.6       .473      1100.      .7029
Polygon VP-96
    83000          1.    .197       1.64      .381       .255       .00074
        0.          0.        -1.
   60
    1     6       0.162
    7    12       0.485
   13    18       0.808
   19    24       1.779
   25    30       2.588
   31    36       4.299
   37    42       5.940
   43    48       5.750
   49    54       5.890
   55    60       5.890
```

V-Leach, VER 1.1
Jake Turin, 11/91
PGA VLEACH model, Polygon 96 VP-96 OCT-98 LAB Data
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 1.00 years. Vertical profile stored every 10.00 years.
Koc = 123.60 ml/g, .43649E-02cu.ft./g
Kh = .47300 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .70290 sq. m/day, 2761.7 sq.ft./yr

Polygon 1
Polygon VP-96
Polygon area = 83000. sq. ft.
60 cells, each cell 1.000 ft. thick.
Soil Properties:
Bulk density = 1.6400 g/ml, 46440. g/cu.ft.
Porosity = .3810 Volumetric water content = .2550
Organic carbon content = .00074000
Recharge Rate = .19700000 ft/yr
Conc. in recharge water = .00000 mg/l, .00000 g/cu.ft
Atmospheric concentration = .00000 mg/l, .00000 g/cu.ft
Water table is impermeable to gas diffusion.

MIXCELL OUTPUT FILE

PGA VLEACH model Polygon 96 VP-96 OCT-98 LAB Data

Year	Mass (grams)	GW Conc (ug/L)
1	9.626	0.1259
2	9.623	0.1928
3	9.619	0.2284
4	9.614	0.2473
5	9.607	0.2573
6	9.599	0.2624
7	9.589	0.2651
8	9.577	0.2663
9	9.563	0.2668
10	9.547	0.2669
11	9.529	0.2666
12	9.508	0.2663
13	9.484	0.2657
14	9.458	0.2651
15	9.428	0.2644
16	9.396	0.2636
17	9.360	0.2627
18	9.322	0.2617
19	9.280	0.2607
20	9.235	0.2595
21	9.187	0.2583
22	9.135	0.2569
23	9.079	0.2555
24	9.021	0.2539
25	8.958	0.2523
26	8.892	0.2506
27	8.823	0.2488
28	8.750	0.2468
29	8.674	0.2448
30	8.595	0.2427
31	8.512	0.2405
32	8.427	0.2382
33	8.338	0.2358
34	8.247	0.2334
35	8.154	0.2308
36	8.058	0.2282
37	7.961	0.2256
38	7.861	0.2229
39	7.760	0.2201
40	7.658	0.2173
41	7.554	0.2144
42	7.449	0.2115
43	7.343	0.2086
44	7.237	0.2057
45	7.130	0.2027
46	7.023	0.1997
47	6.916	0.1968
48	6.809	0.1938
49	6.702	0.1908
50	6.595	0.1878

Polygon VP-96
Time: .000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.75645E-05	.15993E-04	.51656E-10
2	.75645E-05	.15993E-04	.51656E-10
3	.75645E-05	.15993E-04	.51656E-10
4	.75645E-05	.15993E-04	.51656E-10
5	.75645E-05	.15993E-04	.51656E-10
6	.75645E-05	.15993E-04	.51656E-10
7	.22693E-04	.47978E-04	.15497E-09
8	.22693E-04	.47978E-04	.15497E-09
9	.22693E-04	.47978E-04	.15497E-09
10	.22693E-04	.47978E-04	.15497E-09
11	.22693E-04	.47978E-04	.15497E-09
12	.22693E-04	.47978E-04	.15497E-09
13	.37822E-04	.79963E-04	.25828E-09
14	.37822E-04	.79963E-04	.25828E-09
15	.37822E-04	.79963E-04	.25828E-09
16	.37822E-04	.79963E-04	.25828E-09
17	.37822E-04	.79963E-04	.25828E-09
18	.37822E-04	.79963E-04	.25828E-09
19	.83682E-04	.17692E-03	.57145E-09
20	.83682E-04	.17692E-03	.57145E-09
21	.83682E-04	.17692E-03	.57145E-09
22	.83682E-04	.17692E-03	.57145E-09
23	.83682E-04	.17692E-03	.57145E-09
24	.83682E-04	.17692E-03	.57145E-09
25	.12198E-03	.25788E-03	.83295E-09
26	.12198E-03	.25788E-03	.83295E-09
27	.12198E-03	.25788E-03	.83295E-09
28	.12198E-03	.25788E-03	.83295E-09
29	.12198E-03	.25788E-03	.83295E-09
30	.12198E-03	.25788E-03	.83295E-09
31	.20282E-03	.42880E-03	.13850E-08
32	.20282E-03	.42880E-03	.13850E-08
33	.20282E-03	.42880E-03	.13850E-08
34	.20282E-03	.42880E-03	.13850E-08
35	.20282E-03	.42880E-03	.13850E-08
36	.20282E-03	.42880E-03	.13850E-08
37	.28083E-03	.59372E-03	.19177E-08
38	.28083E-03	.59372E-03	.19177E-08
39	.28083E-03	.59372E-03	.19177E-08
40	.28083E-03	.59372E-03	.19177E-08
41	.28083E-03	.59372E-03	.19177E-08
42	.28083E-03	.59372E-03	.19177E-08
43	.27185E-03	.57473E-03	.18564E-08
44	.27185E-03	.57473E-03	.18564E-08
45	.27185E-03	.57473E-03	.18564E-08
46	.27185E-03	.57473E-03	.18564E-08
47	.27185E-03	.57473E-03	.18564E-08
48	.27185E-03	.57473E-03	.18564E-08
49	.27847E-03	.58873E-03	.19016E-08
50	.27847E-03	.58873E-03	.19016E-08

51	.27847E-03	.58873E-03	.19016E-08
52	.27847E-03	.58873E-03	.19016E-08
53	.27847E-03	.58873E-03	.19016E-08
54	.27847E-03	.58873E-03	.19016E-08
55	.27847E-03	.58873E-03	.19016E-08
56	.27847E-03	.58873E-03	.19016E-08
57	.27847E-03	.58873E-03	.19016E-08
58	.27847E-03	.58873E-03	.19016E-08
59	.27847E-03	.58873E-03	.19016E-08
60	.27847E-03	.58873E-03	.19016E-08

Polygon VP-96
Time: 10.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.52753E-06	.11153E-05	.36024E-11
2	.14219E-05	.30062E-05	.97099E-11
3	.26670E-05	.56385E-05	.18212E-10
4	.41971E-05	.88733E-05	.28661E-10
5	.59174E-05	.12510E-04	.40408E-10
6	.77449E-05	.16374E-04	.52888E-10
7	.96857E-05	.20477E-04	.66141E-10
8	.11828E-04	.25006E-04	.80768E-10
9	.14236E-04	.30098E-04	.97217E-10
10	.16885E-04	.35697E-04	.11530E-09
11	.19677E-04	.41600E-04	.13437E-09
12	.22515E-04	.47601E-04	.15375E-09
13	.25405E-04	.53710E-04	.17348E-09
14	.28450E-04	.60147E-04	.19428E-09
15	.31746E-04	.67116E-04	.21678E-09
16	.35302E-04	.74635E-04	.24107E-09
17	.39060E-04	.82579E-04	.26673E-09
18	.42957E-04	.90819E-04	.29335E-09
19	.47137E-04	.99656E-04	.32189E-09
20	.51921E-04	.10977E-03	.35455E-09
21	.57512E-04	.12159E-03	.39274E-09
22	.63803E-04	.13489E-03	.43569E-09
23	.70457E-04	.14896E-03	.48113E-09
24	.77130E-04	.16307E-03	.52671E-09
25	.83755E-04	.17707E-03	.57194E-09
26	.90541E-04	.19142E-03	.61828E-09
27	.97694E-04	.20654E-03	.66713E-09
28	.10521E-03	.22243E-03	.71843E-09
29	.11290E-03	.23868E-03	.77095E-09
30	.12057E-03	.25490E-03	.82333E-09
31	.12841E-03	.27147E-03	.87685E-09
32	.13695E-03	.28953E-03	.93520E-09
33	.14655E-03	.30984E-03	.10008E-08
34	.15702E-03	.33198E-03	.10723E-08
35	.16777E-03	.35469E-03	.11457E-08
36	.17816E-03	.37667E-03	.12166E-08
37	.18810E-03	.39767E-03	.12845E-08
38	.19796E-03	.41851E-03	.13518E-08
39	.20808E-03	.43991E-03	.14209E-08
40	.21832E-03	.46156E-03	.14908E-08

41	.22816E-03	.48238E-03	.15581E-08
42	.23706E-03	.50117E-03	.16188E-08
43	.24461E-03	.51715E-03	.16704E-08
44	.25069E-03	.53000E-03	.17119E-08
45	.25538E-03	.53991E-03	.17439E-08
46	.25892E-03	.54739E-03	.17681E-08
47	.26160E-03	.55307E-03	.17864E-08
48	.26371E-03	.55752E-03	.18008E-08
49	.26546E-03	.56122E-03	.18127E-08
50	.26702E-03	.56453E-03	.18234E-08
51	.26850E-03	.56765E-03	.18335E-08
52	.26991E-03	.57063E-03	.18431E-08
53	.27121E-03	.57338E-03	.18520E-08
54	.27236E-03	.57581E-03	.18599E-08
55	.27333E-03	.57786E-03	.18665E-08
56	.27411E-03	.57952E-03	.18718E-08
57	.27473E-03	.58082E-03	.18760E-08
58	.27519E-03	.58180E-03	.18792E-08
59	.27553E-03	.58251E-03	.18815E-08
60	.27575E-03	.58298E-03	.18830E-08

Polygon VP-96
Time: 20.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.33950E-06	.71776E-06	.23184E-11
2	.87928E-06	.18590E-05	.60044E-11
3	.16055E-05	.33942E-05	.10963E-10
4	.25122E-05	.53111E-05	.17155E-10
5	.35980E-05	.76067E-05	.24570E-10
6	.48626E-05	.10280E-04	.33206E-10
7	.63046E-05	.13329E-04	.43053E-10
8	.79210E-05	.16746E-04	.54090E-10
9	.97088E-05	.20526E-04	.66299E-10
10	.11667E-04	.24667E-04	.79674E-10
11	.13799E-04	.29173E-04	.94229E-10
12	.16106E-04	.34051E-04	.10998E-09
13	.18591E-04	.39305E-04	.12695E-09
14	.21255E-04	.44936E-04	.14514E-09
15	.24097E-04	.50945E-04	.16455E-09
16	.27122E-04	.57339E-04	.18521E-09
17	.30335E-04	.64133E-04	.20715E-09
18	.33747E-04	.71347E-04	.23045E-09
19	.37370E-04	.79006E-04	.25519E-09
20	.41216E-04	.87137E-04	.28145E-09
21	.45303E-04	.95778E-04	.30936E-09
22	.49655E-04	.10498E-03	.33908E-09
23	.54299E-04	.11480E-03	.37079E-09
24	.59256E-04	.12528E-03	.40465E-09
25	.64534E-04	.13644E-03	.44069E-09
26	.70125E-04	.14825E-03	.47886E-09
27	.76007E-04	.16069E-03	.51904E-09
28	.82161E-04	.17370E-03	.56106E-09
29	.88568E-04	.18725E-03	.60481E-09
30	.95215E-04	.20130E-03	.65020E-09

31	.10209E-03	.21583E-03	.69715E-09
32	.10918E-03	.23083E-03	.74557E-09
33	.11649E-03	.24627E-03	.79545E-09
34	.12401E-03	.26217E-03	.84681E-09
35	.13176E-03	.27856E-03	.89973E-09
36	.13974E-03	.29543E-03	.95423E-09
37	.14793E-03	.31275E-03	.10102E-08
38	.15629E-03	.33041E-03	.10672E-08
39	.16474E-03	.34829E-03	.11250E-08
40	.17322E-03	.36622E-03	.11829E-08
41	.18167E-03	.38408E-03	.12406E-08
42	.19002E-03	.40173E-03	.12976E-08
43	.19819E-03	.41901E-03	.13534E-08
44	.20611E-03	.43575E-03	.14075E-08
45	.21367E-03	.45174E-03	.14591E-08
46	.22078E-03	.46676E-03	.15076E-08
47	.22734E-03	.48063E-03	.15524E-08
48	.23329E-03	.49322E-03	.15931E-08
49	.23862E-03	.50448E-03	.16295E-08
50	.24333E-03	.51443E-03	.16616E-08
51	.24744E-03	.52314E-03	.16897E-08
52	.25103E-03	.53072E-03	.17142E-08
53	.25414E-03	.53729E-03	.17354E-08
54	.25683E-03	.54297E-03	.17538E-08
55	.25915E-03	.54788E-03	.17696E-08
56	.26113E-03	.55207E-03	.17832E-08
57	.26281E-03	.55562E-03	.17946E-08
58	.26419E-03	.55854E-03	.18041E-08
59	.26529E-03	.56086E-03	.18116E-08
60	.26610E-03	.56259E-03	.18172E-08

Polygon VP-96
Time: 30.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.24784E-06	.52398E-06	.16925E-11
2	.63977E-06	.13526E-05	.43688E-11
3	.11640E-05	.24608E-05	.79484E-11
4	.18144E-05	.38360E-05	.12390E-10
5	.25893E-05	.54742E-05	.17682E-10
6	.34897E-05	.73778E-05	.23830E-10
7	.45188E-05	.95535E-05	.30858E-10
8	.56810E-05	.12011E-04	.38794E-10
9	.69814E-05	.14760E-04	.47675E-10
10	.84253E-05	.17812E-04	.57534E-10
11	.10018E-04	.21179E-04	.68408E-10
12	.11764E-04	.24870E-04	.80330E-10
13	.13668E-04	.28895E-04	.93332E-10
14	.15734E-04	.33265E-04	.10745E-09
15	.17968E-04	.37987E-04	.12270E-09
16	.20373E-04	.43072E-04	.13912E-09
17	.22954E-04	.48529E-04	.15675E-09
18	.25716E-04	.54367E-04	.17561E-09
19	.28662E-04	.60596E-04	.19572E-09
20	.31798E-04	.67226E-04	.21714E-09

21	.35129E-04	.74269E-04	.23989E-09
22	.38662E-04	.81738E-04	.26401E-09
23	.42403E-04	.89646E-04	.28956E-09
24	.46358E-04	.98009E-04	.31657E-09
25	.50536E-04	.10684E-03	.34510E-09
26	.54943E-04	.11616E-03	.37519E-09
27	.59585E-04	.12597E-03	.40689E-09
28	.64466E-04	.13629E-03	.44023E-09
29	.69587E-04	.14712E-03	.47520E-09
30	.74946E-04	.15845E-03	.51179E-09
31	.80538E-04	.17027E-03	.54997E-09
32	.86355E-04	.18257E-03	.58969E-09
33	.92387E-04	.19532E-03	.63089E-09
34	.98623E-04	.20851E-03	.67348E-09
35	.10505E-03	.22210E-03	.71737E-09
36	.11166E-03	.23607E-03	.76250E-09
37	.11843E-03	.25038E-03	.80874E-09
38	.12535E-03	.26502E-03	.85601E-09
39	.13241E-03	.27993E-03	.90419E-09
40	.13957E-03	.29508E-03	.95311E-09
41	.14682E-03	.31041E-03	.10026E-08
42	.15412E-03	.32584E-03	.10525E-08
43	.16144E-03	.34131E-03	.11024E-08
44	.16873E-03	.35673E-03	.11522E-08
45	.17596E-03	.37201E-03	.12016E-08
46	.18307E-03	.38703E-03	.12501E-08
47	.19001E-03	.40171E-03	.12975E-08
48	.19673E-03	.41592E-03	.13434E-08
49	.20319E-03	.42957E-03	.13875E-08
50	.20932E-03	.44255E-03	.14294E-08
51	.21510E-03	.45476E-03	.14689E-08
52	.22047E-03	.46612E-03	.15056E-08
53	.22542E-03	.47658E-03	.15393E-08
54	.22992E-03	.48608E-03	.15700E-08
55	.23395E-03	.49460E-03	.15976E-08
56	.23750E-03	.50212E-03	.16218E-08
57	.24058E-03	.50863E-03	.16429E-08
58	.24319E-03	.51414E-03	.16607E-08
59	.24531E-03	.51862E-03	.16751E-08
60	.24694E-03	.52207E-03	.16863E-08

Polygon VP-96
Time: 40.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.18663E-06	.39456E-06	.12744E-11
2	.48118E-06	.10173E-05	.32859E-11
3	.87450E-06	.18488E-05	.59718E-11
4	.13619E-05	.28792E-05	.93000E-11
5	.19418E-05	.41054E-05	.13260E-10
6	.26152E-05	.55290E-05	.17859E-10
7	.33845E-05	.71554E-05	.23112E-10
8	.42535E-05	.89927E-05	.29046E-10
9	.52269E-05	.11051E-04	.35693E-10
10	.63098E-05	.13340E-04	.43088E-10

11	.75079E-05	.15873E-04	.51269E-10
12	.88269E-05	.18662E-04	.60277E-10
13	.10273E-04	.21719E-04	.70151E-10
14	.11851E-04	.25056E-04	.80931E-10
15	.13569E-04	.28686E-04	.92656E-10
16	.15430E-04	.32621E-04	.10536E-09
17	.17440E-04	.36871E-04	.11909E-09
18	.19605E-04	.41448E-04	.13388E-09
19	.21929E-04	.46361E-04	.14975E-09
20	.24417E-04	.51622E-04	.16674E-09
21	.27074E-04	.57239E-04	.18488E-09
22	.29904E-04	.63221E-04	.20420E-09
23	.32910E-04	.69578E-04	.22474E-09
24	.36098E-04	.76317E-04	.24650E-09
25	.39470E-04	.83447E-04	.26953E-09
26	.43031E-04	.90975E-04	.29385E-09
27	.46783E-04	.98907E-04	.31947E-09
28	.50730E-04	.10725E-03	.34642E-09
29	.54873E-04	.11601E-03	.37471E-09
30	.59214E-04	.12519E-03	.40436E-09
31	.63753E-04	.13478E-03	.43535E-09
32	.68490E-04	.14480E-03	.46770E-09
33	.73422E-04	.15523E-03	.50138E-09
34	.78545E-04	.16606E-03	.53636E-09
35	.83853E-04	.17728E-03	.57261E-09
36	.89339E-04	.18888E-03	.61007E-09
37	.94993E-04	.20083E-03	.64868E-09
38	.10080E-03	.21312E-03	.68836E-09
39	.10676E-03	.22571E-03	.72903E-09
40	.11284E-03	.23857E-03	.77058E-09
41	.11904E-03	.25167E-03	.81289E-09
42	.12533E-03	.26497E-03	.85584E-09
43	.13169E-03	.27842E-03	.89929E-09
44	.13810E-03	.29197E-03	.94308E-09
45	.14454E-03	.30558E-03	.98702E-09
46	.15097E-03	.31917E-03	.10309E-08
47	.15736E-03	.33269E-03	.10746E-08
48	.16368E-03	.34605E-03	.11178E-08
49	.16990E-03	.35920E-03	.11602E-08
50	.17597E-03	.37203E-03	.12017E-08
51	.18185E-03	.38447E-03	.12418E-08
52	.18751E-03	.39643E-03	.12805E-08
53	.19290E-03	.40782E-03	.13173E-08
54	.19798E-03	.41855E-03	.13519E-08
55	.20270E-03	.42854E-03	.13842E-08
56	.20702E-03	.43768E-03	.14137E-08
57	.21090E-03	.44589E-03	.14402E-08
58	.21431E-03	.45308E-03	.14634E-08
59	.21718E-03	.45916E-03	.14831E-08
60	.21949E-03	.46403E-03	.14988E-08

Polygon VP-96
Time: 50.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol

1	.14283E-06	.30196E-06	.97533E-12
2	.36800E-06	.77802E-06	.25130E-11
3	.66842E-06	.14131E-05	.45645E-11
4	.10404E-05	.21996E-05	.71048E-11
5	.14829E-05	.31350E-05	.10126E-10
6	.19964E-05	.42208E-05	.13633E-10
7	.25832E-05	.54612E-05	.17640E-10
8	.32461E-05	.68628E-05	.22167E-10
9	.39890E-05	.84333E-05	.27240E-10
10	.48161E-05	.10182E-04	.32888E-10
11	.57323E-05	.12119E-04	.39145E-10
12	.67426E-05	.14255E-04	.46043E-10
13	.78521E-05	.16601E-04	.53620E-10
14	.90662E-05	.19167E-04	.61911E-10
15	.10390E-04	.21967E-04	.70953E-10
16	.11830E-04	.25011E-04	.80784E-10
17	.13390E-04	.28310E-04	.91440E-10
18	.15077E-04	.31875E-04	.10296E-09
19	.16895E-04	.35718E-04	.11537E-09
20	.18849E-04	.39849E-04	.12871E-09
21	.20944E-04	.44278E-04	.14302E-09
22	.23184E-04	.49015E-04	.15832E-09
23	.25574E-04	.54068E-04	.17464E-09
24	.28118E-04	.59445E-04	.19201E-09
25	.30818E-04	.65155E-04	.21045E-09
26	.33680E-04	.71205E-04	.22999E-09
27	.36705E-04	.77600E-04	.25065E-09
28	.39895E-04	.84345E-04	.27244E-09
29	.43254E-04	.91446E-04	.29537E-09
30	.46782E-04	.98905E-04	.31946E-09
31	.50480E-04	.10672E-03	.34472E-09
32	.54349E-04	.11490E-03	.37114E-09
33	.58388E-04	.12344E-03	.39872E-09
34	.62595E-04	.13234E-03	.42745E-09
35	.66968E-04	.14158E-03	.45731E-09
36	.71502E-04	.15117E-03	.48827E-09
37	.76194E-04	.16109E-03	.52031E-09
38	.81036E-04	.17132E-03	.55338E-09
39	.86021E-04	.18186E-03	.58742E-09
40	.91139E-04	.19268E-03	.62236E-09
41	.96378E-04	.20376E-03	.65815E-09
42	.10173E-03	.21507E-03	.69467E-09
43	.10717E-03	.22657E-03	.73184E-09
44	.11269E-03	.23824E-03	.76953E-09
45	.11827E-03	.25004E-03	.80762E-09
46	.12388E-03	.26191E-03	.84597E-09
47	.12951E-03	.27381E-03	.88441E-09
48	.13513E-03	.28569E-03	.92278E-09
49	.14071E-03	.29749E-03	.96088E-09
50	.14622E-03	.30913E-03	.99851E-09
51	.15163E-03	.32056E-03	.10354E-08
52	.15689E-03	.33170E-03	.10714E-08
53	.16198E-03	.34246E-03	.11062E-08
54	.16686E-03	.35276E-03	.11394E-08

55	.17146E-03	.36250E-03	.11709E-08
56	.17576E-03	.37158E-03	.12002E-08
57	.17969E-03	.37990E-03	.12271E-08
58	.18321E-03	.38733E-03	.12511E-08
59	.18625E-03	.39376E-03	.12718E-08
60	.18875E-03	.39905E-03	.12889E-08

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-96-1A-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-16A
Lab File ID: j101326
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 1.91

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	0.96	U
76-14-2	Freon 114	0.96	U
74-87-3	Chloromethane	0.96	U
75-01-4	Vinyl Chloride	0.96	U
74-83-9	Bromomethane	0.96	U
75-00-3	Chloroethane	0.96	U
75-69-4	Freon 11	0.96	U
75-35-4	1,1-Dichloroethene	0.96	U
76-13-1	Freon 113	17	
75-09-2	Methylene Chloride	0.96	U
75-34-3	1,1-Dichloroethane	0.96	U
156-59-2	cis-1,2-Dichloroethene	0.96	U
67-66-3	Chloroform	0.96	U
71-55-6	1,1,1-Trichloroethane	0.96	U
56-23-5	Carbon Tetrachloride	0.96	U
71-43-2	Benzene	0.96	U
107-06-2	1,2-Dichloroethane	0.96	U
79-01-6	Trichloroethene	0.96	U
78-87-5	1,2-Dichloropropane	0.96	U
10061-01-5	cis-1,3-Dichloropropene	0.96	U
108-88-3	Toluene	0.96	U
10061-02-6	trans-1,3-Dichloropropene	0.96	U
79-00-5	1,1,2-Trichloroethane	0.96	U
127-18-4	Tetrachloroethene	0.96	U
106-93-4	Ethylene Dibromide	0.96	U
108-90-7	Chlorobenzene	0.96	U
100-41-4	Ethyl Benzene	0.96	U
108-38-3	m,p-Xylene	0.96	U
95-47-6	o-Xylene	0.96	U
100-42-5	Styrene	0.96	U
79-34-5	1,1,2,2-Tetrachloroethane	0.96	U
108-67-8	1,3,5-Trimethylbenzene	0.96	U
95-63-6	1,2,4-Trimethylbenzene	0.96	U
541-73-1	1,3-Dichlorobenzene	0.96	U
106-46-7	1,4-Dichlorobenzene	0.96	U
100-44-7	Chlorotoluene	0.96	U
95-50-1	1,2-Dichlorobenzene	1.2	
120-82-1	1,2,4-Trichlorobenzene	0.96	U
87-68-3	Hexachlorobutadiene	0.96	U
115-07-1	Propylene	3.8	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-96-1A-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-16A
Lab File ID: j101326
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 1.91

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.8	U
67-64-1	Acetone	3.8	U
75-15-0	Carbon Disulfide	3.8	U
67-63-0	2-Propanol	3.8	U
156-60-5	trans-1,2-Dichloroethene	3.8	U
108-05-4	Vinyl Acetate	3.8	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	3.8	U
110-54-3	Hexane	3.8	U
109-99-9	Tetrahydrofuran	3.8	U
110-82-7	Cyclohexane	3.8	U
123-91-1	1,4-Dioxane	3.8	U
75-27-4	Bromodichloromethane	3.8	U
108-10-1	4-Methyl-2-pentanone	3.8	U
591-78-6	2-Hexanone	3.8	U
124-48-1	Dibromochloromethane	3.8	U
75-25-2	Bromoform	3.8	U
622-96-8	4-Ethyltoluene	3.8	U
64-17-5	Ethanol	3.8	U
1634-04-4	Methyl tert-Butyl Ether	3.8	U
142-82-5	Heptane	3.8	U

FORM I-ATL

LEVEL-IV VALIDATABLE

SAMPLE NO.
VP-96-1A-30'

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-12A
Lab File ID: j101323
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 2.01

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.0	U
76-14-2	Freon 114	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl Chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Freon 11	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
76-13-1	Freon 113	120	
75-09-2	Methylene Chloride	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
67-66-3	Chloroform	1.1	
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	42	
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	2.6	
106-93-4	Ethylene Dibromide	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethyl Benzene	1.0	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
108-67-8	1,3,5-Trimethylbenzene	1.0	U
95-63-6	1,2,4-Trimethylbenzene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
100-44-7	Chlorotoluene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
87-68-3	Hexachlorobutadiene	1.0	U
115-07-1	Propylene	4.0	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO. 00003

VP-96-1A-30'

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-12A
Lab File ID: j101323
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 2.01

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	4.0	U
67-64-1	Acetone	7.4	
75-15-0	Carbon Disulfide	6.6	
67-63-0	2-Propanol	4.0	U
156-60-5	trans-1,2-Dichloroethene	4.0	U
108-05-4	Vinyl Acetate	4.0	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	4.0	U
110-54-3	Hexane	4.0	U
109-99-9	Tetrahydrofuran	4.0	U
110-82-7	Cyclohexane	4.0	U
123-91-1	1,4-Dioxane	4.0	U
75-27-4	Bromodichloromethane	4.0	U
108-10-1	4-Methyl-2-pentanone	4.0	U
591-78-6	2-Hexanone	4.0	U
124-48-1	Dibromochloromethane	4.0	U
75-25-2	Bromoform	4.0	U
622-96-8	4-Ethyltoluene	4.0	U
64-17-5	Ethanol	5.9	
1634-04-4	Methyl tert-Butyl Ether	4.0	U
142-82-5	Heptane	4.0	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1A-40

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdi.i

Contract:
SDG No.:

Lab Sample ID: 9810056-19A
Lab File ID: j101330
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 1.91

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	0.96	U
76-14-2	Freon 114	0.96	U
74-87-3	Chloromethane	0.96	U
75-01-4	Vinyl Chloride	0.96	U
74-83-9	Bromomethane	0.96	U
75-00-3	Chloroethane	0.96	U
75-69-4	Freon 11	1.2	
75-35-4	1,1-Dichloroethene	5.6	
76-13-1	Freon 113	370	
75-09-2	Methylene Chloride	0.96	U
75-34-3	1,1-Dichloroethane	0.96	U
156-59-2	cis-1,2-Dichloroethene	0.96	U
67-66-3	Chloroform	5.9	
71-55-6	1,1,1-Trichloroethane	0.96	U
56-23-5	Carbon Tetrachloride	0.96	U
71-43-2	Benzene	0.96	U
107-06-2	1,2-Dichloroethane	0.96	U
79-01-6	Trichloroethene	310	
78-87-5	1,2-Dichloropropane	0.96	U
10061-01-5	cis-1,3-Dichloropropene	0.96	U
108-88-3	Toluene	0.96	U
10061-02-6	trans-1,3-Dichloropropene	0.96	U
79-00-5	1,1,2-Trichloroethane	0.96	U
127-18-4	Tetrachloroethene	17	
106-93-4	Ethylene Dibromide	0.96	U
108-90-7	Chlorobenzene	0.96	U
100-41-4	Ethyl Benzene	0.96	U
108-38-3	m,p-Xylene	0.96	U
95-47-6	o-Xylene	0.96	U
100-42-5	Styrene	0.96	U
79-34-5	1,1,2,2-Tetrachloroethane	0.96	U
108-67-8	1,3,5-Trimethylbenzene	0.96	U
95-63-6	1,2,4-Trimethylbenzene	0.96	U
541-73-1	1,3-Dichlorobenzene	0.96	U
106-46-7	1,4-Dichlorobenzene	0.96	U
100-44-7	Chlorotoluene	0.96	U
95-50-1	1,2-Dichlorobenzene	0.96	U
120-82-1	1,2,4-Trichlorobenzene	0.96	U
87-68-3	Hexachlorobutadiene	0.96	U
115-07-1	Propylene	3.8	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1A-40

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-19A
Lab File ID: j101330
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 1.91

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.8	U
67-64-1	Acetone	12	
75-15-0	Carbon Disulfide	16	
67-63-0	2-Propanol	3.8	U
156-60-5	trans-1,2-Dichloroethene	3.8	U
108-05-4	Vinyl Acetate	3.8	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	3.8	U
110-54-3	Hexane	3.8	U
109-99-9	Tetrahydrofuran	3.8	U
110-82-7	Cyclohexane	3.8	U
123-91-1	1,4-Dioxane	3.8	U
75-27-4	Bromodichloromethane	3.8	U
108-10-1	4-Methyl-2-pentanone	3.8	U
591-78-6	2-Hexanone	3.8	U
124-48-1	Dibromochloromethane	3.8	U
75-25-2	Bromoform	3.8	U
622-96-8	4-Ethyltoluene	3.8	U
64-17-5	Ethanol	13	
1634-04-4	Methyl tert-Butyl Ether	3.8	U
142-82-5	Heptane	3.8	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1A-50

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 25 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-18A
Lab File ID: j101329
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 8.04

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	4.0	U
76-14-2	Freon 114	4.0	U
74-87-3	Chloromethane	4.0	U
75-01-4	Vinyl Chloride	4.0	U
74-83-9	Bromomethane	4.0	U
75-00-3	Chloroethane	4.0	U
75-69-4	Freon 11	4.0	U
75-35-4	1,1-Dichloroethene	15	
76-13-1	Freon 113	560	
75-09-2	Methylene Chloride	4.0	U
75-34-3	1,1-Dichloroethane	4.0	U
156-59-2	cis-1,2-Dichloroethene	4.0	U
67-66-3	Chloroform	13	
71-55-6	1,1,1-Trichloroethane	4.0	U
56-23-5	Carbon Tetrachloride	4.0	U
71-43-2	Benzene	4.0	U
107-06-2	1,2-Dichloroethane	4.0	U
79-01-6	Trichloroethene	1100	
78-87-5	1,2-Dichloropropane	4.0	U
10061-01-5	cis-1,3-Dichloropropene	4.0	U
108-88-3	Toluene	4.0	U
10061-02-6	trans-1,3-Dichloropropene	4.0	U
79-00-5	1,1,2-Trichloroethane	4.0	U
127-18-4	Tetrachloroethene	99	
106-93-4	Ethylene Dibromide	4.0	U
108-90-7	Chlorobenzene	4.0	U
100-41-4	Ethyl Benzene	4.0	U
108-38-3	m,p-Xylene	4.0	U
95-47-6	o-Xylene	4.0	U
100-42-5	Styrene	4.0	U
79-34-5	1,1,2,2-Tetrachloroethane	4.0	U
108-67-8	1,3,5-Trimethylbenzene	4.0	U
95-63-6	1,2,4-Trimethylbenzene	4.0	U
541-73-1	1,3-Dichlorobenzene	4.0	U
106-46-7	1,4-Dichlorobenzene	4.0	U
100-44-7	Chlorotoluene	4.0	U
95-50-1	1,2-Dichlorobenzene	4.0	U
120-82-1	1,2,4-Trichlorobenzene	4.0	U
87-68-3	Hexachlorobutadiene	4.0	U
115-07-1	Propylene	16	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1A-50

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 25 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-18A
Lab File ID: j101329
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 8.04

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	16	U
67-64-1	Acetone	16	U
75-15-0	Carbon Disulfide	16	U
67-63-0	2-Propanol	16	U
156-60-5	trans-1,2-Dichloroethene	16	U
108-05-4	Vinyl Acetate	16	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	16	U
110-54-3	Hexane	16	U
109-99-9	Tetrahydrofuran	16	U
110-82-7	Cyclohexane	16	U
123-91-1	1,4-Dioxane	16	U
75-27-4	Bromodichloromethane	16	U
108-10-1	4-Methyl-2-pentanone	16	U
591-78-6	2-Hexanone	16	U
124-48-1	Dibromochloromethane	16	U
75-25-2	Bromoform	16	U
622-96-8	4-Ethyltoluene	16	U
64-17-5	Ethanol	16	U
1634-04-4	Methyl tert-Butyl Ether	16	U
142-82-5	Heptane	16	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1A-14-DUP

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-16AA
Lab File ID: j101327
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 1.91

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	0.96	U
76-14-2	Freon 114	0.96	U
74-87-3	Chloromethane	0.96	U
75-01-4	Vinyl Chloride	0.96	U
74-83-9	Bromomethane	0.96	U
75-00-3	Chloroethane	0.96	U
75-69-4	Freon 11	0.96	U
75-35-4	1,1-Dichloroethene	0.96	U
76-13-1	Freon 113	16	
75-09-2	Methylene Chloride	0.96	U
75-34-3	1,1-Dichloroethane	0.96	U
156-59-2	cis-1,2-Dichloroethene	0.96	U
67-66-3	Chloroform	0.96	U
71-55-6	1,1,1-Trichloroethane	0.96	U
56-23-5	Carbon Tetrachloride	0.96	U
71-43-2	Benzene	0.96	U
107-06-2	1,2-Dichloroethane	0.96	U
79-01-6	Trichloroethene	0.96	U
78-87-5	1,2-Dichloropropane	0.96	U
10061-01-5	cis-1,3-Dichloropropene	0.96	U
108-88-3	Toluene	0.96	U
10061-02-6	trans-1,3-Dichloropropene	0.96	U
79-00-5	1,1,2-Trichloroethane	0.96	U
127-18-4	Tetrachloroethene	0.96	U
106-93-4	Ethylene Dibromide	0.96	U
108-90-7	Chlorobenzene	0.96	U
100-41-4	Ethyl Benzene	0.96	U
108-38-3	m,p-Xylene	0.96	U
95-47-6	o-Xylene	0.96	U
100-42-5	Styrene	0.96	U
79-34-5	1,1,2,2-Tetrachloroethane	0.96	U
108-67-8	1,3,5-Trimethylbenzene	0.96	U
95-63-6	1,2,4-Trimethylbenzene	0.96	U
541-73-1	1,3-Dichlorobenzene	0.96	U
106-46-7	1,4-Dichlorobenzene	0.96	U
100-44-7	Chlorotoluene	0.96	U
95-50-1	1,2-Dichlorobenzene	1.1	
120-82-1	1,2,4-Trichlorobenzene	0.96	U
87-68-3	Hexachlorobutadiene	0.96	U
115-07-1	Propylene	3.8	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1A-14-DUP

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-16AA
Lab File ID: j101327
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 1.91

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.8	U
67-64-1	Acetone	3.8	U
75-15-0	Carbon Disulfide	3.8	U
67-63-0	2-Propanol	3.8	U
156-60-5	trans-1,2-Dichloroethene	3.8	U
108-05-4	Vinyl Acetate	3.8	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	3.8	U
110-54-3	Hexane	3.8	U
109-99-9	Tetrahydrofuran	3.8	U
110-82-7	Cyclohexane	3.8	U
123-91-1	1,4-Dioxane	3.8	U
75-27-4	Bromodichloromethane	3.8	U
108-10-1	4-Methyl-2-pentanone	3.8	U
591-78-6	2-Hexanone	3.8	U
124-48-1	Dibromochloromethane	3.8	U
75-25-2	Bromoform	3.8	U
622-96-8	4-Ethyltoluene	3.8	U
64-17-5	Ethanol	3.8	U
1634-04-4	Methyl tert-Butyl Ether	3.8	U
142-82-5	Heptane	3.8	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1A-50D

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 25 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-17A
Lab File ID: j101328
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 7.64

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	3.8	U
76-14-2	Freon 114	3.8	U
74-87-3	Chloromethane	3.8	U
75-01-4	Vinyl Chloride	3.8	U
74-83-9	Bromomethane	3.8	U
75-00-3	Chloroethane	3.8	U
75-69-4	Freon 11	3.8	U
75-35-4	1,1-Dichloroethene	15	
76-13-1	Freon 113	560	
75-09-2	Methylene Chloride	3.8	U
75-34-3	1,1-Dichloroethane	3.8	U
156-59-2	cis-1,2-Dichloroethene	3.8	U
67-66-3	Chloroform	13	
71-55-6	1,1,1-Trichloroethane	3.8	U
56-23-5	Carbon Tetrachloride	3.8	U
71-43-2	Benzene	3.8	U
107-06-2	1,2-Dichloroethane	3.8	U
79-01-6	Trichloroethene	1000	
78-87-5	1,2-Dichloropropane	3.8	U
10061-01-5	cis-1,3-Dichloropropene	3.8	U
108-88-3	Toluene	3.8	U
10061-02-6	trans-1,3-Dichloropropene	3.8	U
79-00-5	1,1,2-Trichloroethane	3.8	U
127-18-4	Tetrachloroethene	100	
106-93-4	Ethylene Dibromide	3.8	U
108-90-7	Chlorobenzene	3.8	U
100-41-4	Ethyl Benzene	3.8	U
108-38-3	m,p-Xylene	3.8	U
95-47-6	o-Xylene	3.8	U
100-42-5	Styrene	3.8	U
79-34-5	1,1,2,2-Tetrachloroethane	3.8	U
108-67-8	1,3,5-Trimethylbenzene	3.8	U
95-63-6	1,2,4-Trimethylbenzene	3.8	U
541-73-1	1,3-Dichlorobenzene	3.8	U
106-46-7	1,4-Dichlorobenzene	3.8	U
100-44-7	Chlorotoluene	3.8	U
95-50-1	1,2-Dichlorobenzene	3.8	U
120-82-1	1,2,4-Trichlorobenzene	3.8	U
87-68-3	Hexachlorobutadiene	3.8	U
115-07-1	Propylene	15	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1A-50D

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 25 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810056-17A
Lab File ID: j101328
Date Received: 10/2/98
Date Analyzed: 10/14/98
Dilution Factor: 7.64

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	15	U
67-64-1	Acetone	16	J
75-15-0	Carbon Disulfide	15	U
67-63-0	2-Propanol	15	U
156-60-5	trans-1,2-Dichloroethene	15	U
108-05-4	Vinyl Acetate	15	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	15	U
110-54-3	Hexane	15	U
109-99-9	Tetrahydrofuran	15	U
110-82-7	Cyclohexane	15	U
123-91-1	1,4-Dioxane	15	U
75-27-4	Bromodichloromethane	15	U
108-10-1	4-Methyl-2-pentanone	15	U
591-78-6	2-Hexanone	15	U
124-48-1	Dibromochloromethane	15	U
75-25-2	Bromoform	15	U
622-96-8	4-Ethyltoluene	15	U
64-17-5	Ethanol	15	U
1634-04-4	Methyl tert-Butyl Ether	15	U
142-82-5	Heptane	15	U

FORM I-ATL

Polygon 96 Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-96-1A, October 1998 Rebound Samples

Sample #	Total Clx (ppbV as TCE)	Total Clx Conc (ug/L)*	Total Clx Conc (ug/Kg)**
VP-96-1A-14	0.0	0.0	0.00
VP-96-1A-30	44.6	0.2	0.15
VP-96-1A-40	333	1.8	1.10
VP-96-1A-50	1214	6.8	4.04
VP-96-1A-14DUP***	0.0	0.0	0.00
VP-96-1A-50D***	1115	6.2	3.72
	1591	8.83	5.29

*Divided by (24.04/131.39)
**Multiply ug/L concentration by 0.599 L/Kg (calculated Kgt based on revised soil physical data).
***Sample not used for modeling- if duplicate samples collected, highest result used for modeling
D/DUP Duplicate soil gas sample

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-96-1A, October 1998 Rebound Samples

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-96-1A-14	0.0	0.00	0.00
VP-96-1A-30	0.0	0.00	0.00
VP-96-1A-40	5.6	0.02	0.01
VP-96-1A-50	15	0.06	0.04
VP-96-1A-14DUP***	0.0	0.00	0.00
VP-96-1A-50D***	15	0.06	0.04
	20.6	0.08	0.05

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-96-1A, October 1998 Rebound Samples

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-96-1A-14	0.0	0.00	0.00
VP-96-1A-30	0.0	0.00	0.00
VP-96-1A-40	0.0	0.00	0.00
VP-96-1A-50	0.0	0.00	0.00
VP-96-1A-14DUP***	0.0	0.00	0.00
VP-96-1A-50D***	0.0	0.00	0.00
	0.0	0.00	0.00

Polygon 96 Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-96-1A, October 1998 Rebound Samples

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-96-1A-14	0.0	0.00	0.00
VP-96-1A-30	42	0.23	0.14
VP-96-1A-40	310	1.69	1.01
VP-96-1A-50	1100	6.01	3.60
VP-96-1A-14DUP***	0.0	0.00	0.00
VP-96-1A-50D***	1000	5.46	3.27
	1452	7.93	4.75

PCE Soil Concentration Calculations from Soil Gas Data
VP-96-1A, October 1998 Rebound Samples

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-96-1A-14	0.0	0.00	0.00
VP-96-1A-30	2.6	0.02	0.01
VP-96-1A-40	17	0.12	0.07
VP-96-1A-50	99	0.68	0.41
VP-96-1A-14DUP***	0.0	0.00	0.00
VP-96-1A-50D***	100	0.69	0.41
	118.6	0.82	0.49

Polygon 96 Soil Gas Data

Interpolated Total Soil Concentrations
VP-96-1A, October 1998 Rebound Samples

Depth (feet)	*Conc. (ug/kg)*
3	0.000
9	0.000
15	0.000
21	0.065
27	0.120
33	0.433
39	1.003
45	2.57
51	4.04
57	4.04
60	4.04

```
PGA VLEACH model, Polygon 96 VP-96-1A  OCT-98 LAB Data
    1
       1.0      50.       1.0       10.
     123.6       .473      1100.      .7029
Polygon VP-96-1A
    83000         1.    .197       1.64      .381       .255       .00074
        0.         0.        -1.
   60
    1     6       0.000
    7    12       0.000
   13    18       0.000
   19    24       0.065
   25    30       0.120
   31    36       0.433
   37    42       1.003
   43    48       2.570
   49    54       4.040
   55    60       4.040
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V-Leach, VER 1.1
Jake Turin, 11/91
PGA VLEACH model, Polygon 96 VP-96-1A OCT-98 LAB Data
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 1.00 years. Vertical profile stored every 10.00 years.
Koc = 123.60 ml/g, .43649E-02cu.ft./g
Kh = .47300 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .70290 sq. m/day, 2761.7 sq.ft./yr

Polygon 1
Polygon VP-96-1A
Polygon area = 83000. sq. ft.
60 cells, each cell 1.000 ft. thick.
Soil Properties:
Bulk density = 1.6400 g/ml, 46440. g/cu.ft.
Porosity = .3810 Volumetric water content = .2550
Organic carbon content = .00074000
Recharge Rate = .19700000 ft/yr
Conc. in recharge water = .00000 mg/l, .00000 g/cu.ft
Atmospheric concentration = .00000 mg/l, .00000 g/cu.ft
Water table is impermeable to gas diffusion.

MIXCELL OUTPUT FILE

PGA VLEACH model Polygon 96 VP-96-1A OCT-98 LAB Data

Year	Mass (grams)	GW Conc (ug/L)
1	6.603	0.0863
2	6.576	0.1319
3	6.544	0.1558
4	6.504	0.1680
5	6.458	0.1739
6	6.403	0.1763
7	6.341	0.1767
8	6.270	0.1761
9	6.190	0.1747
10	6.101	0.1728
11	6.004	0.1705
12	5.899	0.1679
13	5.786	0.1650
14	5.667	0.1619
15	5.541	0.1587
16	5.411	0.1552
17	5.278	0.1516
18	5.142	0.1480
19	5.005	0.1442
20	4.867	0.1404
21	4.729	0.1366
22	4.592	0.1327
23	4.456	0.1289
24	4.323	0.1251
25	4.191	0.1214
26	4.063	0.1178
27	3.937	0.1142
28	3.815	0.1107
29	3.696	0.1072
30	3.580	0.1039
31	3.467	0.1006
32	3.358	0.0975
33	3.252	0.0944
34	3.150	0.0914
35	3.051	0.0886
36	2.955	0.0858
37	2.863	0.0831
38	2.773	0.0805
39	2.687	0.0780
40	2.603	0.0755
41	2.523	0.0732
42	2.445	0.0709
43	2.370	0.0687
44	2.297	0.0666
45	2.227	0.0646
46	2.160	0.0626
47	2.095	0.0607
48	2.032	0.0589
49	1.971	0.0571
50	1.912	0.0554

Polygon VP-96-1A
Time: .000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.00000	.00000	.00000
2	.00000	.00000	.00000
3	.00000	.00000	.00000
4	.00000	.00000	.00000
5	.00000	.00000	.00000
6	.00000	.00000	.00000
7	.00000	.00000	.00000
8	.00000	.00000	.00000
9	.00000	.00000	.00000
10	.00000	.00000	.00000
11	.00000	.00000	.00000
12	.00000	.00000	.00000
13	.00000	.00000	.00000
14	.00000	.00000	.00000
15	.00000	.00000	.00000
16	.00000	.00000	.00000
17	.00000	.00000	.00000
18	.00000	.00000	.00000
19	.28367E-05	.59972E-05	.19371E-10
20	.28367E-05	.59972E-05	.19371E-10
21	.28367E-05	.59972E-05	.19371E-10
22	.28367E-05	.59972E-05	.19371E-10
23	.28367E-05	.59972E-05	.19371E-10
24	.28367E-05	.59972E-05	.19371E-10
25	.56734E-05	.11994E-04	.38742E-10
26	.56734E-05	.11994E-04	.38742E-10
27	.56734E-05	.11994E-04	.38742E-10
28	.56734E-05	.11994E-04	.38742E-10
29	.56734E-05	.11994E-04	.38742E-10
30	.56734E-05	.11994E-04	.38742E-10
31	.20330E-04	.42980E-04	.13883E-09
32	.20330E-04	.42980E-04	.13883E-09
33	.20330E-04	.42980E-04	.13883E-09
34	.20330E-04	.42980E-04	.13883E-09
35	.20330E-04	.42980E-04	.13883E-09
36	.20330E-04	.42980E-04	.13883E-09
37	.47278E-04	.99954E-04	.32285E-09
38	.47278E-04	.99954E-04	.32285E-09
39	.47278E-04	.99954E-04	.32285E-09
40	.47278E-04	.99954E-04	.32285E-09
41	.47278E-04	.99954E-04	.32285E-09
42	.47278E-04	.99954E-04	.32285E-09
43	.12150E-03	.25688E-03	.82973E-09
44	.12150E-03	.25688E-03	.82973E-09
45	.12150E-03	.25688E-03	.82973E-09
46	.12150E-03	.25688E-03	.82973E-09
47	.12150E-03	.25688E-03	.82973E-09
48	.12150E-03	.25688E-03	.82973E-09
49	.19100E-03	.40381E-03	.13043E-08
50	.19100E-03	.40381E-03	.13043E-08

51	.19100E-03	.40381E-03	.13043E-08
52	.19100E-03	.40381E-03	.13043E-08
53	.19100E-03	.40381E-03	.13043E-08
54	.19100E-03	.40381E-03	.13043E-08
55	.19100E-03	.40381E-03	.13043E-08
56	.19100E-03	.40381E-03	.13043E-08
57	.19100E-03	.40381E-03	.13043E-08
58	.19100E-03	.40381E-03	.13043E-08
59	.19100E-03	.40381E-03	.13043E-08
60	.19100E-03	.40381E-03	.13043E-08

Polygon VP-96-1A
Time: 10.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.11929E-07	.25220E-07	.81462E-13
2	.29499E-07	.62365E-07	.20144E-12
3	.51676E-07	.10925E-06	.35289E-12
4	.77988E-07	.16488E-06	.53256E-12
5	.10843E-06	.22925E-06	.74046E-12
6	.14341E-06	.30320E-06	.97933E-12
7	.18368E-06	.38832E-06	.12543E-11
8	.23028E-06	.48685E-06	.15725E-11
9	.28457E-06	.60163E-06	.19433E-11
10	.34817E-06	.73609E-06	.23776E-11
11	.42302E-06	.89433E-06	.28887E-11
12	.51140E-06	.10812E-05	.34922E-11
13	.61600E-06	.13023E-05	.42065E-11
14	.73996E-06	.15644E-05	.50530E-11
15	.88699E-06	.18752E-05	.60570E-11
16	.10614E-05	.22440E-05	.72480E-11
17	.12683E-05	.26814E-05	.86608E-11
18	.15136E-05	.32000E-05	.10336E-10
19	.18138E-05	.38347E-05	.12386E-10
20	.21940E-05	.46386E-05	.14983E-10
21	.26706E-05	.56461E-05	.18237E-10
22	.32402E-05	.68503E-05	.22126E-10
23	.38865E-05	.82166E-05	.26540E-10
24	.45942E-05	.97129E-05	.31373E-10
25	.53686E-05	.11350E-04	.36661E-10
26	.62355E-05	.13183E-04	.42581E-10
27	.72212E-05	.15267E-04	.49312E-10
28	.83378E-05	.17627E-04	.56937E-10
29	.95866E-05	.20268E-04	.65465E-10
30	.10972E-04	.23196E-04	.74922E-10
31	.12557E-04	.26549E-04	.85752E-10
32	.14462E-04	.30575E-04	.98759E-10
33	.16763E-04	.35440E-04	.11447E-09
34	.19439E-04	.41096E-04	.13274E-09
35	.22396E-04	.47350E-04	.15294E-09
36	.25547E-04	.54010E-04	.17445E-09
37	.28942E-04	.61187E-04	.19764E-09
38	.32767E-04	.69275E-04	.22376E-09
39	.37160E-04	.78562E-04	.25375E-09
40	.42086E-04	.88977E-04	.28740E-09

41	.47385E-04	.10018E-03	.32358E-09
42	.52895E-04	.11183E-03	.36120E-09
43	.58790E-04	.12429E-03	.40146E-09
44	.65550E-04	.13858E-03	.44763E-09
45	.73469E-04	.15532E-03	.50170E-09
46	.82334E-04	.17407E-03	.56224E-09
47	.91567E-04	.19359E-03	.62529E-09
48	.10057E-03	.21261E-03	.68675E-09
49	.10920E-03	.23086E-03	.74568E-09
50	.11778E-03	.24902E-03	.80432E-09
51	.12661E-03	.26768E-03	.86460E-09
52	.13555E-03	.28657E-03	.92562E-09
53	.14413E-03	.30470E-03	.98420E-09
54	.15184E-03	.32101E-03	.10369E-08
55	.15837E-03	.33481E-03	.10814E-08
56	.16362E-03	.34593E-03	.11173E-08
57	.16769E-03	.35453E-03	.11451E-08
58	.17074E-03	.36096E-03	.11659E-08
59	.17291E-03	.36557E-03	.11808E-08
60	.17436E-03	.36863E-03	.11907E-08

Polygon VP-96-1A
Time: 20.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.15850E-07	.33509E-07	.10823E-12
2	.40042E-07	.84655E-07	.27344E-12
3	.71511E-07	.15119E-06	.48833E-12
4	.10973E-06	.23199E-06	.74934E-12
5	.15461E-06	.32687E-06	.10558E-11
6	.20639E-06	.43634E-06	.14094E-11
7	.26563E-06	.56158E-06	.18139E-11
8	.33317E-06	.70437E-06	.22751E-11
9	.41011E-06	.86705E-06	.28006E-11
10	.49785E-06	.10525E-05	.33997E-11
11	.59806E-06	.12644E-05	.40840E-11
12	.71269E-06	.15067E-05	.48668E-11
13	.84403E-06	.17844E-05	.57637E-11
14	.99470E-06	.21030E-05	.67926E-11
15	.11677E-05	.24687E-05	.79740E-11
16	.13664E-05	.28889E-05	.93311E-11
17	.15948E-05	.33716E-05	.10890E-10
18	.18570E-05	.39260E-05	.12681E-10
19	.21580E-05	.45624E-05	.14737E-10
20	.25035E-05	.52928E-05	.17096E-10
21	.29000E-05	.61311E-05	.19803E-10
22	.33550E-05	.70931E-05	.22911E-10
23	.38768E-05	.81963E-05	.26474E-10
24	.44737E-05	.94580E-05	.30550E-10
25	.51534E-05	.10895E-04	.35191E-10
26	.59235E-05	.12523E-04	.40450E-10
27	.67914E-05	.14358E-04	.46377E-10
28	.77655E-05	.16418E-04	.53029E-10
29	.88553E-05	.18722E-04	.60471E-10
30	.10072E-04	.21293E-04	.68778E-10

31	.11427E-04	.24159E-04	.78032E-10
32	.12935E-04	.27347E-04	.88330E-10
33	.14612E-04	.30893E-04	.99783E-10
34	.16478E-04	.34837E-04	.11252E-09
35	.18554E-04	.39226E-04	.12670E-09
36	.20859E-04	.44100E-04	.14244E-09
37	.23411E-04	.49494E-04	.15987E-09
38	.26219E-04	.55432E-04	.17904E-09
39	.29295E-04	.61935E-04	.20005E-09
40	.32650E-04	.69028E-04	.22296E-09
41	.36297E-04	.76738E-04	.24786E-09
42	.40247E-04	.85088E-04	.27483E-09
43	.44504E-04	.94090E-04	.30391E-09
44	.49071E-04	.10374E-03	.33509E-09
45	.53947E-04	.11405E-03	.36839E-09
46	.59138E-04	.12503E-03	.40384E-09
47	.64648E-04	.13668E-03	.44147E-09
48	.70473E-04	.14899E-03	.48124E-09
49	.76579E-04	.16190E-03	.52294E-09
50	.82906E-04	.17528E-03	.56614E-09
51	.89371E-04	.18895E-03	.61029E-09
52	.95887E-04	.20272E-03	.65479E-09
53	.10237E-03	.21642E-03	.69905E-09
54	.10873E-03	.22987E-03	.74247E-09
55	.11487E-03	.24285E-03	.78440E-09
56	.12068E-03	.25514E-03	.82409E-09
57	.12604E-03	.26647E-03	.86069E-09
58	.13082E-03	.27657E-03	.89332E-09
59	.13490E-03	.28519E-03	.92117E-09
60	.13817E-03	.29211E-03	.94350E-09

Polygon VP-96-1A
Time: 30.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.16599E-07	.35093E-07	.11335E-12
2	.42239E-07	.89301E-07	.28844E-12
3	.75911E-07	.16049E-06	.51838E-12
4	.11711E-06	.24759E-06	.79972E-12
5	.16572E-06	.35037E-06	.11317E-11
6	.22195E-06	.46923E-06	.15156E-11
7	.28623E-06	.60514E-06	.19546E-11
8	.35927E-06	.75955E-06	.24533E-11
9	.44194E-06	.93433E-06	.30179E-11
10	.53535E-06	.11318E-05	.36558E-11
11	.64082E-06	.13548E-05	.43760E-11
12	.75985E-06	.16065E-05	.51888E-11
13	.89421E-06	.18905E-05	.61064E-11
14	.10459E-05	.22112E-05	.71422E-11
15	.12171E-05	.25732E-05	.83116E-11
16	.14105E-05	.29820E-05	.96320E-11
17	.16288E-05	.34435E-05	.11123E-10
18	.18752E-05	.39644E-05	.12805E-10
19	.21531E-05	.45520E-05	.14703E-10
20	.24664E-05	.52144E-05	.16843E-10

21	.28194E-05	.59606E-05	.19253E-10
22	.32166E-05	.68005E-05	.21966E-10
23	.36632E-05	.77447E-05	.25015E-10
24	.41647E-05	.88049E-05	.28440E-10
25	.47271E-05	.99938E-05	.32280E-10
26	.53567E-05	.11325E-04	.36579E-10
27	.60603E-05	.12812E-04	.41384E-10
28	.68451E-05	.14472E-04	.46743E-10
29	.77183E-05	.16318E-04	.52707E-10
30	.86877E-05	.18367E-04	.59326E-10
31	.97612E-05	.20637E-04	.66657E-10
32	.10947E-04	.23144E-04	.74754E-10
33	.12253E-04	.25906E-04	.83676E-10
34	.13690E-04	.28942E-04	.93484E-10
35	.15265E-04	.32273E-04	.10424E-09
36	.16989E-04	.35918E-04	.11601E-09
37	.18872E-04	.39898E-04	.12887E-09
38	.20922E-04	.44233E-04	.14287E-09
39	.23150E-04	.48943E-04	.15809E-09
40	.25564E-04	.54046E-04	.17457E-09
41	.28170E-04	.59557E-04	.19237E-09
42	.30975E-04	.65486E-04	.21152E-09
43	.33982E-04	.71843E-04	.23205E-09
44	.37192E-04	.78631E-04	.25398E-09
45	.40605E-04	.85847E-04	.27729E-09
46	.44217E-04	.93483E-04	.30195E-09
47	.48021E-04	.10152E-03	.32792E-09
48	.52005E-04	.10995E-03	.35513E-09
49	.56155E-04	.11872E-03	.38347E-09
50	.60452E-04	.12781E-03	.41281E-09
51	.64868E-04	.13714E-03	.44297E-09
52	.69371E-04	.14666E-03	.47372E-09
53	.73917E-04	.15627E-03	.50476E-09
54	.78454E-04	.16587E-03	.53575E-09
55	.82923E-04	.17531E-03	.56626E-09
56	.87251E-04	.18446E-03	.59582E-09
57	.91363E-04	.19316E-03	.62389E-09
58	.95170E-04	.20121E-03	.64989E-09
59	.98580E-04	.20841E-03	.67318E-09
60	.10149E-03	.21457E-03	.69305E-09

Polygon VP-96-1A
Time: 40.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.15721E-07	.33236E-07	.10735E-12
2	.40148E-07	.84881E-07	.27416E-12
3	.72377E-07	.15302E-06	.49424E-12
4	.11195E-06	.23668E-06	.76448E-12
5	.15876E-06	.33564E-06	.10841E-11
6	.21295E-06	.45020E-06	.14542E-11
7	.27489E-06	.58117E-06	.18772E-11
8	.34515E-06	.72971E-06	.23570E-11
9	.42445E-06	.89735E-06	.28984E-11
10	.51365E-06	.10860E-05	.35076E-11

11	.61381E-06	.12977E-05	.41916E-11
12	.72610E-06	.15351E-05	.49584E-11
13	.85188E-06	.18010E-05	.58173E-11
14	.99265E-06	.20986E-05	.67786E-11
15	.11501E-05	.24315E-05	.78539E-11
16	.13262E-05	.28037E-05	.90561E-11
17	.15229E-05	.32196E-05	.10399E-10
18	.17425E-05	.36840E-05	.11899E-10
19	.19877E-05	.42023E-05	.13573E-10
20	.22610E-05	.47802E-05	.15440E-10
21	.25656E-05	.54242E-05	.17520E-10
22	.29047E-05	.61411E-05	.19836E-10
23	.32819E-05	.69384E-05	.22411E-10
24	.37008E-05	.78241E-05	.25272E-10
25	.41656E-05	.88068E-05	.28446E-10
26	.46806E-05	.98956E-05	.31963E-10
27	.52505E-05	.11100E-04	.35855E-10
28	.58801E-05	.12432E-04	.40154E-10
29	.65746E-05	.13900E-04	.44896E-10
30	.73392E-05	.15516E-04	.50118E-10
31	.81796E-05	.17293E-04	.55856E-10
32	.91013E-05	.19242E-04	.62151E-10
33	.10110E-04	.21375E-04	.69040E-10
34	.11212E-04	.23704E-04	.76564E-10
35	.12413E-04	.26243E-04	.84763E-10
36	.13718E-04	.29002E-04	.93676E-10
37	.15133E-04	.31994E-04	.10334E-09
38	.16664E-04	.35231E-04	.11380E-09
39	.18316E-04	.38722E-04	.12507E-09
40	.20092E-04	.42478E-04	.13721E-09
41	.21998E-04	.46507E-04	.15022E-09
42	.24036E-04	.50816E-04	.16413E-09
43	.26208E-04	.55407E-04	.17897E-09
44	.28514E-04	.60284E-04	.19472E-09
45	.30954E-04	.65443E-04	.21138E-09
46	.33525E-04	.70878E-04	.22894E-09
47	.36222E-04	.76579E-04	.24735E-09
48	.39036E-04	.82528E-04	.26656E-09
49	.41956E-04	.88702E-04	.28651E-09
50	.44970E-04	.95073E-04	.30709E-09
51	.48058E-04	.10160E-03	.32818E-09
52	.51199E-04	.10824E-03	.34962E-09
53	.54366E-04	.11494E-03	.37125E-09
54	.57528E-04	.12162E-03	.39284E-09
55	.60647E-04	.12822E-03	.41414E-09
56	.63679E-04	.13463E-03	.43485E-09
57	.66575E-04	.14075E-03	.45463E-09
58	.69277E-04	.14646E-03	.47308E-09
59	.71722E-04	.15163E-03	.48977E-09
60	.73836E-04	.15610E-03	.50421E-09

Polygon VP-96-1A
Time: 50.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol

1	.14095E-07	.29799E-07	.96251E-13
2	.36073E-07	.76265E-07	.24634E-12
3	.65148E-07	.13773E-06	.44488E-12
4	.10092E-06	.21337E-06	.68918E-12
5	.14329E-06	.30294E-06	.97850E-12
6	.19238E-06	.40672E-06	.13137E-11
7	.24848E-06	.52532E-06	.16968E-11
8	.31205E-06	.65972E-06	.21309E-11
9	.38367E-06	.81113E-06	.26200E-11
10	.46404E-06	.98105E-06	.31688E-11
11	.55398E-06	.11712E-05	.37830E-11
12	.65443E-06	.13836E-05	.44689E-11
13	.76642E-06	.16203E-05	.52337E-11
14	.89112E-06	.18840E-05	.60853E-11
15	.10298E-05	.21772E-05	.70324E-11
16	.11839E-05	.25030E-05	.80849E-11
17	.13550E-05	.28647E-05	.92531E-11
18	.15448E-05	.32659E-05	.10549E-10
19	.17550E-05	.37104E-05	.11985E-10
20	.19878E-05	.42025E-05	.13574E-10
21	.22452E-05	.47467E-05	.15332E-10
22	.25296E-05	.53480E-05	.17274E-10
23	.28435E-05	.60117E-05	.19418E-10
24	.31896E-05	.67433E-05	.21781E-10
25	.35707E-05	.75490E-05	.24383E-10
26	.39898E-05	.84351E-05	.27245E-10
27	.44501E-05	.94083E-05	.30389E-10
28	.49550E-05	.10476E-04	.33836E-10
29	.55079E-05	.11645E-04	.37612E-10
30	.61125E-05	.12923E-04	.41741E-10
31	.67724E-05	.14318E-04	.46247E-10
32	.74916E-05	.15838E-04	.51158E-10
33	.82738E-05	.17492E-04	.56500E-10
34	.91230E-05	.19287E-04	.62299E-10
35	.10043E-04	.21232E-04	.68580E-10
36	.11037E-04	.23335E-04	.75371E-10
37	.12110E-04	.25602E-04	.82695E-10
38	.13264E-04	.28042E-04	.90575E-10
39	.14502E-04	.30660E-04	.99031E-10
40	.15828E-04	.33462E-04	.10808E-09
41	.17242E-04	.36453E-04	.11774E-09
42	.18747E-04	.39635E-04	.12802E-09
43	.20344E-04	.43011E-04	.13893E-09
44	.22032E-04	.46579E-04	.15045E-09
45	.23809E-04	.50337E-04	.16259E-09
46	.25674E-04	.54279E-04	.17532E-09
47	.27622E-04	.58397E-04	.18862E-09
48	.29646E-04	.62677E-04	.20245E-09
49	.31740E-04	.67105E-04	.21675E-09
50	.33894E-04	.71657E-04	.23145E-09
51	.36093E-04	.76307E-04	.24647E-09
52	.38324E-04	.81024E-04	.26171E-09
53	.40568E-04	.85767E-04	.27703E-09
54	.42802E-04	.90491E-04	.29228E-09

55	.45001E-04	.95140E-04	.30730E-09
56	.47136E-04	.99653E-04	.32188E-09
57	.49172E-04	.10396E-03	.33578E-09
58	.51070E-04	.10797E-03	.34874E-09
59	.52787E-04	.11160E-03	.36047E-09
60	.54272E-04	.11474E-03	.37061E-09

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-39A
Lab File ID: j101226
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 1.75

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	2.3	
76-14-2	Freon 114	0.88	U
74-87-3	Chloromethane	0.88	U
75-01-4	Vinyl Chloride	0.88	U
74-83-9	Bromomethane	0.88	U
75-00-3	Chloroethane	0.88	U
75-69-4	Freon 11	3.5	
75-35-4	1,1-Dichloroethene	0.88	U
76-13-1	Freon 113	21	
75-09-2	Methylene Chloride	0.88	U
75-34-3	1,1-Dichloroethane	0.88	U
156-59-2	cis-1,2-Dichloroethene	0.88	U
67-66-3	Chloroform	1.9	
71-55-6	1,1,1-Trichloroethane	0.88	U
56-23-5	Carbon Tetrachloride	0.88	U
71-43-2	Benzene	0.88	U
107-06-2	1,2-Dichloroethane	0.88	U
79-01-6	Trichloroethene	19	
78-87-5	1,2-Dichloropropane	0.88	U
10061-01-5	cis-1,3-Dichloropropene	0.88	U
108-88-3	Toluene	0.88	U
10061-02-6	trans-1,3-Dichloropropene	0.88	U
79-00-5	1,1,2-Trichloroethane	0.88	U
127-18-4	Tetrachloroethene	4.7	
106-93-4	Ethylene Dibromide	0.88	U
108-90-7	Chlorobenzene	0.88	U
100-41-4	Ethyl Benzene	0.88	U
108-38-3	m,p-Xylene	0.88	U
95-47-6	o-Xylene	0.88	U
100-42-5	Styrene	0.88	U
79-34-5	1,1,2,2-Tetrachloroethane	0.88	U
108-67-8	1,3,5-Trimethylbenzene	0.88	U
95-63-6	1,2,4-Trimethylbenzene	0.88	U
541-73-1	1,3-Dichlorobenzene	0.88	U
106-46-7	1,4-Dichlorobenzene	0.88	U
100-44-7	Chlorotoluene	0.88	U
95-50-1	1,2-Dichlorobenzene	0.88	U
120-82-1	1,2,4-Trichlorobenzene	0.88	U
87-68-3	Hexachlorobutadiene	0.88	U
115-07-1	Propylene	3.5	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-39A
Lab File ID: j101226
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 1.75

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.5	U
67-64-1	Acetone	5.2	
75-15-0	Carbon Disulfide	3.5	U
67-63-0	2-Propanol	3.5	U
156-60-5	trans-1,2-Dichloroethene	3.5	U
108-05-4	Vinyl Acetate	3.5	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	3.5	U
110-54-3	Hexane	3.5	U
109-99-9	Tetrahydrofuran	3.5	U
110-82-7	Cyclohexane	3.5	U
123-91-1	1,4-Dioxane	3.5	U
75-27-4	Bromodichloromethane	3.5	U
108-10-1	4-Methyl-2-pentanone	3.5	U
591-78-6	2-Hexanone	3.5	U
124-48-1	Dibromochloromethane	3.5	U
75-25-2	Bromoform	3.5	U
622-96-8	4-Ethyltoluene	3.5	U
64-17-5	Ethanol	7.1	
1634-04-4	Methyl tert-Butyl Ether	3.5	U
142-82-5	Heptane	3.5	U

FORM I-ATL

LEVEL-IV VALIDATABLE

00002

SAMPLE NO.

VP-96-1B-30

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-22A
Lab File ID: 5101224
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 1.96

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.1	J
76-14-2	Freon 114	0.98	U
74-87-3	Chloromethane	1.4	J
75-01-4	Vinyl Chloride	1.6	J
74-83-9	Bromomethane	0.98	U
75-00-3	Chloroethane	0.98	U
75-69-4	Freon 11	1.0	J
75-35-4	1,1-Dichloroethene	0.98	U
76-13-1	Freon 113	54	
75-09-2	Methylene Chloride	0.98	U
75-34-3	1,1-Dichloroethane	0.98	U
156-59-2	cis-1,2-Dichloroethene	0.98	U
67-66-3	Chloroform	2.7	J
71-55-6	1,1,1-Trichloroethane	0.98	U
56-23-5	Carbon Tetrachloride	0.98	U
71-43-2	Benzene	0.98	U
107-06-2	1,2-Dichloroethane	0.98	U
79-01-6	Trichloroethene	350	
78-87-5	1,2-Dichloropropane	0.98	U
10061-01-5	cis-1,3-Dichloropropene	0.98	U
108-88-3	Toluene	0.98	U
10061-02-6	trans-1,3-Dichloropropene	0.98	U
79-00-5	1,1,2-Trichloroethane	0.98	U
127-18-4	Tetrachloroethene	91	
106-93-4	Ethylene Dibromide	0.98	U
108-90-7	Chlorobenzene	0.98	U
100-41-4	Ethyl Benzene	0.98	U
108-38-3	m,p-Xylene	0.98	U
95-47-6	o-Xylene	0.98	U
100-42-5	Styrene	0.98	U
79-34-5	1,1,2,2-Tetrachloroethane	0.98	U
108-67-8	1,3,5-Trimethylbenzene	0.98	U
95-63-6	1,2,4-Trimethylbenzene	0.98	U
541-73-1	1,3-Dichlorobenzene	0.98	U
106-46-7	1,4-Dichlorobenzene	0.98	U
100-44-7	Chlorotoluene	0.98	U
95-50-1	1,2-Dichlorobenzene	0.98	U
120-82-1	1,2,4-Trichlorobenzene	0.98	U
87-68-3	Hexachlorobutadiene	0.98	U
115-07-1	Propylene	3.9	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-30

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-22A
Lab File ID: 5101224
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 1.96

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.9	U
67-64-1	Acetone	5.9	J
75-15-0	Carbon Disulfide	23	
67-63-0	2-Propanol	5.4	J
156-60-5	trans-1,2-Dichloroethene	3.9	U
108-05-4	Vinyl Acetate	3.9	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	3.9	U
110-54-3	Hexane	3.9	U
109-99-9	Tetrahydrofuran	3.9	U
110-82-7	Cyclohexane	3.9	U
123-91-1	1,4-Dioxane	3.9	U
75-27-4	Bromodichloromethane	3.9	U
108-10-1	4-Methyl-2-pentanone	3.9	U
591-78-6	2-Hexanone	3.9	U
124-48-1	Dibromochloromethane	3.9	U
75-25-2	Bromoform	3.9	U
622-96-8	4-Ethyltoluene	3.9	U
64-17-5	Ethanol	11	
1634-04-4	Methyl tert-Butyl Ether	3.9	U
142-82-5	Heptane	3.9	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-40

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 60 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-40A
Lab File ID: j101227
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 3.18

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.6	U
76-14-2	Freon 114	1.6	U
74-87-3	Chloromethane	1.6	U
75-01-4	Vinyl Chloride	1.6	U
74-83-9	Bromomethane	1.6	U
75-00-3	Chloroethane	1.6	U
75-69-4	Freon 11	1.6	U
75-35-4	1,1-Dichloroethene	1.6	U
76-13-1	Freon 113	84	
75-09-2	Methylene Chloride	1.6	U
75-34-3	1,1-Dichloroethane	1.6	U
156-59-2	cis-1,2-Dichloroethene	1.6	U
67-66-3	Chloroform	3.9	
71-55-6	1,1,1-Trichloroethane	1.6	U
56-23-5	Carbon Tetrachloride	1.6	U
71-43-2	Benzene	1.6	U
107-06-2	1,2-Dichloroethane	1.6	U
79-01-6	Trichloroethene	710	
78-87-5	1,2-Dichloropropane	1.6	U
10061-01-5	cis-1,3-Dichloropropene	1.6	U
108-88-3	Toluene	1.6	U
10061-02-6	trans-1,3-Dichloropropene	1.6	U
79-00-5	1,1,2-Trichloroethane	1.6	U
127-18-4	Tetrachloroethene	170	
106-93-4	Ethylene Dibromide	1.6	U
108-90-7	Chlorobenzene	1.6	U
100-41-4	Ethyl Benzene	1.6	U
108-38-3	m,p-Xylene	1.6	U
95-47-6	o-Xylene	1.6	U
100-42-5	Styrene	1.6	U
79-34-5	1,1,2,2-Tetrachloroethane	1.6	U
108-67-8	1,3,5-Trimethylbenzene	1.6	U
95-63-6	1,2,4-Trimethylbenzene	1.6	U
541-73-1	1,3-Dichlorobenzene	1.6	U
106-46-7	1,4-Dichlorobenzene	1.6	U
100-44-7	Chlorotoluene	1.6	U
95-50-1	1,2-Dichlorobenzene	1.6	U
120-82-1	1,2,4-Trichlorobenzene	1.6	U
87-68-3	Hexachlorobutadiene	1.6	U
115-07-1	Propylene	6.4	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-40

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 60 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-40A
Lab File ID: j101227
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 3.18

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	6.4	U
67-64-1	Acetone	6.6	J
75-15-0	Carbon Disulfide	8.4	
67-63-0	2-Propanol	6.4	U
156-60-5	trans-1,2-Dichloroethene	6.4	U
108-05-4	Vinyl Acetate	6.4	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	6.4	U
110-54-3	Hexane	6.4	U
109-99-9	Tetrahydrofuran	6.4	U
110-82-7	Cyclohexane	6.4	U
123-91-1	1,4-Dioxane	6.4	U
75-27-4	Bromodichloromethane	6.4	U
108-10-1	4-Methyl-2-pentanone	6.4	U
591-78-6	2-Hexanone	6.4	U
124-48-1	Dibromochloromethane	6.4	U
75-25-2	Bromoform	6.4	U
622-96-8	4-Ethyltoluene	6.4	U
64-17-5	Ethanol	6.4	U
1634-04-4	Methyl tert-Butyl Ether	6.4	U
142-82-5	Heptane	6.4	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-50

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 175 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-21A
Lab File ID: 5101223
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 5.00

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	2.5	U
76-14-2	Freon 114	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl Chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Freon 11	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	Freon 113	58	
75-09-2	Methylene Chloride	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
67-66-3	Chloroform	2.6	J
71-55-6	1,1,1-Trichloroethane	2.5	U
56-23-5	Carbon Tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	890	
78-87-5	1,2-Dichloropropane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	130	
106-93-4	Ethylene Dibromide	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethyl Benzene	2.5	U
108-38-3	m,p-Xylene	2.5	U
95-47-6	o-Xylene	2.5	U
100-42-5	Styrene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
108-67-8	1,3,5-Trimethylbenzene	2.5	U
95-63-6	1,2,4-Trimethylbenzene	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
100-44-7	Chlorotoluene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-68-3	Hexachlorobutadiene	2.5	U
115-07-1	Propylene	10	U

FORM I-ATL

LEVEL-IV VALIDATABLE

000013

SAMPLE NO.

VP-96-1B-50

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 175 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-21A
Lab File ID: 5101223
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 5.00

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
67-63-0	2-Propanol	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	10	U
110-54-3	Hexane	10	U
109-99-9	Tetrahydrofuran	10	U
110-82-7	Cyclohexane	10	U
123-91-1	1,4-Dioxane	10	U
75-27-4	Bromodichloromethane	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
622-96-8	4-Ethyltoluene	10	U
64-17-5	Ethanol	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
142-82-5	Heptane	10	U

FORM I-ATL

Polygon 96 Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-96-1B-14	19	0.10	0.06
VP-96-1B-30	350	1.91	1.15
VP-96-1B-40	710	3.88	2.32
VP-96-1B-50	890	4.86	2.91
	1969	10.75	6.44

PCE Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-96-1B-14	4.7	0.03	0.02
VP-96-1B-30	91	0.63	0.38
VP-96-1B-40	170	1.17	0.70
VP-96-1B-50	130	0.90	0.54
	396	2.73	1.63

Polygon 96 Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	Total Clx (ppbV as TCE)	Total Clx Conc (ug/L)*	Total Clx Conc (ug/Kg)**
VP-96-1B-14	23.7	0.14	0.08
VP-96-1B-30	441	2.54	1.52
VP-96-1B-40	880	5.05	3.02
VP-96-1B-50	1020	5.76	3.45
	2365	13.48	8.08

*Divided by (24.04/131.39)
**Multiply ug/L concentration by 0.599 L/Kg (calculated Kgt based on revised soil physical data).

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-96-1B-14	0.0	0.00	0.00
VP-96-1B-30	0.0	0.00	0.00
VP-96-1B-40	0.0	0.00	0.00
VP-96-1B-50	0.0	0.00	0.00
	0.00	0.00	0.00

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-96-1B-14	0.0	0.00	0.00
VP-96-1B-30	0.0	0.00	0.00
VP-96-1B-40	0.0	0.00	0.00
VP-96-1B-50	0.0	0.00	0.00
	0.0	0.00	0.00

Polygon 96 Final Closure Soil Gas Data

Interpolated Total Soil Concentrations
VP-96-1B, October 1998 Rebound Evaluation

Depth (feet)	*Conc. (ug/kg)*
3	0.017
9	0.052
15	0.087
21	0.711
27	1.251
33	1.972
39	2.875
45	3.24
51	3.45
57	3.45
60	3.45

```
PGA VLEACH model, Polygon 96 VP-96-1B  OCT-98 LAB Data
    1
       1.0      50.       1.0       10.
     123.6       .473     1100.      .7029
Polygon VP-96-1B
    83000         1.   .197      1.64      .381      .255      .00074
        0.         0.       -1.
   60
    1    6       0.017
    7   12       0.052
   13   18       0.087
   19   24       0.711
   25   30       1.251
   31   36       1.972
   37   42       2.875
   43   48       3.240
   49   54       3.450
   55   60       3.450
```

V-Leach, VER 1.1
Jake Turin, 11/91
PGA VLEACH model, Polygon 96 VP-96-1B OCT-98 LAB Data
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 1.00 years. Vertical profile stored every 10.00 years.
Koc = 123.60 ml/g, .43649E-02cu.ft./g
Kh = .47300 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .70290 sq. m/day, 2761.7 sq.ft./yr

Polygon 1
Polygon VP-96-1B
Polygon area = 83000. sq. ft.
60 cells, each cell 1.000 ft. thick.
Soil Properties:
Bulk density = 1.6400 g/ml, 46440. g/cu.ft.
Porosity = .3810 Volumetric water content = .2550
Organic carbon content = .00074000
Recharge Rate = .19700000 ft/yr
Conc. in recharge water = .00000 mg/l, .00000 g/cu.ft
Atmospheric concentration = .00000 mg/l, .00000 g/cu.ft
Water table is impermeable to gas diffusion.

MIXCELL OUTPUT FILE

PGA VLEACH model Polygon 96 VP-96-1B OCT-98 LAB Data

Year	Mass (grams)	GW Conc (ug/L)
1	5.639	0.0737
2	5.633	0.1129
3	5.627	0.1337
4	5.618	0.1446
5	5.608	0.1503
6	5.597	0.1532
7	5.583	0.1545
8	5.566	0.1550
9	5.548	0.1551
10	5.526	0.1548
11	5.503	0.1544
12	5.476	0.1538
13	5.447	0.1531
14	5.416	0.1523
15	5.381	0.1514
16	5.345	0.1505
17	5.305	0.1495
18	5.264	0.1484
19	5.220	0.1473
20	5.175	0.1460
21	5.127	0.1448
22	5.077	0.1435
23	5.026	0.1421
24	4.973	0.1407
25	4.918	0.1392
26	4.862	0.1377
27	4.804	0.1361
28	4.746	0.1345
29	4.686	0.1329
30	4.625	0.1312
31	4.563	0.1295
32	4.500	0.1278
33	4.436	0.1260
34	4.372	0.1242
35	4.307	0.1225
36	4.242	0.1206
37	4.176	0.1188
38	4.110	0.1170
39	4.044	0.1152
40	3.978	0.1133
41	3.912	0.1115
42	3.846	0.1096
43	3.780	0.1078
44	3.715	0.1060
45	3.650	0.1041
46	3.585	0.1023
47	3.520	0.1005
48	3.456	0.0987
49	3.392	0.0969
50	3.329	0.0951

Polygon VP-96-1B
Time: .000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.47278E-06	.99954E-06	.32285E-11
2	.47278E-06	.99954E-06	.32285E-11
3	.47278E-06	.99954E-06	.32285E-11
4	.47278E-06	.99954E-06	.32285E-11
5	.47278E-06	.99954E-06	.32285E-11
6	.47278E-06	.99954E-06	.32285E-11
7	.23639E-05	.49977E-05	.16143E-10
8	.23639E-05	.49977E-05	.16143E-10
9	.23639E-05	.49977E-05	.16143E-10
10	.23639E-05	.49977E-05	.16143E-10
11	.23639E-05	.49977E-05	.16143E-10
12	.23639E-05	.49977E-05	.16143E-10
13	.37822E-05	.79963E-05	.25828E-10
14	.37822E-05	.79963E-05	.25828E-10
15	.37822E-05	.79963E-05	.25828E-10
16	.37822E-05	.79963E-05	.25828E-10
17	.37822E-05	.79963E-05	.25828E-10
18	.37822E-05	.79963E-05	.25828E-10
19	.33567E-04	.70967E-04	.22922E-09
20	.33567E-04	.70967E-04	.22922E-09
21	.33567E-04	.70967E-04	.22922E-09
22	.33567E-04	.70967E-04	.22922E-09
23	.33567E-04	.70967E-04	.22922E-09
24	.33567E-04	.70967E-04	.22922E-09
25	.59098E-04	.12494E-03	.40356E-09
26	.59098E-04	.12494E-03	.40356E-09
27	.59098E-04	.12494E-03	.40356E-09
28	.59098E-04	.12494E-03	.40356E-09
29	.59098E-04	.12494E-03	.40356E-09
30	.59098E-04	.12494E-03	.40356E-09
31	.93138E-04	.19691E-03	.63602E-09
32	.93138E-04	.19691E-03	.63602E-09
33	.93138E-04	.19691E-03	.63602E-09
34	.93138E-04	.19691E-03	.63602E-09
35	.93138E-04	.19691E-03	.63602E-09
36	.93138E-04	.19691E-03	.63602E-09
37	.13569E-03	.28687E-03	.92658E-09
38	.13569E-03	.28687E-03	.92658E-09
39	.13569E-03	.28687E-03	.92658E-09
40	.13569E-03	.28687E-03	.92658E-09
41	.13569E-03	.28687E-03	.92658E-09
42	.13569E-03	.28687E-03	.92658E-09
43	.15318E-03	.32385E-03	.10460E-08
44	.15318E-03	.32385E-03	.10460E-08
45	.15318E-03	.32385E-03	.10460E-08
46	.15318E-03	.32385E-03	.10460E-08
47	.15318E-03	.32385E-03	.10460E-08
48	.15318E-03	.32385E-03	.10460E-08
49	.16311E-03	.34484E-03	.11138E-08
50	.16311E-03	.34484E-03	.11138E-08

51	.16311E-03	.34484E-03	.11138E-08
52	.16311E-03	.34484E-03	.11138E-08
53	.16311E-03	.34484E-03	.11138E-08
54	.16311E-03	.34484E-03	.11138E-08
55	.16311E-03	.34484E-03	.11138E-08
56	.16311E-03	.34484E-03	.11138E-08
57	.16311E-03	.34484E-03	.11138E-08
58	.16311E-03	.34484E-03	.11138E-08
59	.16311E-03	.34484E-03	.11138E-08
60	.16311E-03	.34484E-03	.11138E-08

Polygon VP-96-1B
Time: 10.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.10443E-06	.22078E-06	.71312E-12
2	.26829E-06	.56720E-06	.18321E-11
3	.48462E-06	.10246E-05	.33093E-11
4	.74603E-06	.15772E-05	.50945E-11
5	.10458E-05	.22111E-05	.71417E-11
6	.13804E-05	.29185E-05	.94266E-11
7	.17571E-05	.37148E-05	.11999E-10
8	.21926E-05	.46355E-05	.14973E-10
9	.27006E-05	.57095E-05	.18442E-10
10	.32836E-05	.69420E-05	.22423E-10
11	.39363E-05	.83220E-05	.26880E-10
12	.46551E-05	.98416E-05	.31788E-10
13	.54488E-05	.11520E-04	.37208E-10
14	.63396E-05	.13403E-04	.43292E-10
15	.73527E-05	.15545E-04	.50210E-10
16	.85079E-05	.17987E-04	.58099E-10
17	.98222E-05	.20766E-04	.67074E-10
18	.11315E-04	.23923E-04	.77271E-10
19	.13116E-04	.27729E-04	.89566E-10
20	.15440E-04	.32642E-04	.10543E-09
21	.18405E-04	.38912E-04	.12568E-09
22	.21917E-04	.46336E-04	.14966E-09
23	.25731E-04	.54399E-04	.17571E-09
24	.29599E-04	.62578E-04	.20213E-09
25	.33461E-04	.70741E-04	.22849E-09
26	.37437E-04	.79149E-04	.25565E-09
27	.41650E-04	.88056E-04	.28442E-09
28	.46078E-04	.97416E-04	.31465E-09
29	.50580E-04	.10693E-03	.34540E-09
30	.55009E-04	.11630E-03	.37565E-09
31	.59406E-04	.12559E-03	.40567E-09
32	.63990E-04	.13529E-03	.43697E-09
33	.68931E-04	.14573E-03	.47071E-09
34	.74179E-04	.15683E-03	.50655E-09
35	.79517E-04	.16811E-03	.54300E-09
36	.84717E-04	.17911E-03	.57852E-09
37	.89793E-04	.18984E-03	.61318E-09
38	.94996E-04	.20084E-03	.64870E-09
39	.10051E-03	.21250E-03	.68639E-09
40	.10627E-03	.22467E-03	.72569E-09

41	.11197E-03	.23673E-03	.76463E-09
42	.11731E-03	.24802E-03	.80110E-09
43	.12216E-03	.25827E-03	.83422E-09
44	.12659E-03	.26763E-03	.86445E-09
45	.13071E-03	.27634E-03	.89258E-09
46	.13456E-03	.28448E-03	.91886E-09
47	.13809E-03	.29195E-03	.94299E-09
48	.14125E-03	.29863E-03	.96456E-09
49	.14404E-03	.30453E-03	.98362E-09
50	.14655E-03	.30983E-03	.10007E-08
51	.14885E-03	.31469E-03	.10165E-08
52	.15097E-03	.31918E-03	.10309E-08
53	.15288E-03	.32322E-03	.10440E-08
54	.15454E-03	.32672E-03	.10553E-08
55	.15592E-03	.32964E-03	.10647E-08
56	.15703E-03	.33198E-03	.10723E-08
57	.15789E-03	.33381E-03	.10782E-08
58	.15854E-03	.33519E-03	.10827E-08
59	.15901E-03	.33618E-03	.10859E-08
60	.15933E-03	.33684E-03	.10880E-08

Polygon VP-96-1B
Time: 20.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.92961E-07	.19653E-06	.63481E-12
2	.23807E-06	.50331E-06	.16257E-11
3	.43016E-06	.90942E-06	.29374E-11
4	.66661E-06	.14093E-05	.45521E-11
5	.94665E-06	.20014E-05	.64644E-11
6	.12709E-05	.26868E-05	.86784E-11
7	.16409E-05	.34691E-05	.11205E-10
8	.20592E-05	.43536E-05	.14062E-10
9	.25297E-05	.53482E-05	.17275E-10
10	.30571E-05	.64632E-05	.20876E-10
11	.36475E-05	.77114E-05	.24908E-10
12	.43077E-05	.91073E-05	.29416E-10
13	.50452E-05	.10666E-04	.34452E-10
14	.58677E-05	.12405E-04	.40069E-10
15	.67836E-05	.14342E-04	.46323E-10
16	.78025E-05	.16496E-04	.53281E-10
17	.89351E-05	.18890E-04	.61016E-10
18	.10194E-04	.21551E-04	.69611E-10
19	.11592E-04	.24508E-04	.79160E-10
20	.13147E-04	.27794E-04	.89775E-10
21	.14878E-04	.31454E-04	.10160E-09
22	.16810E-04	.35538E-04	.11479E-09
23	.18967E-04	.40100E-04	.12952E-09
24	.21369E-04	.45177E-04	.14592E-09
25	.24021E-04	.50784E-04	.16403E-09
26	.26915E-04	.56902E-04	.18379E-09
27	.30033E-04	.63494E-04	.20509E-09
28	.33355E-04	.70517E-04	.22777E-09
29	.36861E-04	.77931E-04	.25172E-09
30	.40535E-04	.85698E-04	.27681E-09

31	.44360E-04	.93785E-04	.30292E-09
32	.48319E-04	.10215E-03	.32996E-09
33	.52396E-04	.11077E-03	.35780E-09
34	.56584E-04	.11963E-03	.38640E-09
35	.60876E-04	.12870E-03	.41571E-09
36	.65271E-04	.13799E-03	.44572E-09
37	.69758E-04	.14748E-03	.47636E-09
38	.74323E-04	.15713E-03	.50753E-09
39	.78945E-04	.16690E-03	.53910E-09
40	.83609E-04	.17676E-03	.57094E-09
41	.88299E-04	.18668E-03	.60297E-09
42	.93001E-04	.19662E-03	.63508E-09
43	.97690E-04	.20653E-03	.66710E-09
44	.10233E-03	.21635E-03	.69882E-09
45	.10689E-03	.22599E-03	.72994E-09
46	.11132E-03	.23535E-03	.76017E-09
47	.11558E-03	.24435E-03	.78926E-09
48	.11964E-03	.25294E-03	.81700E-09
49	.12348E-03	.26106E-03	.84322E-09
50	.12708E-03	.26868E-03	.86782E-09
51	.13043E-03	.27576E-03	.89071E-09
52	.13353E-03	.28230E-03	.91183E-09
53	.13636E-03	.28829E-03	.93116E-09
54	.13893E-03	.29372E-03	.94871E-09
55	.14124E-03	.29860E-03	.96446E-09
56	.14328E-03	.30292E-03	.97842E-09
57	.14505E-03	.30667E-03	.99054E-09
58	.14656E-03	.30984E-03	.10008E-08
59	.14778E-03	.31243E-03	.10091E-08
60	.14871E-03	.31440E-03	.10155E-08

Polygon VP-96-1B
Time: 30.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.78311E-07	.16556E-06	.53477E-12
2	.20100E-06	.42495E-06	.13726E-11
3	.36387E-06	.76929E-06	.24848E-11
4	.56477E-06	.11940E-05	.38567E-11
5	.80307E-06	.16978E-05	.54840E-11
6	.10793E-05	.22818E-05	.73702E-11
7	.13949E-05	.29490E-05	.95252E-11
8	.17520E-05	.37039E-05	.11964E-10
9	.21533E-05	.45525E-05	.14705E-10
10	.26024E-05	.55018E-05	.17771E-10
11	.31028E-05	.65599E-05	.21189E-10
12	.36591E-05	.77360E-05	.24987E-10
13	.42760E-05	.90401E-05	.29200E-10
14	.49587E-05	.10484E-04	.33862E-10
15	.57132E-05	.12079E-04	.39014E-10
16	.65455E-05	.13838E-04	.44698E-10
17	.74625E-05	.15777E-04	.50959E-10
18	.84710E-05	.17909E-04	.57846E-10
19	.95786E-05	.20251E-04	.65410E-10
20	.10793E-04	.22818E-04	.73703E-10

21	.12123E-04	.25629E-04	.82782E-10
22	.13576E-04	.28702E-04	.92706E-10
23	.15162E-04	.32054E-04	.10354E-09
24	.16889E-04	.35707E-04	.11533E-09
25	.18768E-04	.39678E-04	.12816E-09
26	.20806E-04	.43987E-04	.14208E-09
27	.23010E-04	.48647E-04	.15713E-09
28	.25386E-04	.53670E-04	.17336E-09
29	.27936E-04	.59061E-04	.19077E-09
30	.30658E-04	.64817E-04	.20936E-09
31	.33550E-04	.70930E-04	.22911E-09
32	.36605E-04	.77389E-04	.24997E-09
33	.39815E-04	.84175E-04	.27189E-09
34	.43170E-04	.91268E-04	.29480E-09
35	.46660E-04	.98646E-04	.31863E-09
36	.50273E-04	.10629E-03	.34330E-09
37	.53999E-04	.11416E-03	.36874E-09
38	.57824E-04	.12225E-03	.39487E-09
39	.61738E-04	.13053E-03	.42160E-09
40	.65728E-04	.13896E-03	.44884E-09
41	.69780E-04	.14753E-03	.47651E-09
42	.73880E-04	.15619E-03	.50451E-09
43	.78011E-04	.16493E-03	.53272E-09
44	.82158E-04	.17370E-03	.56104E-09
45	.86302E-04	.18246E-03	.58933E-09
46	.90422E-04	.19117E-03	.61747E-09
47	.94499E-04	.19979E-03	.64531E-09
48	.98508E-04	.20826E-03	.67269E-09
49	.10242E-03	.21654E-03	.69943E-09
50	.10622E-03	.22457E-03	.72537E-09
51	.10988E-03	.23230E-03	.75034E-09
52	.11337E-03	.23968E-03	.77416E-09
53	.11666E-03	.24665E-03	.79667E-09
54	.11975E-03	.25316E-03	.81771E-09
55	.12259E-03	.25918E-03	.83715E-09
56	.12518E-03	.26465E-03	.85483E-09
57	.12749E-03	.26954E-03	.87063E-09
58	.12951E-03	.27380E-03	.88439E-09
59	.13121E-03	.27739E-03	.89597E-09
60	.13256E-03	.28025E-03	.90522E-09

Polygon VP-96-1B
Time: 40.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.64112E-07	.13554E-06	.43781E-12
2	.16473E-06	.34826E-06	.11249E-11
3	.29848E-06	.63104E-06	.20382E-11
4	.46365E-06	.98022E-06	.31661E-11
5	.65971E-06	.13947E-05	.45050E-11
6	.88707E-06	.18754E-05	.60576E-11
7	.11468E-05	.24246E-05	.78315E-11
8	.14407E-05	.30458E-05	.98380E-11
9	.17707E-05	.37435E-05	.12092E-10
10	.21394E-05	.45230E-05	.14609E-10

11	.25496E-05	.53903E-05	.17411E-10
12	.30046E-05	.63522E-05	.20518E-10
13	.35077E-05	.74159E-05	.23953E-10
14	.40628E-05	.85894E-05	.27744E-10
15	.46738E-05	.98812E-05	.31916E-10
16	.53451E-05	.11300E-04	.36500E-10
17	.60811E-05	.12856E-04	.41526E-10
18	.68867E-05	.14560E-04	.47028E-10
19	.77668E-05	.16420E-04	.53038E-10
20	.87267E-05	.18450E-04	.59593E-10
21	.97718E-05	.20659E-04	.66729E-10
22	.10907E-04	.23060E-04	.74485E-10
23	.12139E-04	.25665E-04	.82897E-10
24	.13473E-04	.28485E-04	.92006E-10
25	.14915E-04	.31532E-04	.10185E-09
26	.16469E-04	.34818E-04	.11246E-09
27	.18141E-04	.38354E-04	.12388E-09
28	.19937E-04	.42150E-04	.13615E-09
29	.21860E-04	.46216E-04	.14928E-09
30	.23915E-04	.50559E-04	.16331E-09
31	.26103E-04	.55186E-04	.17825E-09
32	.28427E-04	.60098E-04	.19412E-09
33	.30886E-04	.65298E-04	.21091E-09
34	.33480E-04	.70782E-04	.22863E-09
35	.36206E-04	.76545E-04	.24724E-09
36	.39059E-04	.82577E-04	.26673E-09
37	.42034E-04	.88868E-04	.28704E-09
38	.45125E-04	.95401E-04	.30815E-09
39	.48322E-04	.10216E-03	.32998E-09
40	.51616E-04	.10912E-03	.35247E-09
41	.54997E-04	.11627E-03	.37556E-09
42	.58454E-04	.12358E-03	.39917E-09
43	.61974E-04	.13102E-03	.42320E-09
44	.65543E-04	.13857E-03	.44758E-09
45	.69148E-04	.14619E-03	.47219E-09
46	.72772E-04	.15385E-03	.49694E-09
47	.76400E-04	.16152E-03	.52171E-09
48	.80012E-04	.16916E-03	.54638E-09
49	.83590E-04	.17672E-03	.57082E-09
50	.87114E-04	.18417E-03	.59488E-09
51	.90561E-04	.19146E-03	.61842E-09
52	.93908E-04	.19854E-03	.64127E-09
53	.97130E-04	.20535E-03	.66328E-09
54	.10020E-03	.21184E-03	.68425E-09
55	.10309E-03	.21796E-03	.70401E-09
56	.10578E-03	.22364E-03	.72235E-09
57	.10823E-03	.22881E-03	.73907E-09
58	.11041E-03	.23342E-03	.75394E-09
59	.11228E-03	.23738E-03	.76674E-09
60	.11382E-03	.24062E-03	.77722E-09

Polygon VP-96-1B
Time: 50.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol

1	.51814E-07	.10954E-06	.35382E-12
2	.13319E-06	.28159E-06	.90954E-12
3	.24144E-06	.51045E-06	.16488E-11
4	.37518E-06	.79320E-06	.25620E-11
5	.53401E-06	.11290E-05	.36466E-11
6	.71822E-06	.15184E-05	.49046E-11
7	.92869E-06	.19634E-05	.63418E-11
8	.11667E-05	.24666E-05	.79672E-11
9	.14339E-05	.30316E-05	.97921E-11
10	.17323E-05	.36624E-05	.11830E-10
11	.20640E-05	.43637E-05	.14095E-10
12	.24315E-05	.51406E-05	.16604E-10
13	.28374E-05	.59986E-05	.19376E-10
14	.32844E-05	.69438E-05	.22428E-10
15	.37757E-05	.79824E-05	.25783E-10
16	.43143E-05	.91211E-05	.29461E-10
17	.49036E-05	.10367E-04	.33486E-10
18	.55472E-05	.11728E-04	.37880E-10
19	.62486E-05	.13211E-04	.42670E-10
20	.70116E-05	.14824E-04	.47880E-10
21	.78401E-05	.16575E-04	.53538E-10
22	.87381E-05	.18474E-04	.59670E-10
23	.97095E-05	.20528E-04	.66304E-10
24	.10759E-04	.22745E-04	.73468E-10
25	.11889E-04	.25136E-04	.81190E-10
26	.13106E-04	.27708E-04	.89496E-10
27	.14412E-04	.30469E-04	.98415E-10
28	.15811E-04	.33428E-04	.10797E-09
29	.17308E-04	.36592E-04	.11819E-09
30	.18905E-04	.39967E-04	.12909E-09
31	.20605E-04	.43561E-04	.14070E-09
32	.22410E-04	.47379E-04	.15303E-09
33	.24323E-04	.51423E-04	.16610E-09
34	.26345E-04	.55697E-04	.17990E-09
35	.28476E-04	.60202E-04	.19445E-09
36	.30715E-04	.64937E-04	.20975E-09
37	.33062E-04	.69899E-04	.22577E-09
38	.35514E-04	.75082E-04	.24251E-09
39	.38066E-04	.80479E-04	.25995E-09
40	.40716E-04	.86080E-04	.27804E-09
41	.43456E-04	.91872E-04	.29675E-09
42	.46279E-04	.97841E-04	.31603E-09
43	.49177E-04	.10397E-03	.33582E-09
44	.52140E-04	.11023E-03	.35605E-09
45	.55157E-04	.11661E-03	.37666E-09
46	.58217E-04	.12308E-03	.39755E-09
47	.61306E-04	.12961E-03	.41864E-09
48	.64408E-04	.13617E-03	.43983E-09
49	.67508E-04	.14272E-03	.46100E-09
50	.70588E-04	.14923E-03	.48203E-09
51	.73628E-04	.15566E-03	.50279E-09
52	.76608E-04	.16196E-03	.52314E-09
53	.79506E-04	.16809E-03	.54292E-09
54	.82295E-04	.17399E-03	.56197E-09

55	.84951E-04	.17960E-03	.58011E-09
56	.87443E-04	.18487E-03	.59713E-09
57	.89741E-04	.18973E-03	.61282E-09
58	.91811E-04	.19410E-03	.62696E-09
59	.93616E-04	.19792E-03	.63928E-09
60	.95116E-04	.20109E-03	.64953E-09

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-2-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-24A
Lab File ID: 5101312
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 2.59

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	5.2	U
67-64-1	Acetone	5.2	U
75-15-0	Carbon Disulfide	39	
67-63-0	2-Propanol	5.2	U
156-60-5	trans-1,2-Dichloroethene	5.2	U
108-05-4	Vinyl Acetate	5.2	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	5.2	U
110-54-3	Hexane	5.2	U
109-99-9	Tetrahydrofuran	5.2	U
110-82-7	Cyclohexane	5.2	U
123-91-1	1,4-Dioxane	190	
75-27-4	Bromodichloromethane	5.2	U
108-10-1	4-Methyl-2-pentanone	5.2	U
591-78-6	2-Hexanone	5.2	U
124-48-1	Dibromochloromethane	5.2	U
75-25-2	Bromoform	5.2	U
622-96-8	4-Ethyltoluene	5.2	U
64-17-5	Ethanol	12	
1634-04-4	Methyl tert-Butyl Ether	5.2	U
142-82-5	Heptane	5.2	U

FORM I-ATL

LEVEL-IV VALIDATABLE

000100

SAMPLE NO.

VP-96-2-30

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-26A
Lab File ID: 5101315
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 3.09

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.5	U
76-14-2	Freon 114	1.5	U
74-87-3	Chloromethane	1.5	U
75-01-4	Vinyl Chloride	1.5	U
74-83-9	Bromomethane	1.5	U
75-00-3	Chloroethane	1.5	U
75-69-4	Freon 11	1.5	U
75-35-4	1,1-Dichloroethene	1.5	U
76-13-1	Freon 113	140	
75-09-2	Methylene Chloride	1.8	J
75-34-3	1,1-Dichloroethane	1.5	U
156-59-2	cis-1,2-Dichloroethene	1.5	U
67-66-3	Chloroform	7.2	
71-55-6	1,1,1-Trichloroethane	1.5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	1.5	U
107-06-2	1,2-Dichloroethane	1.5	U
79-01-6	Trichloroethene	5.4	J
78-87-5	1,2-Dichloropropane	1.5	U
10061-01-5	cis-1,3-Dichloropropene	1.5	U
108-88-3	Toluene	1.5	U
10061-02-6	trans-1,3-Dichloropropene	1.5	U
79-00-5	1,1,2-Trichloroethane	1.5	U
127-18-4	Tetrachloroethene	3.2	J
106-93-4	Ethylene Dibromide	1.5	U
108-90-7	Chlorobenzene	1.5	U
100-41-4	Ethyl Benzene	1.5	U
108-38-3	m,p-Xylene	1.5	U
95-47-6	o-Xylene	1.5	U
100-42-5	Styrene	1.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.5	U
108-67-8	1,3,5-Trimethylbenzene	1.5	U
95-63-6	1,2,4-Trimethylbenzene	1.5	U
541-73-1	1,3-Dichlorobenzene	1.5	U
106-46-7	1,4-Dichlorobenzene	1.5	U
100-44-7	Chlorotoluene	1.5	U
95-50-1	1,2-Dichlorobenzene	1.5	U
120-82-1	1,2,4-Trichlorobenzene	1.5	U
87-68-3	Hexachlorobutadiene	1.5	U
115-07-1	Propylene	6.2	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-2-30

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-26A
Lab File ID: 5101315
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 3.09

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	6.2	U
67-64-1	Acetone	6.2	U
75-15-0	Carbon Disulfide	44	
67-63-0	2-Propanol	6.2	U
156-60-5	trans-1,2-Dichloroethene	6.2	U
108-05-4	Vinyl Acetate	6.2	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	6.2	U
110-54-3	Hexane	6.2	U
109-99-9	Tetrahydrofuran	6.2	U
110-82-7	Cyclohexane	6.2	U
123-91-1	1,4-Dioxane	140	
75-27-4	Bromodichloromethane	6.2	U
108-10-1	4-Methyl-2-pentanone	6.2	U
591-78-6	2-Hexanone	6.2	U
124-48-1	Dibromochloromethane	6.2	U
75-25-2	Bromoform	6.2	U
622-96-8	4-Ethyltoluene	6.2	U
64-17-5	Ethanol	14	
1634-04-4	Methyl tert-Butyl Ether	6.2	U
142-82-5	Heptane	6.2	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-39A
Lab File ID: j101226
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 1.75

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	2.3	
76-14-2	Freon 114	0.88	U
74-87-3	Chloromethane	0.88	U
75-01-4	Vinyl Chloride	0.88	U
74-83-9	Bromomethane	0.88	U
75-00-3	Chloroethane	0.88	U
75-69-4	Freon 11	3.5	
75-35-4	1,1-Dichloroethene	0.88	U
76-13-1	Freon 113	21	
75-09-2	Methylene Chloride	0.88	U
75-34-3	1,1-Dichloroethane	0.88	U
156-59-2	cis-1,2-Dichloroethene	0.88	U
67-66-3	Chloroform	1.9	
71-55-6	1,1,1-Trichloroethane	0.88	U
56-23-5	Carbon Tetrachloride	0.88	U
71-43-2	Benzene	0.88	U
107-06-2	1,2-Dichloroethane	0.88	U
79-01-6	Trichloroethene	19	
78-87-5	1,2-Dichloropropane	0.88	U
10061-01-5	cis-1,3-Dichloropropene	0.88	U
108-88-3	Toluene	0.88	U
10061-02-6	trans-1,3-Dichloropropene	0.88	U
79-00-5	1,1,2-Trichloroethane	0.88	U
127-18-4	Tetrachloroethene	4.7	
106-93-4	Ethylene Dibromide	0.88	U
108-90-7	Chlorobenzene	0.88	U
100-41-4	Ethyl Benzene	0.88	U
108-38-3	m,p-Xylene	0.88	U
95-47-6	o-Xylene	0.88	U
100-42-5	Styrene	0.88	U
79-34-5	1,1,2,2-Tetrachloroethane	0.88	U
108-67-8	1,3,5-Trimethylbenzene	0.88	U
95-63-6	1,2,4-Trimethylbenzene	0.88	U
541-73-1	1,3-Dichlorobenzene	0.88	U
106-46-7	1,4-Dichlorobenzene	0.88	U
100-44-7	Chlorotoluene	0.88	U
95-50-1	1,2-Dichlorobenzene	0.88	U
120-82-1	1,2,4-Trichlorobenzene	0.88	U
87-68-3	Hexachlorobutadiene	0.88	U
115-07-1	Propylene	3.5	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-39A
Lab File ID: j101226
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 1.75

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.5	U
67-64-1	Acetone	5.2	
75-15-0	Carbon Disulfide	3.5	U
67-63-0	2-Propanol	3.5	U
156-60-5	trans-1,2-Dichloroethene	3.5	U
108-05-4	Vinyl Acetate	3.5	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	3.5	U
110-54-3	Hexane	3.5	U
109-99-9	Tetrahydrofuran	3.5	U
110-82-7	Cyclohexane	3.5	U
123-91-1	1,4-Dioxane	3.5	U
75-27-4	Bromodichloromethane	3.5	U
108-10-1	4-Methyl-2-pentanone	3.5	U
591-78-6	2-Hexanone	3.5	U
124-48-1	Dibromochloromethane	3.5	U
75-25-2	Bromoform	3.5	U
622-96-8	4-Ethyltoluene	3.5	U
64-17-5	Ethanol	7.1	
1634-04-4	Methyl tert-Butyl Ether	3.5	U
142-82-5	Heptane	3.5	U

FORM I-ATL

LEVEL-IV VALIDATABLE

00002

SAMPLE NO.

VP-96-1B-30

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-22A
Lab File ID: 5101224
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 1.96

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.1	J
76-14-2	Freon 114	0.98	U
74-87-3	Chloromethane	1.4	J
75-01-4	Vinyl Chloride	1.6	J
74-83-9	Bromomethane	0.98	U
75-00-3	Chloroethane	0.98	U
75-69-4	Freon 11	1.0	J
75-35-4	1,1-Dichloroethene	0.98	U
76-13-1	Freon 113	54	
75-09-2	Methylene Chloride	0.98	U
75-34-3	1,1-Dichloroethane	0.98	U
156-59-2	cis-1,2-Dichloroethene	0.98	U
67-66-3	Chloroform	2.7	J
71-55-6	1,1,1-Trichloroethane	0.98	U
56-23-5	Carbon Tetrachloride	0.98	U
71-43-2	Benzene	0.98	U
107-06-2	1,2-Dichloroethane	0.98	U
79-01-6	Trichloroethene	350	
78-87-5	1,2-Dichloropropane	0.98	U
10061-01-5	cis-1,3-Dichloropropene	0.98	U
108-88-3	Toluene	0.98	U
10061-02-6	trans-1,3-Dichloropropene	0.98	U
79-00-5	1,1,2-Trichloroethane	0.98	U
127-18-4	Tetrachloroethene	91	
106-93-4	Ethylene Dibromide	0.98	U
108-90-7	Chlorobenzene	0.98	U
100-41-4	Ethyl Benzene	0.98	U
108-38-3	m,p-Xylene	0.98	U
95-47-6	o-Xylene	0.98	U
100-42-5	Styrene	0.98	U
79-34-5	1,1,2,2-Tetrachloroethane	0.98	U
108-67-8	1,3,5-Trimethylbenzene	0.98	U
95-63-6	1,2,4-Trimethylbenzene	0.98	U
541-73-1	1,3-Dichlorobenzene	0.98	U
106-46-7	1,4-Dichlorobenzene	0.98	U
100-44-7	Chlorotoluene	0.98	U
95-50-1	1,2-Dichlorobenzene	0.98	U
120-82-1	1,2,4-Trichlorobenzene	0.98	U
87-68-3	Hexachlorobutadiene	0.98	U
115-07-1	Propylene	3.9	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-30

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-22A
Lab File ID: 5101224
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 1.96

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.9	U
67-64-1	Acetone	5.9	J
75-15-0	Carbon Disulfide	23	
67-63-0	2-Propanol	5.4	J
156-60-5	trans-1,2-Dichloroethene	3.9	U
108-05-4	Vinyl Acetate	3.9	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	3.9	U
110-54-3	Hexane	3.9	U
109-99-9	Tetrahydrofuran	3.9	U
110-82-7	Cyclohexane	3.9	U
123-91-1	1,4-Dioxane	3.9	U
75-27-4	Bromodichloromethane	3.9	U
108-10-1	4-Methyl-2-pentanone	3.9	U
591-78-6	2-Hexanone	3.9	U
124-48-1	Dibromochloromethane	3.9	U
75-25-2	Bromoform	3.9	U
622-96-8	4-Ethyltoluene	3.9	U
64-17-5	Ethanol	11	
1634-04-4	Methyl tert-Butyl Ether	3.9	U
142-82-5	Heptane	3.9	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-40

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 60 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-40A
Lab File ID: j101227
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 3.18

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.6	U
76-14-2	Freon 114	1.6	U
74-87-3	Chloromethane	1.6	U
75-01-4	Vinyl Chloride	1.6	U
74-83-9	Bromomethane	1.6	U
75-00-3	Chloroethane	1.6	U
75-69-4	Freon 11	1.6	U
75-35-4	1,1-Dichloroethene	1.6	U
76-13-1	Freon 113	84	
75-09-2	Methylene Chloride	1.6	U
75-34-3	1,1-Dichloroethane	1.6	U
156-59-2	cis-1,2-Dichloroethene	1.6	U
67-66-3	Chloroform	3.9	
71-55-6	1,1,1-Trichloroethane	1.6	U
56-23-5	Carbon Tetrachloride	1.6	U
71-43-2	Benzene	1.6	U
107-06-2	1,2-Dichloroethane	1.6	U
79-01-6	Trichloroethene	710	
78-87-5	1,2-Dichloropropane	1.6	U
10061-01-5	cis-1,3-Dichloropropene	1.6	U
108-88-3	Toluene	1.6	U
10061-02-6	trans-1,3-Dichloropropene	1.6	U
79-00-5	1,1,2-Trichloroethane	1.6	U
127-18-4	Tetrachloroethene	170	
106-93-4	Ethylene Dibromide	1.6	U
108-90-7	Chlorobenzene	1.6	U
100-41-4	Ethyl Benzene	1.6	U
108-38-3	m,p-Xylene	1.6	U
95-47-6	o-Xylene	1.6	U
100-42-5	Styrene	1.6	U
79-34-5	1,1,2,2-Tetrachloroethane	1.6	U
108-67-8	1,3,5-Trimethylbenzene	1.6	U
95-63-6	1,2,4-Trimethylbenzene	1.6	U
541-73-1	1,3-Dichlorobenzene	1.6	U
106-46-7	1,4-Dichlorobenzene	1.6	U
100-44-7	Chlorotoluene	1.6	U
95-50-1	1,2-Dichlorobenzene	1.6	U
120-82-1	1,2,4-Trichlorobenzene	1.6	U
87-68-3	Hexachlorobutadiene	1.6	U
115-07-1	Propylene	6.4	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-40

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 60 ml
% Moisture: N/A
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-40A
Lab File ID: j101227
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 3.18

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	6.4	U
67-64-1	Acetone	6.6	J
75-15-0	Carbon Disulfide	8.4	
67-63-0	2-Propanol	6.4	U
156-60-5	trans-1,2-Dichloroethene	6.4	U
108-05-4	Vinyl Acetate	6.4	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	6.4	U
110-54-3	Hexane	6.4	U
109-99-9	Tetrahydrofuran	6.4	U
110-82-7	Cyclohexane	6.4	U
123-91-1	1,4-Dioxane	6.4	U
75-27-4	Bromodichloromethane	6.4	U
108-10-1	4-Methyl-2-pentanone	6.4	U
591-78-6	2-Hexanone	6.4	U
124-48-1	Dibromochloromethane	6.4	U
75-25-2	Bromoform	6.4	U
622-96-8	4-Ethyltoluene	6.4	U
64-17-5	Ethanol	6.4	U
1634-04-4	Methyl tert-Butyl Ether	6.4	U
142-82-5	Heptane	6.4	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-50

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 175 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-21A
Lab File ID: 5101223
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 5.00

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	2.5	U
76-14-2	Freon 114	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl Chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Freon 11	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	Freon 113	58	
75-09-2	Methylene Chloride	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
67-66-3	Chloroform	2.6	J
71-55-6	1,1,1-Trichloroethane	2.5	U
56-23-5	Carbon Tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	890	
78-87-5	1,2-Dichloropropane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	130	
106-93-4	Ethylene Dibromide	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethyl Benzene	2.5	U
108-38-3	m,p-Xylene	2.5	U
95-47-6	o-Xylene	2.5	U
100-42-5	Styrene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
108-67-8	1,3,5-Trimethylbenzene	2.5	U
95-63-6	1,2,4-Trimethylbenzene	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
100-44-7	Chlorotoluene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-68-3	Hexachlorobutadiene	2.5	U
115-07-1	Propylene	10	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-1B-50

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 175 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-21A
Lab File ID: 5101223
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 5.00

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
67-63-0	2-Propanol	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	10	U
110-54-3	Hexane	10	U
109-99-9	Tetrahydrofuran	10	U
110-82-7	Cyclohexane	10	U
123-91-1	1,4-Dioxane	10	U
75-27-4	Bromodichloromethane	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
622-96-8	4-Ethyltoluene	10	U
64-17-5	Ethanol	10	U
1634-04-4	Methyl tert-Butyl Ether	10	U
142-82-5	Heptane	10	U

FORM I-ATL

Polygon 96 Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-96-1B-14	19	0.10	0.06
VP-96-1B-30	350	1.91	1.15
VP-96-1B-40	710	3.88	2.32
VP-96-1B-50	890	4.86	2.91
	1969	10.75	6.44

PCE Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-96-1B-14	4.7	0.03	0.02
VP-96-1B-30	91	0.63	0.38
VP-96-1B-40	170	1.17	0.70
VP-96-1B-50	130	0.90	0.54
	396	2.73	1.63

Polygon 96 Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	Total Clx (ppbV as TCE)	Total Clx Conc (ug/L)*	Total Clx Conc (ug/Kg)**
VP-96-1B-14	23.7	0.14	0.08
VP-96-1B-30	441	2.54	1.52
VP-96-1B-40	880	5.05	3.02
VP-96-1B-50	1020	5.76	3.45
	2365	13.48	8.08

*Divided by (24.04/131.39)
**Multiply ug/L concentration by 0.599 L/Kg (calculated Kgt based on revised soil physical data).

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-96-1B-14	0.0	0.00	0.00
VP-96-1B-30	0.0	0.00	0.00
VP-96-1B-40	0.0	0.00	0.00
VP-96-1B-50	0.0	0.00	0.00
	0.00	0.00	0.00

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-96-1B, October 1998 Rebound Evaluation

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-96-1B-14	0.0	0.00	0.00
VP-96-1B-30	0.0	0.00	0.00
VP-96-1B-40	0.0	0.00	0.00
VP-96-1B-50	0.0	0.00	0.00
	0.0	0.00	0.00

Polygon 96 Final Closure Soil Gas Data

Interpolated Total Soil Concentrations
VP-96-1B, October 1998 Rebound Evaluation

Depth (feet)	*Conc. (ug/kg)*
3	0.017
9	0.052
15	0.087
21	0.711
27	1.251
33	1.972
39	2.875
45	3.24
51	3.45
57	3.45
60	3.45

```
PGA VLEACH model, Polygon 96 VP-96-1B  OCT-98 LAB Data
    1
       1.0      50.       1.0       10.
     123.6       .473     1100.      .7029
Polygon VP-96-1B
    83000         1.   .197       1.64      .381       .255       .00074
        0.         0.       -1.
   60
    1     6       0.017
    7    12       0.052
   13    18       0.087
   19    24       0.711
   25    30       1.251
   31    36       1.972
   37    42       2.875
   43    48       3.240
   49    54       3.450
   55    60       3.450
```

V-Leach, VER 1.1
Jake Turin, 11/91
PGA VLEACH model, Polygon 96 VP-96-1B OCT-98 LAB Data
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 1.00 years. Vertical profile stored every 10.00 years.
Koc = 123.60 ml/g, .43649E-02cu.ft./g
Kh = .47300 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .70290 sq. m/day, 2761.7 sq.ft./yr

Polygon 1
Polygon VP-96-1B
Polygon area = 83000. sq. ft.
60 cells, each cell 1.000 ft. thick.
Soil Properties:
Bulk density = 1.6400 g/ml, 46440. g/cu.ft.
Porosity = .3810 Volumetric water content = .2550
Organic carbon content = .00074000
Recharge Rate = .19700000 ft/yr
Conc. in recharge water = .00000 mg/l, .00000 g/cu.ft
Atmospheric concentration = .00000 mg/l, .00000 g/cu.ft
Water table is impermeable to gas diffusion.

MIXCELL OUTPUT FILE

PGA VLEACH model Polygon 96 VP-96-1B OCT-98 LAB Data

Year	Mass (grams)	GW Conc (ug/L)
1	5.639	0.0737
2	5.633	0.1129
3	5.627	0.1337
4	5.618	0.1446
5	5.608	0.1503
6	5.597	0.1532
7	5.583	0.1545
8	5.566	0.1550
9	5.548	0.1551
10	5.526	0.1548
11	5.503	0.1544
12	5.476	0.1538
13	5.447	0.1531
14	5.416	0.1523
15	5.381	0.1514
16	5.345	0.1505
17	5.305	0.1495
18	5.264	0.1484
19	5.220	0.1473
20	5.175	0.1460
21	5.127	0.1448
22	5.077	0.1435
23	5.026	0.1421
24	4.973	0.1407
25	4.918	0.1392
26	4.862	0.1377
27	4.804	0.1361
28	4.746	0.1345
29	4.686	0.1329
30	4.625	0.1312
31	4.563	0.1295
32	4.500	0.1278
33	4.436	0.1260
34	4.372	0.1242
35	4.307	0.1225
36	4.242	0.1206
37	4.176	0.1188
38	4.110	0.1170
39	4.044	0.1152
40	3.978	0.1133
41	3.912	0.1115
42	3.846	0.1096
43	3.780	0.1078
44	3.715	0.1060
45	3.650	0.1041
46	3.585	0.1023
47	3.520	0.1005
48	3.456	0.0987
49	3.392	0.0969
50	3.329	0.0951

Polygon VP-96-1B
Time: .000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.47278E-06	.99954E-06	.32285E-11
2	.47278E-06	.99954E-06	.32285E-11
3	.47278E-06	.99954E-06	.32285E-11
4	.47278E-06	.99954E-06	.32285E-11
5	.47278E-06	.99954E-06	.32285E-11
6	.47278E-06	.99954E-06	.32285E-11
7	.23639E-05	.49977E-05	.16143E-10
8	.23639E-05	.49977E-05	.16143E-10
9	.23639E-05	.49977E-05	.16143E-10
10	.23639E-05	.49977E-05	.16143E-10
11	.23639E-05	.49977E-05	.16143E-10
12	.23639E-05	.49977E-05	.16143E-10
13	.37822E-05	.79963E-05	.25828E-10
14	.37822E-05	.79963E-05	.25828E-10
15	.37822E-05	.79963E-05	.25828E-10
16	.37822E-05	.79963E-05	.25828E-10
17	.37822E-05	.79963E-05	.25828E-10
18	.37822E-05	.79963E-05	.25828E-10
19	.33567E-04	.70967E-04	.22922E-09
20	.33567E-04	.70967E-04	.22922E-09
21	.33567E-04	.70967E-04	.22922E-09
22	.33567E-04	.70967E-04	.22922E-09
23	.33567E-04	.70967E-04	.22922E-09
24	.33567E-04	.70967E-04	.22922E-09
25	.59098E-04	.12494E-03	.40356E-09
26	.59098E-04	.12494E-03	.40356E-09
27	.59098E-04	.12494E-03	.40356E-09
28	.59098E-04	.12494E-03	.40356E-09
29	.59098E-04	.12494E-03	.40356E-09
30	.59098E-04	.12494E-03	.40356E-09
31	.93138E-04	.19691E-03	.63602E-09
32	.93138E-04	.19691E-03	.63602E-09
33	.93138E-04	.19691E-03	.63602E-09
34	.93138E-04	.19691E-03	.63602E-09
35	.93138E-04	.19691E-03	.63602E-09
36	.93138E-04	.19691E-03	.63602E-09
37	.13569E-03	.28687E-03	.92658E-09
38	.13569E-03	.28687E-03	.92658E-09
39	.13569E-03	.28687E-03	.92658E-09
40	.13569E-03	.28687E-03	.92658E-09
41	.13569E-03	.28687E-03	.92658E-09
42	.13569E-03	.28687E-03	.92658E-09
43	.15318E-03	.32385E-03	.10460E-08
44	.15318E-03	.32385E-03	.10460E-08
45	.15318E-03	.32385E-03	.10460E-08
46	.15318E-03	.32385E-03	.10460E-08
47	.15318E-03	.32385E-03	.10460E-08
48	.15318E-03	.32385E-03	.10460E-08
49	.16311E-03	.34484E-03	.11138E-08
50	.16311E-03	.34484E-03	.11138E-08

51	.16311E-03	.34484E-03	.11138E-08
52	.16311E-03	.34484E-03	.11138E-08
53	.16311E-03	.34484E-03	.11138E-08
54	.16311E-03	.34484E-03	.11138E-08
55	.16311E-03	.34484E-03	.11138E-08
56	.16311E-03	.34484E-03	.11138E-08
57	.16311E-03	.34484E-03	.11138E-08
58	.16311E-03	.34484E-03	.11138E-08
59	.16311E-03	.34484E-03	.11138E-08
60	.16311E-03	.34484E-03	.11138E-08

Polygon VP-96-1B
Time: 10.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.10443E-06	.22078E-06	.71312E-12
2	.26829E-06	.56720E-06	.18321E-11
3	.48462E-06	.10246E-05	.33093E-11
4	.74603E-06	.15772E-05	.50945E-11
5	.10458E-05	.22111E-05	.71417E-11
6	.13804E-05	.29185E-05	.94266E-11
7	.17571E-05	.37148E-05	.11999E-10
8	.21926E-05	.46355E-05	.14973E-10
9	.27006E-05	.57095E-05	.18442E-10
10	.32836E-05	.69420E-05	.22423E-10
11	.39363E-05	.83220E-05	.26880E-10
12	.46551E-05	.98416E-05	.31788E-10
13	.54488E-05	.11520E-04	.37208E-10
14	.63396E-05	.13403E-04	.43292E-10
15	.73527E-05	.15545E-04	.50210E-10
16	.85079E-05	.17987E-04	.58099E-10
17	.98222E-05	.20766E-04	.67074E-10
18	.11315E-04	.23923E-04	.77271E-10
19	.13116E-04	.27729E-04	.89566E-10
20	.15440E-04	.32642E-04	.10543E-09
21	.18405E-04	.38912E-04	.12568E-09
22	.21917E-04	.46336E-04	.14966E-09
23	.25731E-04	.54399E-04	.17571E-09
24	.29599E-04	.62578E-04	.20213E-09
25	.33461E-04	.70741E-04	.22849E-09
26	.37437E-04	.79149E-04	.25565E-09
27	.41650E-04	.88056E-04	.28442E-09
28	.46078E-04	.97416E-04	.31465E-09
29	.50580E-04	.10693E-03	.34540E-09
30	.55009E-04	.11630E-03	.37565E-09
31	.59406E-04	.12559E-03	.40567E-09
32	.63990E-04	.13529E-03	.43697E-09
33	.68931E-04	.14573E-03	.47071E-09
34	.74179E-04	.15683E-03	.50655E-09
35	.79517E-04	.16811E-03	.54300E-09
36	.84717E-04	.17911E-03	.57852E-09
37	.89793E-04	.18984E-03	.61318E-09
38	.94996E-04	.20084E-03	.64870E-09
39	.10051E-03	.21250E-03	.68639E-09
40	.10627E-03	.22467E-03	.72569E-09

41	.11197E-03	.23673E-03	.76463E-09
42	.11731E-03	.24802E-03	.80110E-09
43	.12216E-03	.25827E-03	.83422E-09
44	.12659E-03	.26763E-03	.86445E-09
45	.13071E-03	.27634E-03	.89258E-09
46	.13456E-03	.28448E-03	.91886E-09
47	.13809E-03	.29195E-03	.94299E-09
48	.14125E-03	.29863E-03	.96456E-09
49	.14404E-03	.30453E-03	.98362E-09
50	.14655E-03	.30983E-03	.10007E-08
51	.14885E-03	.31469E-03	.10165E-08
52	.15097E-03	.31918E-03	.10309E-08
53	.15288E-03	.32322E-03	.10440E-08
54	.15454E-03	.32672E-03	.10553E-08
55	.15592E-03	.32964E-03	.10647E-08
56	.15703E-03	.33198E-03	.10723E-08
57	.15789E-03	.33381E-03	.10782E-08
58	.15854E-03	.33519E-03	.10827E-08
59	.15901E-03	.33618E-03	.10859E-08
60	.15933E-03	.33684E-03	.10880E-08

Polygon VP-96-1B
Time: 20.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.92961E-07	.19653E-06	.63481E-12
2	.23807E-06	.50331E-06	.16257E-11
3	.43016E-06	.90942E-06	.29374E-11
4	.66661E-06	.14093E-05	.45521E-11
5	.94665E-06	.20014E-05	.64644E-11
6	.12709E-05	.26868E-05	.86784E-11
7	.16409E-05	.34691E-05	.11205E-10
8	.20592E-05	.43536E-05	.14062E-10
9	.25297E-05	.53482E-05	.17275E-10
10	.30571E-05	.64632E-05	.20876E-10
11	.36475E-05	.77114E-05	.24908E-10
12	.43077E-05	.91073E-05	.29416E-10
13	.50452E-05	.10666E-04	.34452E-10
14	.58677E-05	.12405E-04	.40069E-10
15	.67836E-05	.14342E-04	.46323E-10
16	.78025E-05	.16496E-04	.53281E-10
17	.89351E-05	.18890E-04	.61016E-10
18	.10194E-04	.21551E-04	.69611E-10
19	.11592E-04	.24508E-04	.79160E-10
20	.13147E-04	.27794E-04	.89775E-10
21	.14878E-04	.31454E-04	.10160E-09
22	.16810E-04	.35538E-04	.11479E-09
23	.18967E-04	.40100E-04	.12952E-09
24	.21369E-04	.45177E-04	.14592E-09
25	.24021E-04	.50784E-04	.16403E-09
26	.26915E-04	.56902E-04	.18379E-09
27	.30033E-04	.63494E-04	.20509E-09
28	.33355E-04	.70517E-04	.22777E-09
29	.36861E-04	.77931E-04	.25172E-09
30	.40535E-04	.85698E-04	.27681E-09

31	.44360E-04	.93785E-04	.30292E-09
32	.48319E-04	.10215E-03	.32996E-09
33	.52396E-04	.11077E-03	.35780E-09
34	.56584E-04	.11963E-03	.38640E-09
35	.60876E-04	.12870E-03	.41571E-09
36	.65271E-04	.13799E-03	.44572E-09
37	.69758E-04	.14748E-03	.47636E-09
38	.74323E-04	.15713E-03	.50753E-09
39	.78945E-04	.16690E-03	.53910E-09
40	.83609E-04	.17676E-03	.57094E-09
41	.88299E-04	.18668E-03	.60297E-09
42	.93001E-04	.19662E-03	.63508E-09
43	.97690E-04	.20653E-03	.66710E-09
44	.10233E-03	.21635E-03	.69882E-09
45	.10689E-03	.22599E-03	.72994E-09
46	.11132E-03	.23535E-03	.76017E-09
47	.11558E-03	.24435E-03	.78926E-09
48	.11964E-03	.25294E-03	.81700E-09
49	.12348E-03	.26106E-03	.84322E-09
50	.12708E-03	.26868E-03	.86782E-09
51	.13043E-03	.27576E-03	.89071E-09
52	.13353E-03	.28230E-03	.91183E-09
53	.13636E-03	.28829E-03	.93116E-09
54	.13893E-03	.29372E-03	.94871E-09
55	.14124E-03	.29860E-03	.96446E-09
56	.14328E-03	.30292E-03	.97842E-09
57	.14505E-03	.30667E-03	.99054E-09
58	.14656E-03	.30984E-03	.10008E-08
59	.14778E-03	.31243E-03	.10091E-08
60	.14871E-03	.31440E-03	.10155E-08

Polygon VP-96-1B
Time: 30.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.78311E-07	.16556E-06	.53477E-12
2	.20100E-06	.42495E-06	.13726E-11
3	.36387E-06	.76929E-06	.24848E-11
4	.56477E-06	.11940E-05	.38567E-11
5	.80307E-06	.16978E-05	.54840E-11
6	.10793E-05	.22818E-05	.73702E-11
7	.13949E-05	.29490E-05	.95252E-11
8	.17520E-05	.37039E-05	.11964E-10
9	.21533E-05	.45525E-05	.14705E-10
10	.26024E-05	.55018E-05	.17771E-10
11	.31028E-05	.65599E-05	.21189E-10
12	.36591E-05	.77360E-05	.24987E-10
13	.42760E-05	.90401E-05	.29200E-10
14	.49587E-05	.10484E-04	.33862E-10
15	.57132E-05	.12079E-04	.39014E-10
16	.65455E-05	.13838E-04	.44698E-10
17	.74625E-05	.15777E-04	.50959E-10
18	.84710E-05	.17909E-04	.57846E-10
19	.95786E-05	.20251E-04	.65410E-10
20	.10793E-04	.22818E-04	.73703E-10

21	.12123E-04	.25629E-04	.82782E-10
22	.13576E-04	.28702E-04	.92706E-10
23	.15162E-04	.32054E-04	.10354E-09
24	.16889E-04	.35707E-04	.11533E-09
25	.18768E-04	.39678E-04	.12816E-09
26	.20806E-04	.43987E-04	.14208E-09
27	.23010E-04	.48647E-04	.15713E-09
28	.25386E-04	.53670E-04	.17336E-09
29	.27936E-04	.59061E-04	.19077E-09
30	.30658E-04	.64817E-04	.20936E-09
31	.33550E-04	.70930E-04	.22911E-09
32	.36605E-04	.77389E-04	.24997E-09
33	.39815E-04	.84175E-04	.27189E-09
34	.43170E-04	.91268E-04	.29480E-09
35	.46660E-04	.98646E-04	.31863E-09
36	.50273E-04	.10629E-03	.34330E-09
37	.53999E-04	.11416E-03	.36874E-09
38	.57824E-04	.12225E-03	.39487E-09
39	.61738E-04	.13053E-03	.42160E-09
40	.65728E-04	.13896E-03	.44884E-09
41	.69780E-04	.14753E-03	.47651E-09
42	.73880E-04	.15619E-03	.50451E-09
43	.78011E-04	.16493E-03	.53272E-09
44	.82158E-04	.17370E-03	.56104E-09
45	.86302E-04	.18246E-03	.58933E-09
46	.90422E-04	.19117E-03	.61747E-09
47	.94499E-04	.19979E-03	.64531E-09
48	.98508E-04	.20826E-03	.67269E-09
49	.10242E-03	.21654E-03	.69943E-09
50	.10622E-03	.22457E-03	.72537E-09
51	.10988E-03	.23230E-03	.75034E-09
52	.11337E-03	.23968E-03	.77416E-09
53	.11666E-03	.24665E-03	.79667E-09
54	.11975E-03	.25316E-03	.81771E-09
55	.12259E-03	.25918E-03	.83715E-09
56	.12518E-03	.26465E-03	.85483E-09
57	.12749E-03	.26954E-03	.87063E-09
58	.12951E-03	.27380E-03	.88439E-09
59	.13121E-03	.27739E-03	.89597E-09
60	.13256E-03	.28025E-03	.90522E-09

Polygon VP-96-1B
Time: 40.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.64112E-07	.13554E-06	.43781E-12
2	.16473E-06	.34826E-06	.11249E-11
3	.29848E-06	.63104E-06	.20382E-11
4	.46365E-06	.98022E-06	.31661E-11
5	.65971E-06	.13947E-05	.45050E-11
6	.88707E-06	.18754E-05	.60576E-11
7	.11468E-05	.24246E-05	.78315E-11
8	.14407E-05	.30458E-05	.98380E-11
9	.17707E-05	.37435E-05	.12092E-10
10	.21394E-05	.45230E-05	.14609E-10

11	.25496E-05	.53903E-05	.17411E-10
12	.30046E-05	.63522E-05	.20518E-10
13	.35077E-05	.74159E-05	.23953E-10
14	.40628E-05	.85894E-05	.27744E-10
15	.46738E-05	.98812E-05	.31916E-10
16	.53451E-05	.11300E-04	.36500E-10
17	.60811E-05	.12856E-04	.41526E-10
18	.68867E-05	.14560E-04	.47028E-10
19	.77668E-05	.16420E-04	.53038E-10
20	.87267E-05	.18450E-04	.59593E-10
21	.97718E-05	.20659E-04	.66729E-10
22	.10907E-04	.23060E-04	.74485E-10
23	.12139E-04	.25665E-04	.82897E-10
24	.13473E-04	.28485E-04	.92006E-10
25	.14915E-04	.31532E-04	.10185E-09
26	.16469E-04	.34818E-04	.11246E-09
27	.18141E-04	.38354E-04	.12388E-09
28	.19937E-04	.42150E-04	.13615E-09
29	.21860E-04	.46216E-04	.14928E-09
30	.23915E-04	.50559E-04	.16331E-09
31	.26103E-04	.55186E-04	.17825E-09
32	.28427E-04	.60098E-04	.19412E-09
33	.30886E-04	.65298E-04	.21091E-09
34	.33480E-04	.70782E-04	.22863E-09
35	.36206E-04	.76545E-04	.24724E-09
36	.39059E-04	.82577E-04	.26673E-09
37	.42034E-04	.88868E-04	.28704E-09
38	.45125E-04	.95401E-04	.30815E-09
39	.48322E-04	.10216E-03	.32998E-09
40	.51616E-04	.10912E-03	.35247E-09
41	.54997E-04	.11627E-03	.37556E-09
42	.58454E-04	.12358E-03	.39917E-09
43	.61974E-04	.13102E-03	.42320E-09
44	.65543E-04	.13857E-03	.44758E-09
45	.69148E-04	.14619E-03	.47219E-09
46	.72772E-04	.15385E-03	.49694E-09
47	.76400E-04	.16152E-03	.52171E-09
48	.80012E-04	.16916E-03	.54638E-09
49	.83590E-04	.17672E-03	.57082E-09
50	.87114E-04	.18417E-03	.59488E-09
51	.90561E-04	.19146E-03	.61842E-09
52	.93908E-04	.19854E-03	.64127E-09
53	.97130E-04	.20535E-03	.66328E-09
54	.10020E-03	.21184E-03	.68425E-09
55	.10309E-03	.21796E-03	.70401E-09
56	.10578E-03	.22364E-03	.72235E-09
57	.10823E-03	.22881E-03	.73907E-09
58	.11041E-03	.23342E-03	.75394E-09
59	.11228E-03	.23738E-03	.76674E-09
60	.11382E-03	.24062E-03	.77722E-09

Polygon VP-96-1B
Time: 50.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol

1	.51814E-07	.10954E-06	.35382E-12
2	.13319E-06	.28159E-06	.90954E-12
3	.24144E-06	.51045E-06	.16488E-11
4	.37518E-06	.79320E-06	.25620E-11
5	.53401E-06	.11290E-05	.36466E-11
6	.71822E-06	.15184E-05	.49046E-11
7	.92869E-06	.19634E-05	.63418E-11
8	.11667E-05	.24666E-05	.79672E-11
9	.14339E-05	.30316E-05	.97921E-11
10	.17323E-05	.36624E-05	.11830E-10
11	.20640E-05	.43637E-05	.14095E-10
12	.24315E-05	.51406E-05	.16604E-10
13	.28374E-05	.59986E-05	.19376E-10
14	.32844E-05	.69438E-05	.22428E-10
15	.37757E-05	.79824E-05	.25783E-10
16	.43143E-05	.91211E-05	.29461E-10
17	.49036E-05	.10367E-04	.33486E-10
18	.55472E-05	.11728E-04	.37880E-10
19	.62486E-05	.13211E-04	.42670E-10
20	.70116E-05	.14824E-04	.47880E-10
21	.78401E-05	.16575E-04	.53538E-10
22	.87381E-05	.18474E-04	.59670E-10
23	.97095E-05	.20528E-04	.66304E-10
24	.10759E-04	.22745E-04	.73468E-10
25	.11889E-04	.25136E-04	.81190E-10
26	.13106E-04	.27708E-04	.89496E-10
27	.14412E-04	.30469E-04	.98415E-10
28	.15811E-04	.33428E-04	.10797E-09
29	.17308E-04	.36592E-04	.11819E-09
30	.18905E-04	.39967E-04	.12909E-09
31	.20605E-04	.43561E-04	.14070E-09
32	.22410E-04	.47379E-04	.15303E-09
33	.24323E-04	.51423E-04	.16610E-09
34	.26345E-04	.55697E-04	.17990E-09
35	.28476E-04	.60202E-04	.19445E-09
36	.30715E-04	.64937E-04	.20975E-09
37	.33062E-04	.69899E-04	.22577E-09
38	.35514E-04	.75082E-04	.24251E-09
39	.38066E-04	.80479E-04	.25995E-09
40	.40716E-04	.86080E-04	.27804E-09
41	.43456E-04	.91872E-04	.29675E-09
42	.46279E-04	.97841E-04	.31603E-09
43	.49177E-04	.10397E-03	.33582E-09
44	.52140E-04	.11023E-03	.35605E-09
45	.55157E-04	.11661E-03	.37666E-09
46	.58217E-04	.12308E-03	.39755E-09
47	.61306E-04	.12961E-03	.41864E-09
48	.64408E-04	.13617E-03	.43983E-09
49	.67508E-04	.14272E-03	.46100E-09
50	.70588E-04	.14923E-03	.48203E-09
51	.73628E-04	.15566E-03	.50279E-09
52	.76608E-04	.16196E-03	.52314E-09
53	.79506E-04	.16809E-03	.54292E-09
54	.82295E-04	.17399E-03	.56197E-09

55	.84951E-04	.17960E-03	.58011E-09
56	.87443E-04	.18487E-03	.59713E-09
57	.89741E-04	.18973E-03	.61282E-09
58	.91811E-04	.19410E-03	.62696E-09
59	.93616E-04	.19792E-03	.63928E-09
60	.95116E-04	.20109E-03	.64953E-09

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-2-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-24A
Lab File ID: 5101312
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 2.59

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	5.2	U
67-64-1	Acetone	5.2	U
75-15-0	Carbon Disulfide	39	
67-63-0	2-Propanol	5.2	U
156-60-5	trans-1,2-Dichloroethene	5.2	U
108-05-4	Vinyl Acetate	5.2	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	5.2	U
110-54-3	Hexane	5.2	U
109-99-9	Tetrahydrofuran	5.2	U
110-82-7	Cyclohexane	5.2	U
123-91-1	1,4-Dioxane	190	
75-27-4	Bromodichloromethane	5.2	U
108-10-1	4-Methyl-2-pentanone	5.2	U
591-78-6	2-Hexanone	5.2	U
124-48-1	Dibromochloromethane	5.2	U
75-25-2	Bromoform	5.2	U
622-96-8	4-Ethyltoluene	5.2	U
64-17-5	Ethanol	12	
1634-04-4	Methyl tert-Butyl Ether	5.2	U
142-82-5	Heptane	5.2	U

FORM I-ATL

LEVEL-IV VALIDATABLE

000100

SAMPLE NO.

VP-96-2-30

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-26A
Lab File ID: 5101315
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 3.09

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.5	U
76-14-2	Freon 114	1.5	U
74-87-3	Chloromethane	1.5	U
75-01-4	Vinyl Chloride	1.5	U
74-83-9	Bromomethane	1.5	U
75-00-3	Chloroethane	1.5	U
75-69-4	Freon 11	1.5	U
75-35-4	1,1-Dichloroethene	1.5	U
76-13-1	Freon 113	140	
75-09-2	Methylene Chloride	1.8	J
75-34-3	1,1-Dichloroethane	1.5	U
156-59-2	cis-1,2-Dichloroethene	1.5	U
67-66-3	Chloroform	7.2	
71-55-6	1,1,1-Trichloroethane	1.5	U
56-23-5	Carbon Tetrachloride	1.5	U
71-43-2	Benzene	1.5	U
107-06-2	1,2-Dichloroethane	1.5	U
79-01-6	Trichloroethene	5.4	J
78-87-5	1,2-Dichloropropane	1.5	U
10061-01-5	cis-1,3-Dichloropropene	1.5	U
108-88-3	Toluene	1.5	U
10061-02-6	trans-1,3-Dichloropropene	1.5	U
79-00-5	1,1,2-Trichloroethane	1.5	U
127-18-4	Tetrachloroethene	3.2	J
106-93-4	Ethylene Dibromide	1.5	U
108-90-7	Chlorobenzene	1.5	U
100-41-4	Ethyl Benzene	1.5	U
108-38-3	m,p-Xylene	1.5	U
95-47-6	o-Xylene	1.5	U
100-42-5	Styrene	1.5	U
79-34-5	1,1,2,2-Tetrachloroethane	1.5	U
108-67-8	1,3,5-Trimethylbenzene	1.5	U
95-63-6	1,2,4-Trimethylbenzene	1.5	U
541-73-1	1,3-Dichlorobenzene	1.5	U
106-46-7	1,4-Dichlorobenzene	1.5	U
100-44-7	Chlorotoluene	1.5	U
95-50-1	1,2-Dichlorobenzene	1.5	U
120-82-1	1,2,4-Trichlorobenzene	1.5	U
87-68-3	Hexachlorobutadiene	1.5	U
115-07-1	Propylene	6.2	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-2-30

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-26A
Lab File ID: 5101315
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 3.09

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	6.2	U
67-64-1	Acetone	6.2	U
75-15-0	Carbon Disulfide	44	
67-63-0	2-Propanol	6.2	U
156-60-5	trans-1,2-Dichloroethene	6.2	U
108-05-4	Vinyl Acetate	6.2	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	6.2	U
110-54-3	Hexane	6.2	U
109-99-9	Tetrahydrofuran	6.2	U
110-82-7	Cyclohexane	6.2	U
123-91-1	1,4-Dioxane	140	
75-27-4	Bromodichloromethane	6.2	U
108-10-1	4-Methyl-2-pentanone	6.2	U
591-78-6	2-Hexanone	6.2	U
124-48-1	Dibromochloromethane	6.2	U
75-25-2	Bromoform	6.2	U
622-96-8	4-Ethyltoluene	6.2	U
64-17-5	Ethanol	14	
1634-04-4	Methyl tert-Butyl Ether	6.2	U
142-82-5	Heptane	6.2	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-2-40

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-23A
Lab File ID: 5101311
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 2.23

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.2	J
76-14-2	Freon 114	1.1	U
74-87-3	Chloromethane	2.8	J
75-01-4	Vinyl Chloride	13	
74-83-9	Bromomethane	1.1	U
75-00-3	Chloroethane	7.8	
75-69-4	Freon 11	1.1	U
75-35-4	1,1-Dichloroethene	5.3	
76-13-1	Freon 113	330	
75-09-2	Methylene Chloride	1.1	J
75-34-3	1,1-Dichloroethane	1.1	U
156-59-2	cis-1,2-Dichloroethene	1.1	U
67-66-3	Chloroform	19	
71-55-6	1,1,1-Trichloroethane	1.6	J
56-23-5	Carbon Tetrachloride	1.1	U
71-43-2	Benzene	1.2	J
107-06-2	1,2-Dichloroethane	1.1	U
79-01-6	Trichloroethene	140	
78-87-5	1,2-Dichloropropane	1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	U
108-88-3	Toluene	1.1	U
10061-02-6	trans-1,3-Dichloropropene	1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
127-18-4	Tetrachloroethene	10	
106-93-4	Ethylene Dibromide	1.1	U
108-90-7	Chlorobenzene	1.1	U
100-41-4	Ethyl Benzene	1.1	U
108-38-3	m,p-Xylene	1.1	U
95-47-6	o-Xylene	1.1	U
100-42-5	Styrene	1.1	U
79-34-5	1,1,2,2-Tetrachloroethane	1.1	U
108-67-8	1,3,5-Trimethylbenzene	1.1	U
95-63-6	1,2,4-Trimethylbenzene	1.1	U
541-73-1	1,3-Dichlorobenzene	1.2	J
106-46-7	1,4-Dichlorobenzene	1.1	U
100-44-7	Chlorotoluene	1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	U
120-82-1	1,2,4-Trichlorobenzene	1.1	U
87-68-3	Hexachlorobutadiene	1.1	U
115-07-1	Propylene	4.5	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-2-40

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-23A
Lab File ID: 5101311
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 2.23

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	4.5	U
67-64-1	Acetone	6.1	J
75-15-0	Carbon Disulfide	59	
67-63-0	2-Propanol	6.0	J
156-60-5	trans-1,2-Dichloroethene	4.5	U
108-05-4	Vinyl Acetate	4.5	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	4.5	U
110-54-3	Hexane	4.5	U
109-99-9	Tetrahydrofuran	4.5	U
110-82-7	Cyclohexane	4.5	U
123-91-1	1,4-Dioxane	4.5	U
75-27-4	Bromodichloromethane	4.5	U
108-10-1	4-Methyl-2-pentanone	4.5	U
591-78-6	2-Hexanone	4.5	U
124-48-1	Dibromochloromethane	4.5	U
75-25-2	Bromoform	4.5	U
622-96-8	4-Ethyltoluene	4.5	U
64-17-5	Ethanol	11	
1634-04-4	Methyl tert-Butyl Ether	4.5	U
142-82-5	Heptane	4.5	U

FORM I-ATL

LEVEL-IV VALIDATABLE

000084
SAMPLE NO.
VP-96-2-50

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 200 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-25A
Lab File ID: 5101314
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 3.85

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	1.9	U
76-14-2	Freon 114	1.9	U
74-87-3	Chloromethane	1.9	U
75-01-4	Vinyl Chloride	1.9	U
74-83-9	Bromomethane	1.9	U
75-00-3	Chloroethane	2.7	J
75-69-4	Freon 11	1.9	U
75-35-4	1,1-Dichloroethene	5.1	J
76-13-1	Freon 113	420	
75-09-2	Methylene Chloride	1.9	U
75-34-3	1,1-Dichloroethane	1.9	U
156-59-2	cis-1,2-Dichloroethene	1.9	U
67-66-3	Chloroform	7.4	J
71-55-6	1,1,1-Trichloroethane	1.9	U
56-23-5	Carbon Tetrachloride	1.9	U
71-43-2	Benzene	1.9	U
107-06-2	1,2-Dichloroethane	1.9	U
79-01-6	Trichloroethene	170	
78-87-5	1,2-Dichloropropane	1.9	U
10061-01-5	cis-1,3-Dichloropropene	1.9	U
108-88-3	Toluene	1.9	U
10061-02-6	trans-1,3-Dichloropropene	1.9	U
79-00-5	1,1,2-Trichloroethane	1.9	U
127-18-4	Tetrachloroethene	17	
106-93-4	Ethylene Dibromide	1.9	U
108-90-7	Chlorobenzene	1.9	U
100-41-4	Ethyl Benzene	1.9	U
108-38-3	m,p-Xylene	1.9	U
95-47-6	o-Xylene	1.9	U
100-42-5	Styrene	1.9	U
79-34-5	1,1,2,2-Tetrachloroethane	1.9	U
108-67-8	1,3,5-Trimethylbenzene	1.9	U
95-63-6	1,2,4-Trimethylbenzene	1.9	U
541-73-1	1,3-Dichlorobenzene	1.9	U
106-46-7	1,4-Dichlorobenzene	1.9	U
100-44-7	Chlorotoluene	1.9	U
95-50-1	1,2-Dichlorobenzene	1.9	U
120-82-1	1,2,4-Trichlorobenzene	1.9	U
87-68-3	Hexachlorobutadiene	1.9	U
115-07-1	Propylene	7.7	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-96-2-50

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 200 ml
%Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-25A
Lab File ID: 5101314
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 3.85

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	7.7	U
67-64-1	Acetone	7.7	U
75-15-0	Carbon Disulfide	13	J
67-63-0	2-Propanol	7.7	U
156-60-5	trans-1,2-Dichloroethene	7.7	U
108-05-4	Vinyl Acetate	7.7	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	7.7	U
110-54-3	Hexane	7.7	U
109-99-9	Tetrahydrofuran	7.7	U
110-82-7	Cyclohexane	7.7	U
123-91-1	1,4-Dioxane	7.7	U
75-27-4	Bromodichloromethane	7.7	U
108-10-1	4-Methyl-2-pentanone	7.7	U
591-78-6	2-Hexanone	7.7	U
124-48-1	Dibromochloromethane	7.7	U
75-25-2	Bromoform	7.7	U
622-96-8	4-Ethyltoluene	10	J
64-17-5	Ethanol	7.7	U
1634-04-4	Methyl tert-Butyl Ether	7.7	U
142-82-5	Heptane		

FORM I-ATL

Polygon 96 Final Closure Soil Gas Data

Total Soil Concentration Calculations from Soil Gas Data
VP-96-2, October 1998 Rebound Evaluation

Sample #	Total Clx (ppbV as TCE)	Total Clx Conc (ug/L)*	Total Clx Conc (ug/Kg)**
VP-96-2-14	14.4	0.10	0.06
VP-96-2-30	8.6	0.05	0.03
VP-96-2-40	157	0.86	0.52
VP-96-2-50	192	1.07	0.64
	372	2.08	1.25

*Divided by (24.04/131.39)
**Multiply ug/L concentration by 0.599 L/Kg (calculated Kgt based on revised soil physical data).

1,1-DCE Soil Concentration Calculations from Soil Gas Data
VP-96-2, October 1998 Rebound Evaluation

Sample #	1,1-DCE Conc (ppbV)	1,1-DCE Conc (ug/L)*	1,1-DCE Conc (ug/Kg)**
VP-96-2-14	0.0	0.00	0.00
VP-96-2-30	0.0	0.00	0.00
VP-96-2-40	5.3	0.02	0.01
VP-96-2-50	5.1	0.02	0.01
	10.4	0.04	0.03

1,1,1-TCA Soil Concentration Calculations from Soil Gas Data
VP-96-2, October 1998 Rebound Evaluation

Sample #	1,1,1-TCA Conc (ppbV)	1,1,1-TCA Conc (ug/L)*	1,1,1-TCA Conc (ug/Kg)**
VP-96-2-14	0.0	0.00	0.00
VP-96-2-30	0.0	0.00	0.00
VP-96-2-40	1.6	0.01	0.01
VP-96-2-50	0.0	0.00	0.00
	1.6	0.01	0.01

Polygon 96 Final Closure Soil Gas Data

TCE Soil Concentration Calculations from Soil Gas Data
VP-96-2, October 1998 Rebound Evaluation

Sample #	TCE Conc (ppbV)	TCE Conc (ug/L)*	TCE Conc (ug/Kg)**
VP-96-2-14	1.4	0.01	0.00
VP-96-2-30	5.4	0.03	0.02
VP-96-2-40	140	0.76	0.46
VP-96-2-50	170	0.93	0.56
	317	1.73	1.04

PCE Soil Concentration Calculations from Soil Gas Data
VP-96-2, October 1998 Rebound Evaluation

Sample #	PCE Conc (ppbV)	PCE Conc (ug/L)*	PCE Conc (ug/Kg)**
VP-96-2-14	13.0	0.09	0.05
VP-96-2-30	3.2	0.02	0.01
VP-96-2-40	10.0	0.07	0.04
VP-96-2-50	17.0	0.12	0.07
	43.2	0.30	0.18

Polygon 96 Final Closure Soil Gas Data

Interpolated Total Soil Concentrations
VP-96-2, October 1998 Rebound Evaluation

Depth (feet)	*Conc. (ug/kg)*
3	0.012
9	0.037
15	0.062
21	0.046
27	0.036
33	0.177
39	0.469
45	0.58
51	0.64
57	0.64
60	0.64

```
PGA VLEACH model, Polygon 96 VP-96-2  OCT-98 LAB Data
    1
       1.0      50.       1.0        10.
     123.6       .473      1100.      .7029
Polygon VP-96-2
    83000         1.    .197       1.64      .381       .255       .00074
        0.         0.        -1.
   60
    1     6       0.012
    7    12       0.037
   13    18       0.062
   19    24       0.046
   25    30       0.036
   31    36       0.177
   37    42       0.469
   43    48       0.580
   49    54       0.640
   55    60       0.640
```

V-Leach, VER 1.1
Jake Turin, 11/91
PGA VLEACH model, Polygon 96 VP-96-2 OCT-98 LAB Data
1 polygons.
Timestep = 1.00 years. Simulation length = 50.00 years.
Printout every 1.00 years. Vertical profile stored every 10.00 years.
Koc = 123.60 ml/g, .43649E-02cu.ft./g
Kh = .47300 (dimensionless).
Aqueous solubility = 1100.0 mg/l, 31.149 g/cu.ft
Free air diffusion coefficient = .70290 sq. m/day, 2761.7 sq.ft./yr

Polygon 1
Polygon VP-96-2
Polygon area = 83000. sq. ft.
60 cells, each cell 1.000 ft. thick.
Soil Properties:
Bulk density = 1.6400 g/ml, 46440. g/cu.ft.
Porosity = .3810 Volumetric water content = .2550
Organic carbon content = .00074000
Recharge Rate = .19700000 ft/yr
Conc. in recharge water = .00000 mg/l, .00000 g/cu.ft
Atmospheric concentration = .00000 mg/l, .00000 g/cu.ft
Water table is impermeable to gas diffusion.

MIXCELL OUTPUT FILE

PGA VLEACH model Polygon 96 VP-96-2 OCT-98 LAB Data

Year	Mass (grams)	GW Conc (ug/L)
1	1.046	0.0137
2	1.044	0.0209
3	1.043	0.0248
4	1.040	0.0268
5	1.037	0.0278
6	1.034	0.0283
7	1.030	0.0285
8	1.025	0.0286
9	1.019	0.0285
10	1.013	0.0284
11	1.006	0.0283
12	0.999	0.0281
13	0.990	0.0279
14	0.981	0.0277
15	0.971	0.0274
16	0.961	0.0272
17	0.949	0.0269
18	0.938	0.0266
19	0.925	0.0262
20	0.913	0.0259
21	0.899	0.0255
22	0.886	0.0252
23	0.871	0.0248
24	0.857	0.0244
25	0.842	0.0240
26	0.827	0.0236
27	0.812	0.0232
28	0.797	0.0228
29	0.781	0.0223
30	0.765	0.0219
31	0.750	0.0215
32	0.734	0.0210
33	0.718	0.0206
34	0.702	0.0201
35	0.687	0.0197
36	0.671	0.0193
37	0.656	0.0188
38	0.641	0.0184
39	0.626	0.0180
40	0.611	0.0176
41	0.596	0.0171
42	0.582	0.0167
43	0.568	0.0163
44	0.554	0.0159
45	0.541	0.0156
46	0.528	0.0152
47	0.515	0.0148
48	0.502	0.0144
49	0.490	0.0141
50	0.478	0.0138

Polygon VP-96-2
Time: .000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.47278E-06	.99954E-06	.32285E-11
2	.47278E-06	.99954E-06	.32285E-11
3	.47278E-06	.99954E-06	.32285E-11
4	.47278E-06	.99954E-06	.32285E-11
5	.47278E-06	.99954E-06	.32285E-11
6	.47278E-06	.99954E-06	.32285E-11
7	.14183E-05	.29986E-05	.96855E-11
8	.14183E-05	.29986E-05	.96855E-11
9	.14183E-05	.29986E-05	.96855E-11
10	.14183E-05	.29986E-05	.96855E-11
11	.14183E-05	.29986E-05	.96855E-11
12	.14183E-05	.29986E-05	.96855E-11
13	.28367E-05	.59972E-05	.19371E-10
14	.28367E-05	.59972E-05	.19371E-10
15	.28367E-05	.59972E-05	.19371E-10
16	.28367E-05	.59972E-05	.19371E-10
17	.28367E-05	.59972E-05	.19371E-10
18	.28367E-05	.59972E-05	.19371E-10
19	.18911E-05	.39981E-05	.12914E-10
20	.18911E-05	.39981E-05	.12914E-10
21	.18911E-05	.39981E-05	.12914E-10
22	.18911E-05	.39981E-05	.12914E-10
23	.18911E-05	.39981E-05	.12914E-10
24	.18911E-05	.39981E-05	.12914E-10
25	.14183E-05	.29986E-05	.96855E-11
26	.14183E-05	.29986E-05	.96855E-11
27	.14183E-05	.29986E-05	.96855E-11
28	.14183E-05	.29986E-05	.96855E-11
29	.14183E-05	.29986E-05	.96855E-11
30	.14183E-05	.29986E-05	.96855E-11
31	.80373E-05	.16992E-04	.54885E-10
32	.80373E-05	.16992E-04	.54885E-10
33	.80373E-05	.16992E-04	.54885E-10
34	.80373E-05	.16992E-04	.54885E-10
35	.80373E-05	.16992E-04	.54885E-10
36	.80373E-05	.16992E-04	.54885E-10
37	.21748E-04	.45979E-04	.14851E-09
38	.21748E-04	.45979E-04	.14851E-09
39	.21748E-04	.45979E-04	.14851E-09
40	.21748E-04	.45979E-04	.14851E-09
41	.21748E-04	.45979E-04	.14851E-09
42	.21748E-04	.45979E-04	.14851E-09
43	.27421E-04	.57973E-04	.18725E-09
44	.27421E-04	.57973E-04	.18725E-09
45	.27421E-04	.57973E-04	.18725E-09
46	.27421E-04	.57973E-04	.18725E-09
47	.27421E-04	.57973E-04	.18725E-09
48	.27421E-04	.57973E-04	.18725E-09
49	.30258E-04	.63970E-04	.20662E-09
50	.30258E-04	.63970E-04	.20662E-09

51	.30258E-04	.63970E-04	.20662E-09
52	.30258E-04	.63970E-04	.20662E-09
53	.30258E-04	.63970E-04	.20662E-09
54	.30258E-04	.63970E-04	.20662E-09
55	.30258E-04	.63970E-04	.20662E-09
56	.30258E-04	.63970E-04	.20662E-09
57	.30258E-04	.63970E-04	.20662E-09
58	.30258E-04	.63970E-04	.20662E-09
59	.30258E-04	.63970E-04	.20662E-09
60	.30258E-04	.63970E-04	.20662E-09

Polygon VP-96-2
Time: 10.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.28683E-07	.60642E-07	.19587E-12
2	.78152E-07	.16523E-06	.53368E-12
3	.14777E-06	.31241E-06	.10091E-11
4	.23362E-06	.49390E-06	.15953E-11
5	.32981E-06	.69727E-06	.22522E-11
6	.43104E-06	.91129E-06	.29435E-11
7	.53744E-06	.11362E-05	.36701E-11
8	.65416E-06	.13830E-05	.44671E-11
9	.78484E-06	.16593E-05	.53595E-11
10	.92723E-06	.19603E-05	.63318E-11
11	.10746E-05	.22720E-05	.73384E-11
12	.12203E-05	.25798E-05	.83329E-11
13	.13651E-05	.28860E-05	.93218E-11
14	.15174E-05	.32080E-05	.10362E-10
15	.16831E-05	.35584E-05	.11494E-10
16	.18590E-05	.39303E-05	.12695E-10
17	.20350E-05	.43023E-05	.13897E-10
18	.22003E-05	.46518E-05	.15025E-10
19	.23453E-05	.49583E-05	.16015E-10
20	.24629E-05	.52071E-05	.16819E-10
21	.25536E-05	.53986E-05	.17438E-10
22	.26264E-05	.55526E-05	.17935E-10
23	.26961E-05	.57000E-05	.18411E-10
24	.27777E-05	.58725E-05	.18968E-10
25	.28813E-05	.60914E-05	.19675E-10
26	.30120E-05	.63679E-05	.20568E-10
27	.31743E-05	.67111E-05	.21677E-10
28	.33754E-05	.71361E-05	.23050E-10
29	.36250E-05	.76639E-05	.24754E-10
30	.39344E-05	.83180E-05	.26867E-10
31	.43371E-05	.91693E-05	.29617E-10
32	.48836E-05	.10325E-04	.33349E-10
33	.56015E-05	.11843E-04	.38251E-10
34	.64702E-05	.13679E-04	.44184E-10
35	.74364E-05	.15722E-04	.50781E-10
36	.84469E-05	.17858E-04	.57682E-10
37	.95172E-05	.20121E-04	.64991E-10
38	.10726E-04	.22677E-04	.73248E-10
39	.12125E-04	.25634E-04	.82798E-10
40	.13672E-04	.28905E-04	.93363E-10

41	.15260E-04	.32263E-04	.10421E-09
42	.16778E-04	.35471E-04	.11457E-09
43	.18173E-04	.38421E-04	.12410E-09
44	.19461E-04	.41143E-04	.13289E-09
45	.20672E-04	.43704E-04	.14116E-09
46	.21815E-04	.46120E-04	.14897E-09
47	.22871E-04	.48353E-04	.15618E-09
48	.23818E-04	.50355E-04	.16265E-09
49	.24653E-04	.52121E-04	.16835E-09
50	.25400E-04	.53701E-04	.17345E-09
51	.26082E-04	.55143E-04	.17811E-09
52	.26707E-04	.56463E-04	.18238E-09
53	.27267E-04	.57647E-04	.18620E-09
54	.27751E-04	.58671E-04	.18951E-09
55	.28154E-04	.59523E-04	.19226E-09
56	.28478E-04	.60207E-04	.19447E-09
57	.28730E-04	.60741E-04	.19619E-09
58	.28921E-04	.61143E-04	.19749E-09
59	.29058E-04	.61434E-04	.19843E-09
60	.29150E-04	.61627E-04	.19906E-09

Polygon VP-96-2
Time: 20.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.17035E-07	.36015E-07	.11633E-12
2	.44245E-07	.93542E-07	.30214E-12
3	.81011E-07	.17127E-06	.55321E-12
4	.12710E-06	.26871E-06	.86793E-12
5	.18247E-06	.38577E-06	.12461E-11
6	.24709E-06	.52238E-06	.16873E-11
7	.32076E-06	.67815E-06	.21904E-11
8	.40316E-06	.85235E-06	.27531E-11
9	.49390E-06	.10442E-05	.33727E-11
10	.59267E-06	.12530E-05	.40472E-11
11	.69927E-06	.14784E-05	.47751E-11
12	.81352E-06	.17199E-05	.55553E-11
13	.93513E-06	.19770E-05	.63858E-11
14	.10637E-05	.22488E-05	.72636E-11
15	.11987E-05	.25344E-05	.81860E-11
16	.13401E-05	.28332E-05	.91512E-11
17	.14877E-05	.31451E-05	.10159E-10
18	.16414E-05	.34702E-05	.11209E-10
19	.18012E-05	.38080E-05	.12300E-10
20	.19664E-05	.41572E-05	.13428E-10
21	.21362E-05	.45163E-05	.14588E-10
22	.23098E-05	.48833E-05	.15773E-10
23	.24868E-05	.52575E-05	.16982E-10
24	.26676E-05	.56398E-05	.18217E-10
25	.28540E-05	.60339E-05	.19490E-10
26	.30490E-05	.64461E-05	.20821E-10
27	.32567E-05	.68852E-05	.22239E-10
28	.34819E-05	.73614E-05	.23777E-10
29	.37301E-05	.78861E-05	.25472E-10
30	.40068E-05	.84710E-05	.27361E-10

31	.43178E-05	.91285E-05	.29485E-10
32	.46694E-05	.98720E-05	.31887E-10
33	.50689E-05	.10717E-04	.34615E-10
34	.55241E-05	.11679E-04	.37723E-10
35	.60425E-05	.12775E-04	.41263E-10
36	.66299E-05	.14017E-04	.45274E-10
37	.72892E-05	.15411E-04	.49776E-10
38	.80198E-05	.16955E-04	.54765E-10
39	.88198E-05	.18646E-04	.60228E-10
40	.96866E-05	.20479E-04	.66148E-10
41	.10618E-04	.22448E-04	.72506E-10
42	.11609E-04	.24543E-04	.79273E-10
43	.12651E-04	.26746E-04	.86390E-10
44	.13731E-04	.29029E-04	.93765E-10
45	.14832E-04	.31357E-04	.10128E-09
46	.15935E-04	.33689E-04	.10882E-09
47	.17025E-04	.35993E-04	.11626E-09
48	.18086E-04	.38237E-04	.12351E-09
49	.19108E-04	.40398E-04	.13048E-09
50	.20081E-04	.42454E-04	.13713E-09
51	.20997E-04	.44391E-04	.14338E-09
52	.21851E-04	.46197E-04	.14921E-09
53	.22639E-04	.47862E-04	.15460E-09
54	.23358E-04	.49384E-04	.15951E-09
55	.24008E-04	.50756E-04	.16394E-09
56	.24585E-04	.51977E-04	.16789E-09
57	.25088E-04	.53041E-04	.17132E-09
58	.25515E-04	.53943E-04	.17424E-09
59	.25863E-04	.54679E-04	.17661E-09
60	.26130E-04	.55243E-04	.17844E-09

Polygon VP-96-2
Time: 30.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.12172E-07	.25733E-07	.83117E-13
2	.31436E-07	.66462E-07	.21467E-12
3	.57226E-07	.12099E-06	.39078E-12
4	.89257E-07	.18870E-06	.60952E-12
5	.12745E-06	.26944E-06	.87030E-12
6	.17185E-06	.36333E-06	.11735E-11
7	.22263E-06	.47067E-06	.15203E-11
8	.27997E-06	.59190E-06	.19118E-11
9	.34409E-06	.72747E-06	.23497E-11
10	.41521E-06	.87783E-06	.28354E-11
11	.49350E-06	.10433E-05	.33700E-11
12	.57911E-06	.12243E-05	.39546E-11
13	.67216E-06	.14211E-05	.45900E-11
14	.77275E-06	.16337E-05	.52770E-11
15	.88096E-06	.18625E-05	.60159E-11
16	.99687E-06	.21075E-05	.68074E-11
17	.11205E-05	.23690E-05	.76519E-11
18	.12521E-05	.26471E-05	.85500E-11
19	.13915E-05	.29419E-05	.95025E-11
20	.15392E-05	.32540E-05	.10511E-10

21	.16951E-05	.35837E-05	.11575E-10
22	.18596E-05	.39316E-05	.12699E-10
23	.20331E-05	.42982E-05	.13883E-10
24	.22158E-05	.46845E-05	.15131E-10
25	.24083E-05	.50915E-05	.16446E-10
26	.26113E-05	.55206E-05	.17832E-10
27	.28256E-05	.59738E-05	.19295E-10
28	.30525E-05	.64536E-05	.20845E-10
29	.32937E-05	.69634E-05	.22492E-10
30	.35510E-05	.75073E-05	.24249E-10
31	.38267E-05	.80903E-05	.26132E-10
32	.41236E-05	.87180E-05	.28159E-10
33	.44445E-05	.93965E-05	.30351E-10
34	.47925E-05	.10132E-04	.32727E-10
35	.51708E-05	.10932E-04	.35310E-10
36	.55825E-05	.11802E-04	.38121E-10
37	.60307E-05	.12750E-04	.41182E-10
38	.65182E-05	.13780E-04	.44511E-10
39	.70472E-05	.14899E-04	.48124E-10
40	.76193E-05	.16108E-04	.52030E-10
41	.82351E-05	.17410E-04	.56235E-10
42	.88942E-05	.18804E-04	.60736E-10
43	.95952E-05	.20286E-04	.65523E-10
44	.10336E-04	.21851E-04	.70579E-10
45	.11112E-04	.23492E-04	.75879E-10
46	.11919E-04	.25198E-04	.81390E-10
47	.12750E-04	.26956E-04	.87067E-10
48	.13599E-04	.28750E-04	.92861E-10
49	.14456E-04	.30561E-04	.98714E-10
50	.15312E-04	.32372E-04	.10456E-09
51	.16158E-04	.34161E-04	.11034E-09
52	.16985E-04	.35908E-04	.11598E-09
53	.17782E-04	.37593E-04	.12143E-09
54	.18541E-04	.39198E-04	.12661E-09
55	.19253E-04	.40704E-04	.13147E-09
56	.19910E-04	.42093E-04	.13596E-09
57	.20504E-04	.43349E-04	.14002E-09
58	.21028E-04	.44457E-04	.14360E-09
59	.21474E-04	.45400E-04	.14664E-09
60	.21835E-04	.46162E-04	.14910E-09

Polygon VP-96-2
Time: 40.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol
1	.91950E-08	.19440E-07	.62791E-13
2	.23699E-07	.50103E-07	.16183E-12
3	.43059E-07	.91034E-07	.29404E-12
4	.67045E-07	.14174E-06	.45783E-12
5	.95586E-07	.20209E-06	.65274E-12
6	.12873E-06	.27215E-06	.87905E-12
7	.16660E-06	.35222E-06	.11377E-11
8	.20939E-06	.44268E-06	.14299E-11
9	.25733E-06	.54403E-06	.17572E-11
10	.31068E-06	.65682E-06	.21215E-11

11	.36971E-06	.78163E-06	.25247E-11
12	.43471E-06	.91906E-06	.29686E-11
13	.50598E-06	.10697E-05	.34552E-11
14	.58379E-06	.12342E-05	.39866E-11
15	.66842E-06	.14132E-05	.45645E-11
16	.76015E-06	.16071E-05	.51909E-11
17	.85925E-06	.18166E-05	.58676E-11
18	.96597E-06	.20422E-05	.65964E-11
19	.10806E-05	.22845E-05	.73790E-11
20	.12034E-05	.25441E-05	.82175E-11
21	.13346E-05	.28216E-05	.91137E-11
22	.14746E-05	.31176E-05	.10070E-10
23	.16237E-05	.34328E-05	.11088E-10
24	.17823E-05	.37681E-05	.12171E-10
25	.19508E-05	.41243E-05	.13322E-10
26	.21297E-05	.45025E-05	.14543E-10
27	.23195E-05	.49037E-05	.15839E-10
28	.25208E-05	.53294E-05	.17214E-10
29	.27343E-05	.57808E-05	.18672E-10
30	.29609E-05	.62598E-05	.20219E-10
31	.32014E-05	.67683E-05	.21862E-10
32	.34568E-05	.73083E-05	.23606E-10
33	.37284E-05	.78824E-05	.25460E-10
34	.40173E-05	.84931E-05	.27433E-10
35	.43248E-05	.91434E-05	.29533E-10
36	.46525E-05	.98361E-05	.31771E-10
37	.50016E-05	.10574E-04	.34155E-10
38	.53738E-05	.11361E-04	.36696E-10
39	.57702E-05	.12199E-04	.39403E-10
40	.61920E-05	.13091E-04	.42284E-10
41	.66403E-05	.14039E-04	.45345E-10
42	.71156E-05	.15044E-04	.48591E-10
43	.76182E-05	.16106E-04	.52023E-10
44	.81478E-05	.17226E-04	.55639E-10
45	.87036E-05	.18401E-04	.59435E-10
46	.92842E-05	.19628E-04	.63399E-10
47	.98872E-05	.20903E-04	.67518E-10
48	.10510E-04	.22220E-04	.71770E-10
49	.11149E-04	.23570E-04	.76131E-10
50	.11799E-04	.24944E-04	.80569E-10
51	.12455E-04	.26331E-04	.85049E-10
52	.13110E-04	.27718E-04	.89528E-10
53	.13759E-04	.29089E-04	.93959E-10
54	.14394E-04	.30430E-04	.98291E-10
55	.15005E-04	.31724E-04	.10247E-09
56	.15586E-04	.32950E-04	.10643E-09
57	.16125E-04	.34091E-04	.11012E-09
58	.16615E-04	.35126E-04	.11346E-09
59	.17044E-04	.36034E-04	.11639E-09
60	.17402E-04	.36792E-04	.11884E-09

Polygon VP-96-2
Time: 50.000

Cell	Cgas(g/cu.ft.)	Cliq(g/cu.ft.)	Csol

1	.71272E-08	.15068E-07	.48670E-13
2	.18351E-07	.38798E-07	.12532E-12
3	.33314E-07	.70431E-07	.22749E-12
4	.51831E-07	.10958E-06	.35394E-12
5	.73848E-07	.15613E-06	.50429E-12
6	.99402E-07	.21015E-06	.67879E-12
7	.12860E-06	.27188E-06	.87817E-12
8	.16160E-06	.34165E-06	.11035E-11
9	.19860E-06	.41987E-06	.13562E-11
10	.23982E-06	.50702E-06	.16377E-11
11	.28552E-06	.60365E-06	.19498E-11
12	.33597E-06	.71030E-06	.22943E-11
13	.39144E-06	.82757E-06	.26731E-11
14	.45223E-06	.95609E-06	.30882E-11
15	.51863E-06	.10965E-05	.35416E-11
16	.59096E-06	.12494E-05	.40355E-11
17	.66951E-06	.14155E-05	.45719E-11
18	.75461E-06	.15954E-05	.51530E-11
19	.84656E-06	.17898E-05	.57809E-11
20	.94568E-06	.19993E-05	.64578E-11
21	.10523E-05	.22247E-05	.71859E-11
22	.11668E-05	.24667E-05	.79675E-11
23	.12894E-05	.27259E-05	.88048E-11
24	.14205E-05	.30032E-05	.97002E-11
25	.15605E-05	.32991E-05	.10656E-10
26	.17097E-05	.36147E-05	.11675E-10
27	.18686E-05	.39506E-05	.12760E-10
28	.20376E-05	.43078E-05	.13914E-10
29	.22170E-05	.46872E-05	.15140E-10
30	.24075E-05	.50898E-05	.16440E-10
31	.26094E-05	.55166E-05	.17819E-10
32	.28233E-05	.59689E-05	.19279E-10
33	.30497E-05	.64476E-05	.20826E-10
34	.32893E-05	.69542E-05	.22462E-10
35	.35426E-05	.74897E-05	.24192E-10
36	.38103E-05	.80556E-05	.26020E-10
37	.40929E-05	.86531E-05	.27949E-10
38	.43911E-05	.92835E-05	.29986E-10
39	.47054E-05	.99480E-05	.32132E-10
40	.50363E-05	.10648E-04	.34392E-10
41	.53843E-05	.11383E-04	.36768E-10
42	.57497E-05	.12156E-04	.39263E-10
43	.61325E-05	.12965E-04	.41877E-10
44	.65327E-05	.13811E-04	.44610E-10
45	.69499E-05	.14693E-04	.47459E-10
46	.73834E-05	.15610E-04	.50419E-10
47	.78322E-05	.16559E-04	.53484E-10
48	.82948E-05	.17537E-04	.56643E-10
49	.87693E-05	.18540E-04	.59883E-10
50	.92531E-05	.19563E-04	.63187E-10
51	.97432E-05	.20599E-04	.66534E-10
52	.10236E-04	.21641E-04	.69899E-10
53	.10727E-04	.22679E-04	.73252E-10
54	.11211E-04	.23703E-04	.76560E-10

55	.11683E-04	.24700E-04	.79782E-10
56	.12136E-04	.25658E-04	.82875E-10
57	.12563E-04	.26560E-04	.85790E-10
58	.12956E-04	.27391E-04	.88473E-10
59	.13306E-04	.28131E-04	.90863E-10
60	.13604E-04	.28761E-04	.92897E-10

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
EB-1-50'

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-31A
Lab File ID: j101217
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 1.96

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	0.98	U
76-14-2	Freon 114	0.98	U
74-87-3	Chloromethane	0.98	U
75-01-4	Vinyl Chloride	0.98	U
74-83-9	Bromomethane	0.98	U
75-00-3	Chloroethane	0.98	U
75-69-4	Freon 11	0.98	U
75-35-4	1,1-Dichloroethene	0.98	U
76-13-1	Freon 113	0.98	U
75-09-2	Methylene Chloride	0.42	J
75-34-3	1,1-Dichloroethane	0.98	U
156-59-2	cis-1,2-Dichloroethene	0.98	U
67-66-3	Chloroform	0.98	U
71-55-6	1,1,1-Trichloroethane	0.98	U
56-23-5	Carbon Tetrachloride	0.98	U
71-43-2	Benzene	1.0	
107-06-2	1,2-Dichloroethane	0.98	U
79-01-6	Trichloroethene	1.4	
78-87-5	1,2-Dichloropropane	0.98	U
10061-01-5	cis-1,3-Dichloropropene	2.4	
108-88-3	Toluene	2.5	
10061-02-6	trans-1,3-Dichloropropene	2.7	
79-00-5	1,1,2-Trichloroethane	0.98	U
127-18-4	Tetrachloroethene	0.98	U
106-93-4	Ethylene Dibromide	0.98	U
108-90-7	Chlorobenzene	0.98	U
100-41-4	Ethyl Benzene	0.98	U
108-38-3	m,p-Xylene	0.98	U
95-47-6	o-Xylene	0.98	U
100-42-5	Styrene	0.98	U
79-34-5	1,1,2,2-Tetrachloroethane	0.98	U
108-67-8	1,3,5-Trimethylbenzene	0.98	U
95-63-6	1,2,4-Trimethylbenzene	1.0	
541-73-1	1,3-Dichlorobenzene	0.98	U
106-46-7	1,4-Dichlorobenzene	0.98	U
100-44-7	Chlorotoluene	0.98	U
95-50-1	1,2-Dichlorobenzene	0.98	U
120-82-1	1,2,4-Trichlorobenzene	0.98	U
87-68-3	Hexachlorobutadiene	0.98	U
115-07-1	Propylene	3.9	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
EB-1-50'

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 100 ml
% Moisture: NA
Instrument ID: msdj.i

Contract:
SDG No.:

Lab Sample ID: 9810058-31A
Lab File ID: j101217
Date Received: 10/2/98
Date Analyzed: 10/12/98
Dilution Factor: 1.96

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.9	U
67-64-1	Acetone	26	
75-15-0	Carbon Disulfide	3.9	U
67-63-0	2-Propanol	3.9	U
156-60-5	trans-1,2-Dichloroethene	3.9	U
108-05-4	Vinyl Acetate	3.9	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	4.5	J
110-54-3	Hexane	3.9	U
109-99-9	Tetrahydrofuran	3.9	U
110-82-7	Cyclohexane	3.9	U
123-91-1	1,4-Dioxane	3.9	U
75-27-4	Bromodichloromethane	3.9	U
108-10-1	4-Methyl-2-pentanone	3.9	U
591-78-6	2-Hexanone	3.9	U
124-48-1	Dibromochloromethane	3.9	U
75-25-2	Bromoform	3.9	U
622-96-8	4-Ethyltoluene	3.9	U
64-17-5	Ethanol	17	
1634-04-4	Methyl tert-Butyl Ether	3.9	U
142-82-5	Heptane	3.9	U

FORM I-ATL

LEVEL-IV VALIDATABLE

EPA Method TO-14

SAMPLE NO.
VP-92-3-EB-2

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-28A
Lab File ID: 5101317
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 1.96

CAS #	Compound	Concentration (ppbv)	Q
75-71-8	Freon 12	0.98	U
76-14-2	Freon 114	0.98	U
74-87-3	Chloromethane	0.98	U
75-01-4	Vinyl Chloride	0.98	U
74-83-9	Bromomethane	0.98	U
75-00-3	Chloroethane	0.98	U
75-69-4	Freon 11	0.98	U
75-35-4	1,1-Dichloroethene	0.98	U
76-13-1	Freon 113	0.98	U
75-09-2	Methylene Chloride	0.98	U
75-34-3	1,1-Dichloroethane	0.98	U
156-59-2	cis-1,2-Dichloroethene	0.98	U
67-66-3	Chloroform	0.98	U
71-55-6	1,1,1-Trichloroethane	0.98	U
56-23-5	Carbon Tetrachloride	0.98	U
71-43-2	Benzene	0.98	U
107-06-2	1,2-Dichloroethane	0.98	U
79-01-6	Trichloroethene	0.98	U
78-87-5	1,2-Dichloropropane	0.98	U
10061-01-5	cis-1,3-Dichloropropene	0.98	U
108-88-3	Toluene	0.98	U
10061-02-6	trans-1,3-Dichloropropene	0.98	U
79-00-5	1,1,2-Trichloroethane	0.98	U
127-18-4	Tetrachloroethene	0.98	U
106-93-4	Ethylene Dibromide	0.98	U
108-90-7	Chlorobenzene	0.98	U
100-41-4	Ethyl Benzene	0.98	U
108-38-3	m,p-Xylene	0.98	U
95-47-6	o-Xylene	0.98	U
100-42-5	Styrene	0.98	U
79-34-5	1,1,2,2-Tetrachloroethane	0.98	U
108-67-8	1,3,5-Trimethylbenzene	0.98	U
95-63-6	1,2,4-Trimethylbenzene	0.98	U
541-73-1	1,3-Dichlorobenzene	1.0	J
106-46-7	1,4-Dichlorobenzene	0.98	U
100-44-7	Chlorotoluene	0.98	U
95-50-1	1,2-Dichlorobenzene	0.98	U
120-82-1	1,2,4-Trichlorobenzene	0.98	U
87-68-3	Hexachlorobutadiene	0.98	U
115-07-1	Propylene	3.9	U

FORM I-ATL

LEVEL-IV VALIDATABLE

000131
SAMPLE NO.
VP-92-3-EB-2

EPA Method TO-14

Lab Name: AIR TOXICS LIMITED
Matrix: AMBIENT AIR
Sample Vol: 500 ml
% Moisture: NA
Instrument ID: msd5.i

Contract:
SDG No.:

Lab Sample ID: 9810057-28A
Lab File ID: 5101317
Date Received: 10/2/98
Date Analyzed: 10/13/98
Dilution Factor: 1.96

CAS #	Compound	Concentration (ppbv)	Q
106-99-0	1,3-Butadiene	3.9	U
67-64-1	Acetone	3.9	U
75-15-0	Carbon Disulfide	3.9	U
67-63-0	2-Propanol	7.0	J
156-60-5	trans-1,2-Dichloroethene	3.9	U
108-05-4	Vinyl Acetate	3.9	U
78-93-3	2-Butanone (Methyl Ethyl Ketone)	3.9	U
110-54-3	Hexane	3.9	U
109-99-9	Tetrahydrofuran	3.9	U
110-82-7	Cyclohexane	3.9	U
123-91-1	1,4-Dioxane	3.9	U
75-27-4	Bromodichloromethane	3.9	U
108-10-1	4-Methyl-2-pentanone	3.9	U
591-78-6	2-Hexanone	3.9	U
124-48-1	Dibromochloromethane	3.9	U
75-25-2	Bromoform	3.9	U
622-96-8	4-Ethyltoluene	3.9	U
64-17-5	Ethanol	8.6	
1634-04-4	Methyl tert-Butyl Ether	3.9	U
142-82-5	Heptane	3.9	U

FORM I-ATL

APPENDIX D

U.S. EPA-PROVIDED VLEACH PARAMETERS

URS
CONSULTANTS

TRANSMITTAL FORM

Originating URS Office

2710 Gateway Oaks Drive, Suite 250 North
Sacramento, California 95834
(916) 929-2346

To: Mr. Scott Zachary
Metcalf and Eddy
816 State Street, Suite 500
Santa Barbara, CA. 93101

Attention:

To:

Project No. 62190.63

Subject: PGA - South
VLeach input

We Are Transmitting:

X Herewith
___ Under Separate Cover

Number of Copies:

1 Sets
___ Sheets

The Following:

___ Letter(s)
___ Report
___ Schedule
___ Estimate
___ Approved Bills/Invoices
___ Prints or ___ Tracings
___ Legal Descriptions
___ Shop Drawings
___ Change Order
X Model input

For:

___ Review and Comment
___ Approval/Signature
___ Files
___ Your Use/Information
___ Quotation
___ Payment
X As Requested
___ Action Noted Below

Remarks:

cc. Craig Cooper

Sincerely Yours,

Larry Smith

URS Consultants

SIMULATION DATA

PGA V-leach model -> TCE: 26 MOST CONTAMINATED POLYGONS

CARD 1
CARD 2
CARD 3
CARD 4

26

Time step (computation) Duration K_H Groundwater impact printout (yrs) Printout of vent. profile conc. (yrs)

Koc 1.0 100. 20. 50.

126. Area .473 1100. 0.7029

ρ_b

POLYGON T

CARD
CARD
CARD
CARD

gon number 92

87500. 0.5 .02667 1.45 .52 .19 .0004

0. 0. -1.

cell spacing recharge rate ρ_T ρ_w foc CARD

125

1	24	5818.58
25	44	28394.67
45	64	56731.15
65	87	133827.33
88	125	198845.15

- µg/kg

polygon number 79

85000. 0.5 .0226 1.45 .52 .19 .0004

0. 0. -1.

125 #cells

1	12	1646.03
13	24	148.14
25	44	181.06
45	64	148.14
65	82	790.10
83	95	2501.97
96	105	872.40
106	115	460.89
116	125	790.10

polygon number 84

171000. 0.5 .0226 1.45 .52 .19 .0004

0. 0. -1.

25

1	15	348.00
16	25	1367.62
26	35	772.55
36	45	354.95
46	125	0.00

polygon number 87

75000. 0.5 .0226 1.45 .52 .19 .0004

0. 0. -1.

125

1	15	709.49
16	25	2788.31
26	35	1575.07
36	45	723.68
46	125	0.00

polygon number 69

102500. 0.5 .081 1.45 .52 .19 .0004

0. 0. -1.

125

1	24	13.64
25	44	66.55
45	64	132.97
65	87	313.66
88	125	465.99

polygon number 96

83000. 0.5 .197 1.45 .52 .19 .0004

0. 0. -1.

125

1	12	587.75
13	24	52.90
25	44	64.65

```
   45    64      52.90
   65    82     282.12
   83    95     893.38
   96   105     311.51
    6   115     164.57
  116   125     282.12
polygon number  88
   97500.        0.5      .0226       1.45        .52        .19     .0004
       0.         0.        -1.
  125
    1    15     417.77
   16    25    1641.84
   26    35     927.45
   36    45     426.13
   46   125       0.00
polygon number  70
   91500.        0.5      .0233       1.45        .52        .19     .0004
       0.         0.        -1.
  125
    1    24      13.05
   25    44      63.70
   45    64     127.28
   65    87     300.24
   88   125     446.06
polygon number  93
   52500.        0.5      .0234       1.45        .52        .19     .0004
       0.         0.        -1.
  125
    1    24      14.75
   25    44      71.96
   45    64     143.77
   65    87     339.14
   88   125     503.91
polygon number  65
   80500.        0.5      .0226       1.45        .52        .19     .0004
       0.         0.        -1.
  125
    1    24       8.14
   25    44      39.73
   45    64      79.38
   65    87     187.26
   88   125     278.20
polygon number  27A
   50000.        0.5      .0234       1.45        .52        .19     .0004
       0.         0.        -1.
  125
    1    24      12.84
   25    44      62.65
   45    64     125.18
   65    87     295.30
   88   125     438.77
polygon number 116
  130000.        0.5      0.081       1.45        .52        .19     .0004
       0.         0.        -1.
  125
    1    12       1.48
   13    24     553.60
   25    44    1105.73
   45    64    2209.98
   65    82    3314.22
```

APPENDIX E

CHAIN OF CUSTODY REPORTS

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

180 BLUE RAVINE ROAD, ITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX: (916) 985-1020

CHAIN-OF-CUSTODY RECORD

Nº 016954

Contact Person: Scott Zachary
Company: Ogden Environmental
Address: 5501 Morehouse Dr City: S.Diego State: CA Zip: 92121
Phone: 619 458 9044 FAX: 0943
Collected By: Signature:

Project info:
P.O. #:
Project #:
Project Name: PGA SouthSVE

Turn Around Time:
☑ Normal
☐ Rush _____ Specify

Lab I.D.	Field Sample I.D.	Date & Time	Analyses Requested	Canister Pressure / Vacuum Initial	Final	Receipt
	VP-96-IB-50	9/29/98 14:00	TO-14 CLP PKG	28.5	6.00	
	VP-96-IB-30	9/29/98 12:38		28.5	7.25	
	VP-96-2-40	9/29/98 11:08		28.5	9.5	
	VP-96-2-14	9/29/98 11:07		28.5	15.0	
	VP-96-2-50	9/28/98 11:32		28.5	11.0	
	VP-96-2-30	9/29/98 10:39		28.5	15.0	
	VP-92-3-55	9/30/98 16:49		28.5	6.5	
	VP-92-3-EB-2	9/30/98 17:14		28.5	8.0	
	VP-92-3-17	9/30/98 17:35		28.5	8.5	
	VP-92-3-37	9/30/98 17:11		28.5	8.5	

Relinquished By: (Signature) Date/Time 10/1/98 13:15
Print Name DAVE BARTHOLOMEW
Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time 10/1/98 1215
Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time

Notes:

Lab Use Only

Shipper Name	Air Bill #	Opened By:	Date/Time	Temp. (°C)	Condition	Custody Seals Intact?	Work O
						Yes No None N/A	

AIR TOXICS LTD.
AN ENVIRONMENTAL ANALYTICAL LABORATORY

180 BLUE RAVINE ROAD, ITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX: (916) 985-1020

CHAIN-OF-CUSTODY RECORD

№ 016951

Contact Person: Scott Zochow
Company: Ogden Env.
Address: 5501 Mainhouse Dr. City: S. Diego State: CA Zip: 92121
Phone: 619 458 9044 FAX: 0943
Collected By: Signature

Project info:
P.O. #
Project #
Project Name: PGA South SVE

Turn Around Time:
☒ Normal
☐ Rush _____ Specify

Lab I.D.	Field Sample I.D.	Date & Time	Analyses Requested	Canister Pressure / Vacuum Initial	Final	Receipt
	VP 92-17	10/1/98 11:25	TO-14 ; CLP PKG	28.5	8.5	
	VP-96-1A-30	9/30/98 13:03		28.5	8.25	
	VP-92-2-41	9/30/98 09:56		28.5	10.0	
	VP-92-3-27	9/30/98 17:52		28.5	9.0	
	VP-96-13	9/30/98 15:38		28.5	9.0	
	VP-96-1A-14	9/30/98 12:28		28.75	6.5	
	VP-96-1A-50D	9/30/98 12:29		28.5	7.25	
	VP-96-1A-50	9/30/98 11:43		28.5	8.0	
	VP-96-1A-40	9/30/98 12:03		28.5	6.25	
	VP-92-2-32	9/30/98 08:58		28.5	0.5	

Relinquished By: (Signature) Date/Time 10/1/98 13:15
Print Name: DAVE BARTHOLOMEW
Received By: (Signature) Date/Time 10/1/98 1215
Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time
Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Opened By:	Date/Time	Temp. (°C)	Condition	Custody Seals Intact?	Work Order #
							Yes No None N/A	

Form 1293 rev. 06

AIR TOXICS LTD.
AN ENVIRONMENTAL ANALYTICAL LABORATORY

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX: (916) 985-1020

CHAIN-OF-CUSTODY RECORD

Nº 016955

Contact Person Scott Zachary
Company Ogden Environmental
Address 5501 Kluchouse Dr City S. Diego State CA Zip 92124
Phone 619 458 9044 FAX 0943
Collected By: Signature [signature]

Project info:
P.O. #
Project #
Project Name DGA South SVE

Turn Around Time:
☑ Normal
☐ Rush _____ Specify

Lab I.D.	Field Sample I.D.	Date & Time	Analyses Requested	Canister Pressure / Vacuum Initial	Final	Receipt
	VP-27A-2-14	10/1/98 08:39	TO-14- CLP Pkg	28.5	13.75	
	VP-27A-2-40	10/1/98 08:05		28.5	8.5	
	VP-27A-2-30	10/1/98 08:18		28.5	12.25	
	VP-27A-2EB-3-14	10/1/98 07:43		28.5	8.25	
	VP-27A-2-49	10/1/98 07:46		28.5	8.75	
	VP-92-52	10/1/98 10:11		28.5	3.0	
	VP-92-28	10/1/98 10:32		28.5	8.5	
	VP-92-40	10/1/98 11:04		28.5	7.5	
	VP-92-28D	10/1/98 11:18		28.5	7.0	
	VP-92-52D	10/1/98 11:21		28.5	7.25	

Relinquished By: (Signature) Date/Time [signature] 10/1/98 13:15
Print Name DAVE BARTHOLOMEW
Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time [signature] 10/1/98 1315
Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Opened By:	Date/Time	Temp. (°C)	Condition	Custody Seals Intact?	Work Order #
							Yes No None N/A	

Form 1293 rev. 06

AIR TOXICS LTD.
AN ENVIRONMENTAL ANALYTICAL LABORATORY

180 BLUE RAVINE ROAD, . .TE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX: (916) 985-1020

CHAIN-OF-CUSTODY RECORD

№ 016953

Contact Person Scott Zachary
Company Ogden Environmental
Address 5501 Morehouse Dr City S. Diego State CA Zip 92121
Phone 619 458 9044 FAX 0943
Collected By: Signature

Project info:
P.O. #
Project #
Project Name PEASouth SVE

Turn Around Time:
☒ Normal
☐ Rush _____ Specify

Lab I.D.	Field Sample I.D.	Date & Time	Analyses Requested	Canister Pressure / Vacuum Initial	Final	Receipt
	VP-96-26.5	9/30/98 15:18	TO-14 CLP Pkg	28.5	4.5	
	VP-96-37.5	9/30/98 14:53		28.5	7.25	
	VP-96-50D	9/30/98 15:16		28.5	7.5	
	VP-96-50	9/30/98 14:32		28.5	7.25	

SPZ

Relinquished By: (Signature) Date/Time 10/1/98 13:15
Print Name DAVE BARTHOLOMEW
Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time 10/1/98 1315
Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Opened By:	Date/Time	Temp. (°C)	Condition	Custody Seals Intact?	Work Order #
							Yes No None N/A	

Form 1293 rev. 06

AIR TOXICS LTD.
AN ENVIRONMENTAL ANALYTICAL LABORATORY

180 BLUE RAVINE ROAD, ,TE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX: (916) 985-1020

CHAIN-OF-CUSTODY RECORD

Nº 016950

Contact Person Scott Zachary
Company Ogden Environmental
Address 5501 Morehouse City SDiego State CA Zip 92121
Phone 619-458-9044 FAX 458-0943
Collected By: Signature [signature]

Project info:
P.O. #
Project #
Project Name PGA South SVE

Turn Around Time:
☒ Normal
☐ Rush _____ Specify

Lab I.D.	Field Sample I.D.	Date & Time	Analyses Requested	Canister Pressure / Vacuum Initial	Final	Receipt
	EB-1-50'	9/30/98 07:27	TO-14 - CLP Pkg	28.5	8.0	
	VP-92-2-50'	9/30/98 09:38		28.5	11.5	
	VP-92-2-19'	9/30/98 08:05		27.5	3.75	
	VP-27A-45D	9/29/98 16:32		28.5	6.5	
	VP-27A-45	9/29/98 15:48		29.5	6.75	
	VP-27A-12	9/29/98 16:10		28.5	8.5	
	VP-27A-21	9/29/98 16:44		28.5	6.75	
	VP-27A-36	9/29/98 16:28		28.5	8.00	
	VP-96-1B-14	9/29/98 12:59		28.5	4.25	
	VP-96-1B-40	9/29/98 13:31		28.5	7.0	

Relinquished By: (Signature) Date/Time [signature] 10/1/98 13:15
Print Name DAVE BARTHOLOMEW
Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time [signature] 10/1/98 1315
Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Opened By:	Date/Time	Temp. (°C)	Condition	Custody Seals Intact?	Work Order #
							Yes No None N/A	

Form 1293 rev. 06