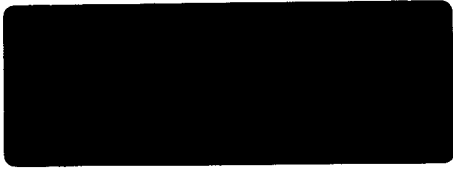


10-19-95



FINAL REPORT
Phase II Subsurface Investigation
Former Avanti Property
Northwest Corner of Lafayette and Sample St.
South Bend, Indiana
ATEC Project No. 21-07-95-00802



Prepared For:

City of South Bend
1400 County-City Building
South Bend, Indiana

Attn: Ms. Ann Kolata

October 19, 1995.

ATEC Associates, Inc.
Environmental Consultants

5150 East 65th Street
Indianapolis, Indiana 46220-4871
(317) 849-4990, FAX (317) 849-5260

Solid & Hazardous Waste Site Assessments
Remedial Design & Construction
Underground Tank Management
Asbestos Surveys & Analysis
Hydrogeologic Investigations & Monitoring
Analytical Testing / Chemistry
Industrial Hygiene / Hazard Communication
Environmental Audits & Permitting
Exploratory Drilling & Monitoring Wells

October 19, 1995

Ms. Ann Kolata
City of South Bend
1400 County-City Building
South Bend, Indiana 46601

Re: FINAL REPORT
Phase II Subsurface Investigation
Former Avanti Property
NWC of Lafayette and Sample St.
South Bend, Indiana
ATEC Project No. 21-07-95-00802

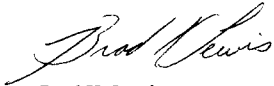
Dear Ms Ann Kolata:

ATEC Associates, Inc. (ATEC) is pleased to present the City of South Bend with this report documenting the subsurface investigation performed at the above referenced site. The purpose of the study was to determine if subsurface soils have been impacted at the project site property. The attached report summarizes the activities performed by ATEC to accomplish this objective.

We appreciate the opportunity to conduct this investigation and trust this report is responsive to your needs. Please do not hesitate to contact the undersigned if you have any comments or questions concerning this study.

Sincerely,

ATEC ASSOCIATES, INC.



Brad K. Lewis
Staff Environmental Scientist



Matthew C. Stokes, C.H.M.M.
Senior Project Manager

cc: Anne Slaughter Andrew

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
2.0 FIELD ACTIVITIES.....	3
2.1 GEOPROBE SOIL SAMPLING	3
2.2 SECOND ROUND SOIL SAMPLING	5
3.0 FINDINGS.....	6
3.1 GEOLOGY	6
3.2 SOIL SCREENING	6
3.3 SOIL ANALYTICAL RESULTS	7
3.4 METHYLENE CHLORIDE AND TOLUENE RESULTS.....	8
4.0 CONCLUSIONS AND RECOMMENDATIONS.....	9
5.0 QUALIFICATIONS	9

APPENDICES

- Appendix A: Field Screening Equipment
- Appendix B: Boring Logs
- Appendix C: Analytical Results

PHASE II SUBSURFACE INVESTIGATION

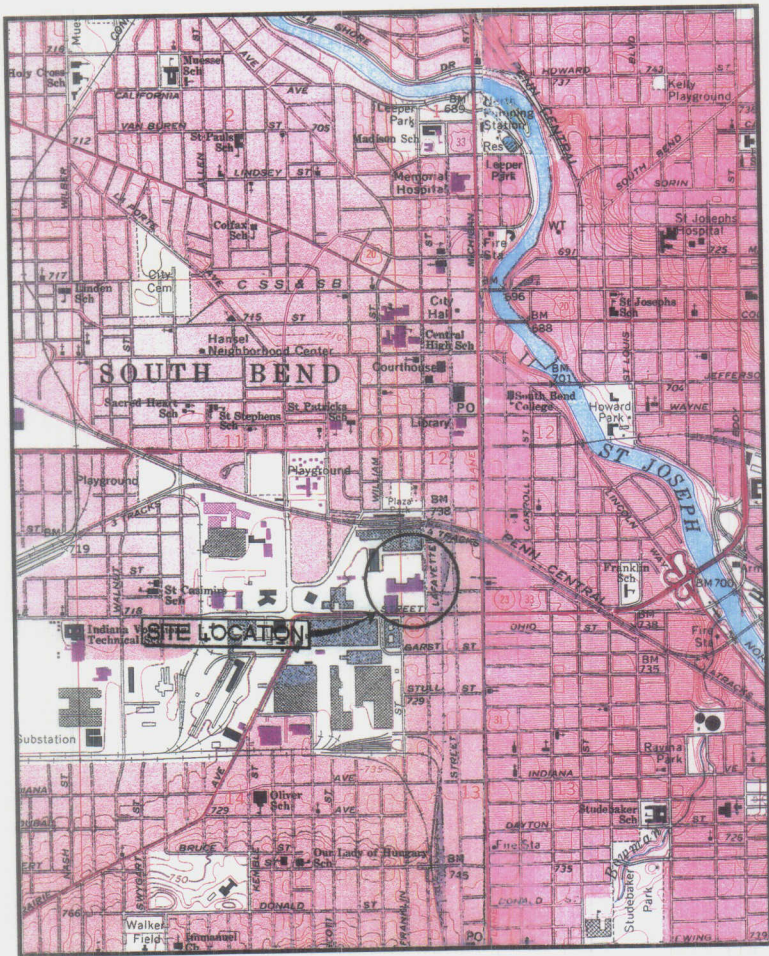
Former Avanti Property
NWC of Lafayette and Sample St.
South Bend, Indiana
ATEC Project No. 21-07-95-00802

1.0 INTRODUCTION

ATEC Associates, Inc. (ATEC) was retained by the City of South Bend, Indiana, to perform a Phase II subsurface investigation on the Former Avanti Property (the project site) located on the northwest corner of Lafayette and Sample Street. (see Figure 1). The scope of this investigation was developed based on conversations with the client and areas of concern identified in ATEC's Phase I Environmental Site Assessment. Borings were located to near areas of former USTs, drum storage, subgrade oil pits, and soil staining noted during the Phase I Environmental Site Assessment.

Sample locations B-1 through B-6 were located at the east end of the former Avanti Building (Room 108). This room contained several subgrade oil sumps. Room 108 was also used for painting and automotive repair. Sample locations B-9 through B-12 were located at the west end of the former Avanti Building. This area was once used for drum storage. In addition, two underground storage tanks were previously located in this area. Sample locations B-7 and B-8 were located within the center portion of the former building to provide a complete sampling scheme across the site.

The scope of this Phase II subsurface investigation included advancing a total of twelve GeoProbe borings. The following report details the field activities, laboratory results and ATEC's findings relative to the project. All documents concerning the investigation can be found in the appendices.



VICINITY MAP

PHASE II SUBSURFACE INVESTIGATION
 FORMER AVANTI PROPERTY
 NORTHWEST CORNER of LAFAYETTE ST. and SAMPLE ST.
 SOUTH BEND, INDIANA

Project Number:
 21-07-95-00802

Drawing File:
 00802VM

Date:
 10-3-95

Scale:
 1" = 2000'

Drn. By: SRJ

Ckd. By: BKL

App'd By:



1995

Figure:

1

2.0 FIELD ACTIVITIES

On September 18, and 19, 1995 ATEC personnel, Mr. Knoel Kaneshiro (ATEC Field Geologist), mobilized to the project site. ATEC met Mike Walker (ATEC Driller), to discuss boring locations and locations of utilities. Prior to the start of field activities, the boring locations were located and the Site Safety Plan was reviewed. Figure 2 shows the project site and relative boring locations.

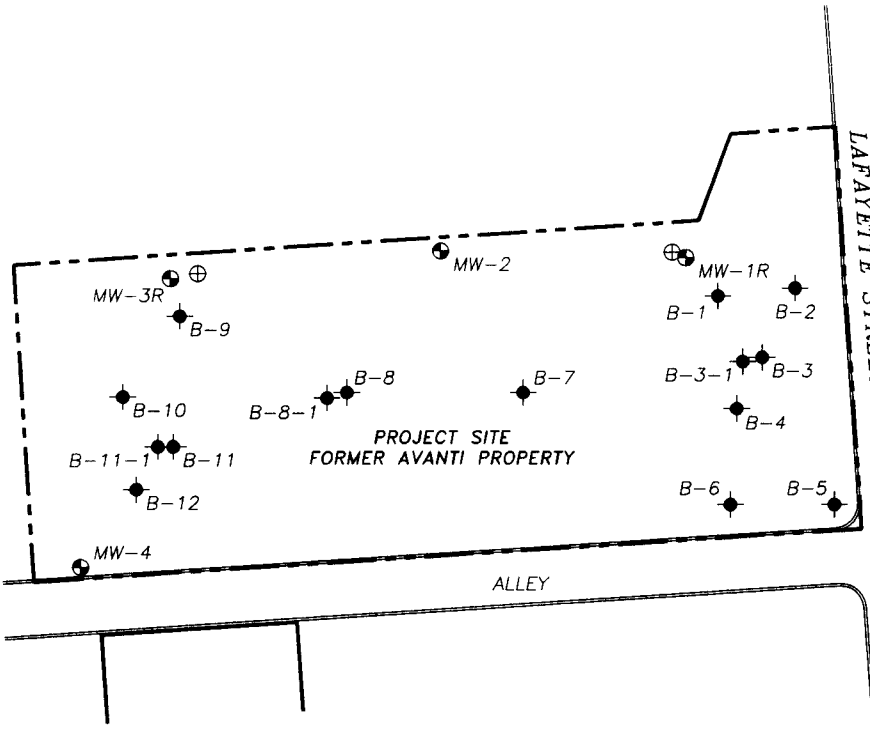
2.1 GeoProbe Soil Sampling

On September 18, and 19, 1995, ATEC personnel mobilized to the project site to collect a total of 12 soil samples from 12 boring locations across the project site. One soil sample from each boring for a total of 12 soil samples were collected. GeoProbe boring samples were designated B-1 through B-12. Borings were advanced to a depth 20 ft below grade.

The borings were completed using a GEO Scorpion van-mounted drill rig. GeoProbe boring locations are shown on Figure 2. A Kansas Sampler®, consisting of a 4 ft in length by a 2-inch diameter stainless steel rod, was hydraulically driven into the subsurface soils. Soil samples were collected at two foot intervals from the surface down to the bottom of each boring. Between each boring the sampling equipment was decontaminated using a non-phosphate detergent wash followed by a tap water rinse. Upon completion, each bore hole was filled to the surface with non-shrink bentonite.

Soils from each interval were visually inspected by an ATEC scientist and classified using the Unified Soil Classification System (USCS). Each soil sample was placed in a sealed plastic bag and later screened for the presence of hydrocarbon vapors using an H-Nu® photo-ionization detector (PID). The PID measures total photo-ionizable vapors (TPVs) in the parts per million (ppm) range. The screening procedure is outlined in Appendix A. A complete description of the geologic materials encountered and the TPV responses are included on the boring logs in Appendix B. Based on field observations, and TPV readings







LAFAYETTE STREET



PROJECT SITE
FORMER AVANTI PROPERTY

ALLEY

LEGEND

-  - MONITORING WELL
 -  - Well Identification
 -  - APPROX. LOCATION OF MISSING WELL
 -  - SOIL BORING
 -  - PROPERTY BOUNDARY
 -  - MW-1R & MW-3R: REPLACEMENT WELLS
- 100 0 25 50 75 100
- SCALE: 1" = 100'



BORING PLAN

PHASE II SUBSURFACE INVESTIGATION
 FORMER AVANTI PROPERTY
 NORTHWEST CORNER OF LAFAYETTE ST. and SAMPLE ST.
 SOUTH BEND, INDIANA

Project Number:
21-07-95-00802

Drawing File:
00802BP

Date:
10-10-95

Scale:
1" = 100'

Drn. By: SRJ

Chd. By: BKL



©1995

2

6/10/95

one soil sample from each of twelve borings B-1 through B-12 were collected. Twelve soil samples were submitted to the ATEC laboratory for Volatile Organic Compound (VOC) analysis. All soil samples were transported to ATEC's laboratory in Indianapolis, Indiana using proper quality assurance/quality control (QA/QC) procedures and all appropriate chain-of-custody protocols. The soil samples were submitted to the ATEC laboratory for a one week turn-around for verbal results.

2.2 Second Round Soil Sampling

Based on the results of the first round of sampling showing low levels of toluene as possible artifact, ATEC remobilized to the project site to redrill three of the twelve borings to verify or discount earlier findings. The three additional soil boring locations (labeled B-3-1, B-8-1 and B-11-1) corresponded to the original soil boring locations B-3, B-8, and B-11 and are shown in Figure 2. Soil sample collection, classification, and visual screening were performed using the same methodology described above. Three soil samples were collected and submitted to the laboratory for analytical testing for toluene. The three soil samples submitted to the laboratory for analysis were collected from the same depths as the original samples collected from each of the corresponding boring locations.

3.0 FINDINGS

3.1 Geology

Visual inspection of soil samples from borings B-1 through B-12 revealed the presence of fill material to a depth of 2.0 to 3.5 ft below grade. Below the fill material in these borings is a moist brown silty sand. In borings B-6, and B-9 a four inch clay seam was encountered within the silty sand unit. No groundwater was encountered in the borings. Slight black staining was noted in two of the twelve borings. A two inch black seam was noted at approximately 11 feet below grade in boring B-1 and a one foot black seam was encountered in boring B-2 from 2 to 3 feet below grade.

3.2 Soil Screening

All soil samples collected during the investigation were screened for emission of TPVs using an TVA 1000 PID. Due to the high ionization potentials for many chlorinated solvents the TVA 1000 PID was equipped with a 11.6 eV lamp to better detect these constituents. The screening results for soil samples from borings B-4, B-5 and B-6 were all non-detect. Field screening of soil samples from soil borings B-1, B-2, B-3, B-10, B-11 and B-12 revealed low TPV readings throughout the borings. Field screening results from B-7, B-8 and B-9 revealed slightly more elevated readings around 40 ppm throughout each of these borings. The screening results for all soil samples from all twelve geoprobe borings can be found on the boring logs in Appendix B.

3.3 Soil Analytical Results

Soil samples collected from B-1 through B-12 were submitted to the ATEC laboratory for VOC testing. The VOC analysis were performed on a Finnigan Incos 50 GC/MS/DS system, complete with Superincos Software, via SW 846 Method 8240 for Purgeable Organic Compounds. Note three soil samples from borings B-3-1, B-8-1 and B-11-1 were collected and submitted for toluene testing. The toluene analysis was performed according to the same methodology described above. Analytical results from the soil samples from borings B-1 through B-12 did not reveal any concentrations of VOCs other than methylene chloride and toluene. Methylene chloride and toluene results are discussed in detail in Section 3.4 of this report. Analytical results of the three soil samples from borings B-3-1, B-8-1, and B-11-1 did not reveal any concentration of toluene. Table 1 summarizes the VOC analytical results and their respective depths.

Table 1 Soil Analysis Volatile Organic Compounds (VOCs) Former Avanti Property NWC of Lafayette and Sample Street South Bend, Indiana ATEC Project No. 21-07-95-00802				
Sample I.D.	Depth of Sample (ft)	VOCs (ppb)	Methylene Chloride (ppb)	Toluene (ppb)
B-1	10-12	ND	8	ND
B-2	2-3	ND	13	5
B-3	18-20	ND	9	110
B-4	18-20	ND	9	87
B-5	18-20	ND	8	29
B-6	18-20	ND	9	120
B-7	18-20	ND	6	21
B-8	18-20	ND	9	140
B-9	18-20	ND	7	30
B-10	18-20	ND	5	71
B-11	10-12	ND	9	130
B-12	18-20	ND	8	92
B-3-1	18-20	NA	NA	ND
B-8-1	18-20	NA	NA	ND
B-11-1	10-12	NA	NA	ND

ND: None detected above method quantitation limits
 NA: Not analyzed
 * = Methylene chloride and toluene detected in samples
 Notes: Methylene chloride was identified as a laboratory artifact
Toluene is believed to be an artifact, however the source of toluene as an artifact is not confirmed

3.4 Methylene Chloride and Toluene Results

Analytical results from the initial round of soil sampling revealed methylene chloride and toluene in all the samples except for the lack of toluene in Sample B-1. Methylene chloride and toluene are commonly considered as a laboratory artifact and the presence of these constituents at these concentrations are not considered attributable to the activities at the site or adjacent properties.

Methylene chloride and toluene are used in various laboratory analyses and are considered laboratory artifacts. Although extraction and preparation processes are all performed by trained personnel in separate rooms under vented hoods, some vapors escape and are released into the laboratory atmosphere. Given the extreme sensitivity of the analytical instrumentation, these compounds are often detected at low levels in environmental samples.

The U.S. EPA document "Laboratory Data Validation Functional Guidelines for Evaluating Organics Analysis" allows for up to ten times the concentration found in the method blank to be reported as a laboratory artifact. The method blank for this analysis revealed a concentration of up to 12 ppb of methylene chloride, thus analytical results below 120 ppb should be considered laboratory artifacts. Concentrations of toluene were not identified in the method blanks for these sample results. Therefore, toluene concentrations in these samples could not be confirmed as the result of laboratory procedures. Introduction of toluene may be the result of contaminated sample jars or other sources such as permanent marking pens or glues from tape or labels. The source of toluene introduced into the samples is therefore unknown.

Although the source of the toluene from the initial sampling could not be determined, additional soil samples (B-3-1, B-8-1, and B-11-1) collected from the similar boring locations and similar depths did not reveal the presence of toluene. Based on these confirming data, ATEC concludes the toluene concentrations from the initial soil samples

was inadvertently introduced into the samples and is not considered attributable to on-site subsurface soil conditions.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The purpose of this investigation was to determine if the subsurface soils had been impacted by former on-site activities. Based on field observations and analytical results, ATEC concludes that the upper 20 ft of subsurface soils from borings B-1 through B-12 have not been impacted with volatile organic compounds.

Based on the findings of this study ATEC recommends no further investigation with regard to the top 20 ft of unsaturated (above groundwater) soils.

5.0 QUALIFICATIONS

Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This warranty is in lieu of all other warranties either express or implied. This company is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploration and laboratory test data presented in this report.

It should be noted that all surficial environmental assessments are inherently limited in the sense that conclusions are drawn and recommendations developed from information obtained from limited research and site evaluation. Subsurface conditions were not field investigated as part of this study and may differ from the conditions implied by the surficial observations. Additionally, the passage of time may result in a change in the environmental characteristics at this site and surrounding properties.

The work performed in conjunction with this assessment and the data developed resulted from available information at the dates and locations given in the records searched and visible and accessible evidence on the site. Consequently, this report does not warrant or guarantee that any and all problems that may exist at the site were disclosed, nor does it warrant against operations or conditions present of a type or at a location not investigated, nor against future operations or conditions.

APPENDIX A

FIELD SCREENING EQUIPMENT

H-Nu®

A TEC used a portable instrument called an H-Nu® to measure TPVs emitted from the soil samples. The H-Nu® is equipped with a small pump which continuously draws air samples into an ionization chamber which is flooded with ultra-violet light. Ionization of the vapors within this chamber results in the generation of an electric current which relates to the concentration of vapors below this energy. Most of the light permanent gases (such as those in ambient air) have ionization potentials at 12 eV or more while many organic chemicals (benzene, xylene, toluene, etc.) have ionization potentials below 10.5 eV.

For the purposes of this investigation, the H-Nu® was used as a screening tool for the presence of photo-ionizable contaminants. Following extrusion the sample was placed in a plastic sample bag and the pump inlet for the H-Nu® was placed in the bag for measurement. The highest value recorded during this procedure was recorded on the boring logs. For screening purposes, ATEC relies on the calibration performed on the instrument at the factory. The factory calibrates the instrument to 100 ppm benzene, therefore, values reported on the boring logs represent ppm as benzene. In screening applications the actual numerical values recorded are of secondary importance, especially since there are no established United States Environmental Protection Agency (U.S. EPA) and the Indiana Department of Environmental Management (IDEM) standards for TPVs. The relative magnitude of the values between sampling sites is considered to be of primary importance in screening for the presence of contaminated samples. In general, background levels of TPVs at an undeveloped site could range from 0 to 25 ppm while background values at an industrial site or a gasoline station could range from 0 to 50 ppm.

APPENDIX B
BORING LOGS



Client City of South Bend Boring # B-1
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 9/18/95 Hammer Wt. N/A lbs.
 Date Completed 9/18/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 48 ft South and 23 ft East of MW-1R

SOIL CLASSIFICATION	DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOMS/8-INCHES IN 8-INCH INCREMENTS	TPV (PPH)	BORING AND SAMPLING NOTES
Brown moist Clayey Silty Sand with pieces of brick (FILL) Brown medium to coarse SILTY SAND (SM) with trace Gravel Fine to medium Sand below 15 ft	2.0		1		80		2	
			2		100		2	
		5	3		60		24	
			4		100		ND	
			5		60		7	
		10	6*		100		9	2 inch Black seam
			7		100		8	
		15	8		100		2	Decreasing silt below 15 ft
			9		100		3	
			10		100		1	
Bottom of Test Boring at 20.0 ft	20.0	20						*Collected Sample No. 6 (10-12 ft) for VOC laboratory analysis

SAMPLER TYPE

- SPT - STANDARD PENETRATION TEST
- TPV - TOTAL PHOTO-IONIZATION VAPORS
- TPV - TOTAL FLAME-IONIZATION VAPORS
- PPM - PARTS PER MILLION

- ∇ AT COMPLETION
- ∇ AFTER HRS
- WATER ON RODS

- FT. HSA - HOLLOW STEM AUGERS
- FT. GBO - GEOPROBE
- FT. HA - HAND AUGERS
- MD - M
- ND - N



Client City of South Bend Boring # B-2
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 9/18/95 Hammer Wt. N/A lbs.
 Date Completed 9/18/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 118 ft East and 38 ft South of MW-1R

SOIL CLASSIFICATION	DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOWS/8-INCHES IN 8-INCH INCREMENTS	TPV (PPH)	BORING AND SAMPLING NOTES
Brown moist Silty Sand with Gravel and Brick (FILL)	3.0	5	1		100		2	2-3 inch Seam of black material encountered
			2		100		14	
Red moist medium SILTY SAND (SM), little fines with Gravel			3		100		3	
			4		100		5	
Light brown below 8 ft			5		100		4	
			6		100		3	
Clay with Gravel 14-16 ft			7		100		1	
			8		100		1	
			9		100		ND	
Bottom of Test Boring at 18.0 ft	18.0							

*Collected Sample No. 2.5 (2-3 ft) for VOC laboratory analysis

SAMPLER TYPE

SPT - STANDARD PENETRATION TEST
 TPV - TOTAL PHOTO-IONIZATION VAPORS
 TFV - TOTAL FLAME-IONIZATION VAPORS
 PPM - PARTS PER MILLION

▽ AT COMPLETION
 ▽ AFTER HRS
 ● WATER ON RODS

FT. HSA - HOLLOW STEM AUGERS
 FT. GBO - GEOPROBE
 FT. HA - HAND AUGERS
 MD -
 ND - N



Client City of South Bend Boring # B-3
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 9/18/95 Hammer Wt. N/A lbs.
 Date Completed 9/18/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 73 ft South and 58 ft East of MW-1R

SOIL CLASSIFICATION	DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOWS/8-INCHES IN 8-INCH INCREMENTS	TPV (PPM)	BORING AND SAMPLING NOTES
Brown moist Clayey Silty Sand with trace Gravel (FILL)	2.5		1		100		ND	
Brown moist medium to coarse SILTY SAND (SM) trace Gravel			2		100		ND	
		5	3		100		1	Decreasing Silt below 6 ft
			4		100		ND	
			5		50		ND	
		10	6		100		2	
			7		100		ND	
		15	8		100		1	
			9		100		ND	
			10*		100		ND	
	20.0		20					
Bottom of Test Boring at 20.0 ft								

SAMPLER TYPE

SPT - STANDARD PENETRATION TEST
 TPV - TOTAL PHOTONIZATION VAPORS
 TFV - TOTAL FLAME-IONIZATION VAPORS
 PPM - PARTS PER MILLION

✓ AT COMPLETION
 ✓ AFTER HRS
 ● WATER ON RODS

FT. HSA - HOLLOW STEM AUGERS
 FT. GEO - GEOPROBE
 FT. HA - HAND AUGERS
 FT. MD - M
 FT. ND - N

Client City of South Bend Boring # B-4
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 9/18/95 Hammer Wt. N/A lbs.
 Date Completed 9/18/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 140 ft South and 40 ft East of MW-1R

SOIL CLASSIFICATION	DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOMS/6-INCHES IN 6-INCH INCREMENTS	TPV (PPH)	BORING AND SAMPLING NOTES
Brown moist Clayey Silty Sand with fragments of debris (brick) (FILL)	2.5		1		80		ND	
Brown moist medium SILTY SAND (SM)			2		100		ND	
Coarse Sands below 12 ft			3		100		ND	
			4		100		ND	
			5		25		ND	
			6		100		ND	
			7		100		ND	
			8		100		ND	
			9		100		ND	
			10*		100		ND	
Bottom of Test Boring at 20.0 ft	20.0		20					*Collected Sample No. 10 (20 ft) for VOC laboratory analysis

SAMPLER TYPE

SPT - STANDARD PENETRATION TEST
 TPV - TOTAL PHOTO-IONIZATION VAPORS
 TPV - TOTAL FLAME-IONIZATION VAPORS
 PPM - PARTS PER MILLION

∇ AT COMPLETION
 ∇ AFTER HRS
 ● WATER ON RODS

FT. HSA - HOLLOW STEM AUGERS
 FT. GBO - GEOPROBE
 FT. HA - HAND AUGERS
 FT. ND - ND
 FT. N - N



Client City of South Bend Boring # B-5
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 9/18/95 Hammer Wt. N/A lbs.
 Date Completed 9/18/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 86 ft South and 78 ft East of B-4

SOIL CLASSIFICATION	DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOWS/8-INCHES IN 8-INCH INCREMENTS	TPV (PPM)	BORING AND SAMPLING NOTES
Brown moist Clayey Silty Sand (FILL)	2.5	1	1		100		ND	
Reddish brown moist medium SILTY SAND (SM) with Gravel		2	2		100		ND	
Coarse brown Sand 5 to 6 ft		5	3		100		ND	
		4	4		100		ND	
Coarse Sands with trace Gravel from 8 to 10 ft		5	5		100		ND	Decreasing silt content below 8 ft
		10	6		100		ND	
		7	7		100		1	
Very coarse with Gravel below 15 ft		15	8		100		ND	
		9	9		60		ND	
		10*	10*		100		ND	
Bottom of Test Boring at 20.0 ft	20.0	20						*Collected Sample No. 10 (20 ft) for VOC laboratory analysis

SAMPLER TYPE

SPT - STANDARD PENETRATION TEST
 TPV - TOTAL PHOTO-IONIZATION VAPORS
 TFV - TOTAL FLAME-IONIZATION VAPORS
 PPM - PARTS PER MILLION

▽ AT COMPLETION
 ▽ AFTER HRS
 ● WATER ON RODS

FT. HSA - HOLLOW STEM AUGERS
 FT. GBO - GEOPROBE
 FT. HA - HAND AUGERS
 FT. MD - M
 FT. ND - N



Client City of South Bend Boring # B-6
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 9/19/95 Hammer Wt. N/A lbs.
 Date Completed 9/19/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 90 ft South and 12 ft West of B-4

SOIL CLASSIFICATION	DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOWS/8-INCHES IN 8-INCH INCREMENTS	TPV (PPM)	BORING AND SAMPLING NOTES
Brown moist Silty Sandy Clay with Gravel and debris of Brick (FILL)			1		100		ND	
Brown moist coarse SILTY SAND (SM) with Gravel	3.0		2		100		ND	
		5	3		100		ND	
			4		100		ND	
			5		50		ND	
Fine Sands from 11 to 13 ft		10	6		100		ND	
			7		80		ND	
4 inch seam of SILTY SANDY CLAY (CL) at 14.5 ft	14.5		8		100		ND	
	14.7		9		100		ND	
Brown moist coarse SILTY SAND (SM)			10*		100		ND	
Brown moist coarse SILTY SAND (SM) with Gravel								
Bottom of Test Boring at 20.0 ft	20.0	20						

*Collected Sample No. 6 (10-12 ft) for VOC laboratory analysis

SAMPLER TYPE

- SPT - STANDARD PENETRATION TEST
- TPV - TOTAL PHOTO-IONIZATION VAPORS
- TFV - TOTAL FLAME-IONIZATION VAPORS
- PPM - PARTS PER MILLION

- ∇ AT COMPLETION
- ∇ AFTER HRS
- WATER ON RODS

- FT. HSA - HOLLOW STEM AUGERS
- FT. GBO - GEOPROBE
- FT. HA - HAND AUGERS
- MD
- ND
- N



Client: City of South Bend Boring # B-7
 Project Name: Subsurface Investigation Job # 21-07-95-00802
 Project Location: NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 9/19/95 Hammer Wt. N/A lbs.
 Date Completed 9/19/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 122 ft South and 85 ft East of MW-2

SOIL CLASSIFICATION	DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOWS/8-INCHES IN 8-INCH INCREMENTS	TPV (PPH)	BORING AND SAMPLING NOTES
Brown moist Clayey Silty Sand with Gravel (FILL)	3.5		1		100		1	
2 inch of Silty Clay at 2.8 ft			2		100		2	
Brown moist medium to coarse SILTY SAND (SM) and GRAVEL	20.0		3		100		25	
			4		100		39	
			5		50		40	
			6		100		37	
			7		75		39	
			8		100		39	
			9		80		40	
			10*		100		40	
Bottom of Test Boring at 20.0 ft	20							

*Collected Sample No. 10 (20 ft) for VOC laboratory analysis

SAMPLER TYPE

- SPT - STANDARD PENETRATION TEST
- TPV - TOTAL PHOTO-IONIZATION VAPORS
- TFV - TOTAL FLAME-IONIZATION VAPORS
- PPM - PARTS PER MILLION

- ▽ AT COMPLETION
- ▽ AFTER
- WATER ON RODS

- FT. HSA - HOLLOW STEM AUGERS
- FT. GBO - GEOPROBE
- FT. HA - HAND AUGERS
- FT. MD -
- FT. ND -



Client City of South Bend Boring # B-8
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 9/19/95 Hammer Wt. N/A lbs.
 Date Completed 9/19/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 115 ft South and 78 ft West of MW-2

SOIL CLASSIFICATION	DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOKS/8-INCHES IN 6-INCH INCREMENTS	TPV (PPM)	BORING AND SAMPLING NOTES
Brown moist coarse SILTY SAND (SM)	20.0		1		100		25	Decreasing silt content below 5.0 ft
			2		100	42		
			3	5	50	41		
			4		100	38		
			5		50	37		
			6	10	100	39		
			7		100	42		
			8	15	100	25		
			9		100	41		
			10*		100	40		
Bottom of Test Boring at 20.0 ft								*Collected Sample No. 10 (20 ft) for VOC laboratory analysis

SAMPLER TYPE

SPT - STANDARD PENETRATION TEST
 TPV - TOTAL PHOTO-IONIZATION VAPORS
 TFV - TOTAL FLAME-IONIZATION VAPORS
 PPM - PARTS PER MILLION

▽ AT COMPLETION
 ▼ AFTER HRS
 ● WATER ON RODS

FT. HSA - HOLLOW STEM AUGERS
 FT. GBO - GEOPROBE
 FT. HA - HAND AUGERS
 MD - M
 ND - N



Client City of South Bend Boring # **B-9**
 Project Name Subsurface Investigation Job # **21-07-95-00802**
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 9/19/95 Hammer Wt. N/A lbs.
 Date Completed 9/19/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 14 ft East and 17 ft South of MW-3R

SOIL CLASSIFICATION	DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOWS/8-INCHES IN 8-INCH INCREMENTS	TPV (PPH)	BORING AND SAMPLING NOTES
SURFACE ELEVATION								
Brown moist Clayey Silty Sand (FILL)			1		100		39	
Brown moist coarse SILTY SAND (SM)	3.0		2		100		40	
Medium to coarse below 5 ft		5	3		100		44	
4 inch Seam of SILTY SANDY CLAY (CL)			4		100		40	
Brown moist medium to coarse SILTY SAND (SM) with Gravel			5		100		32	
		10	6		100		42	
	14.3		7		100		43	
4 inch Seam of SILTY SANDY CLAY (CL) T=1	14.5		8		100		26	
M=CL			9		100		43	
Brown moist medium to coarse SILTY SAND (SM) with Gravel			10*		100		43	
Medium								
Bottom of Test Boring at 20.0 ft	20.0		20					

*Collected Sample No. 10 (20 ft) for VOC laboratory analysis

SAMPLER TYPE

- SPT - STANDARD PENETRATION TEST
- ▽ AT COMPLETION
- FT. HSA - HOLLOW STEM AUGERS
- TPV - TOTAL PHOTO-IONIZATION VAPORS
- ▽ AFTER HRS
- FT. GBO - GEOPROBE
- TFV - TOTAL FLAME-IONIZATION VAPORS
- WATER ON RODS
- FT. HA - HAND AUGERS
- PPM - PARTS PER MILLION
- MD -
- ND - N



Client City of South Bend Boring # B-10
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 9/19/95 Hammer Wt. N/A lbs.
 Date Completed 9/19/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 26 ft West and 81 ft South of MW-3R

SOIL CLASSIFICATION	DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOWS/8-INCHES IN 8-INCH INCREMENTS	TPV (PPM)	BORING AND SAMPLING NOTES
Brown moist Clayey Silty Sand (FILL)	2.5	1	1		100		7	
Brown moist medium to coarse SILTY SAND (SW)		2	2		100		12	
		5	3		100		4	
With Gravel at 6 ft		4			100		19	
		5			100		4	
		10	6		100		9	
		7			100		12	
		15	8		100		9	
		9			100		4	
		10*			100		12	
Bottom of Test Boring at 20.0 ft	20	10*						*Collected Sample No. 10 (20 ft) for VOC laboratory analysis

SAMPLER TYPE

SPT - STANDARD PENETRATION TEST
 TPV - TOTAL PHOTO-IONIZATION VAPORS
 TPV - TOTAL FLAME-IONIZATION VAPORS
 PPM - PARTS PER MILLION

▽ AT COMPLETION
 ▼ AFTER HRS
 ● WATER ON RODS

FT. HSA - HOLLOW STEM AUGERS
 FT. GBO - GEOPROBE
 FT. HA - HAND AUGERS
 MD -
 ND -



Client City of South Bend Boring # B-11
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 9/19/95 Hammer Wt. N/A lbs.
 Date Completed 9/19/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 53 ft East and 37 ft South of B-10

SOIL CLASSIFICATION	DEPTH (FT.)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOKS/8-INCHES IN 6-INCH INCREMENTS	TPV (PPM)	BORING AND SAMPLING NOTES
Brown moist Clayey Silty Sand (FILL)	2.0		1		100		1	Decreasing silt content below 5 ft
Brown moist coarse SILTY SAND (SM)			2		100		2	
		5	3		100		8	
			4		100		4	
			5		100		5	
		10	6*		100		32	
			7		50		25	
With Gravel below 15 ft		15	8		100		3	
			9		100		3	
			10		100		10	
Bottom of Test Boring at 20.0 ft	20.0	20						*Collected Sample No. 6 (20 ft) for VOC laboratory analysis

SAMPLER TYPE

SPT - STANDARD PENETRATION TEST
 TPV - TOTAL PHOTO-IONIZATION VAPORS
 TFV - TOTAL FLAME-IONIZATION VAPORS
 PPM - PARTS PER MILLION

▽ AT COMPLETION
 ▼ AFTER HRS
 ● WATER ON RODS

FT. HSA - HOLLOW STEM AUGERS
 FT. GPO - GEOPROBE
 FT. HA - HAND AUGERS
 FT. MD -
 FT. ND -



Client City of South Bend Boring # B-12
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 9/19/95 Hammer Wt. N/A lbs.
 Date Completed 9/19/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 48 ft South and 62 ft West of B-11

SOIL CLASSIFICATION	DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOWS/8-INCHES IN 6-INCH INCREMENTS	TPV (PPM)	BORING AND SAMPLING NOTES
Brown moist Clayey Silty Sand (FILL)			1		100		ND	
Brown moist coarse SILTY SAND (SM) trace Gravel	3.0		2		100		2	
		5	3		100		3	Decreasing silt content with depth
			4		100		1	
			5		100		4	
Medium Sands between 11 to 13 ft		10	6		100		1	
			7		100		2	
With trace Gravel below 16 ft		15	8		100		1	
			9		100		ND	
			10*		100		1	
Bottom of Test Boring at 20.0 ft	20.0		20					*Collected Sample No. 10 (20 ft) for VOC laboratory analysis

SAMPLER TYPE

SPT - STANDARD PENETRATION TEST
 TPV - TOTAL PHOTONIZATION VAPORS
 TFV - TOTAL FLAME-IONIZATION VAPORS
 PPM - PARTS PER MILLION

∇ AT COMPLETION
 ∇ AFTER HRS
 ● WATER ON RODS

FT. HSA - HOLLOW STEM AUGERS
 FT. GBO - GEOPROBE
 FT. HA - HAND AUGERS
 MD - M
 ND - N



Client City of South Bend Boring # B-3-1
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 10/2/95 Hammer Wt. N/A lbs.
 Date Completed 10/2/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 94 ft South and 30 ft East of MW-1R

SOIL CLASSIFICATION	DEPTH (FT.)	SCALE (FT.)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOKS/6-INCHES IN 6-INCH INCREMENTS	TPV (PPM)	BORING AND SAMPLING NOTES
Brown moist Clayey Silty Sand (FILL)	2.0	1	1		100			
Brown moist medium SILTY SAND (SM) with trace Gravel		2	2		100			
		5	3		100			
		4	4		100			
		5	5		50			
		10	6		100			
		7	7		100			
		15	8		100			
		9	9		100			
		10	10		100			
Bottom of Test Boring at 20.0 ft	20.0	20						

*Soil samples collected from 2-3 ft, 10-12 ft and 20 ft for Toxvenc analysis

SAMPLER TYPE

SPT - STANDARD PENETRATION TEST
 TPV - TOTAL FLUORO-KIONIZATION VAPORS
 TFV - TOTAL FLAME-KIONIZATION VAPORS
 PPM - PARTS PER MILLION

▽ AT COMPLETION
 ▼ AFTER HRS
 ● WATER ON RODS

FT. HSA - HOLLOW STEM AUGERS
 FT. GBO - GEOPROBE
 FT. HA - HAND AUGERS
 MD -
 ND -



Client City of South Bend Boring # B-8-1
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 10/2/95 Hammer Wt. N/A lbs.
 Date Completed 10/2/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 108 ft South and 67 ft West of MW-2

SOIL CLASSIFICATION		DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOWS/6-INCHES IN 6-INCH INCREMENTS	TPV (PPM)	BORING AND SAMPLING NOTES
SURFACE ELEVATION									
	Brown moist Clayey Silty Sand and Brick (FILL)	3.0	5	1		100		-	*Soil samples collected from 2-3 ft, 10-12 ft and 20 ft for Toluene analysis
	Brown moist medium to coarse SILTY SAND (SM)			2	100	-			
				3	100	-			
				4	100	-			
				5	50	-			
				6	100	-			
				7	100	-			
				8	100	-			
				9	100	-			
				10	100	-			
Bottom of Test Boring at 20.0 ft		20.0		20					

SAMPLER TYPE

SPT - STANDARD PENETRATION TEST
 TPV - TOTAL PHOTO-IONIZATION VAPORS
 TPV - TOTAL FLAME-IONIZATION VAPORS
 PPM - PARTS PER MILLION

∇ AT COMPLETION
 ∇ AFTER HRS
 ● WATER ON RODS

FT. HSA - HOLLOW STEM AUGERS
 FT. GBO - GBO PROBE
 FT. HA - HAND AUGERS
 MD -
 ND -



Client City of South Bend Boring # B-11-1
 Project Name Subsurface Investigation Job # 21-07-95-00802
 Project Location NW Corner of Tutt and Lafayette, South Bend, Indiana

DRILLING and SAMPLING INFORMATION

Date Started 10/2/95 Hammer Wt. N/A lbs.
 Date Completed 10/2/95 Hammer Drop N/A in.
 Drill Foreman M. Walker Spoon Sampler OD N/A in.
 Boring Inspector K. Kaneshiro Rock Core Dia. N/A in.
 Boring Method Geoprobe Shelby Tube OD N/A in.
 Boring Location 128 ft South of MW-3R

SOIL CLASSIFICATION		DEPTH (FT)	SCALE (FT)	SAMPLE NO.	GROUNDWATER	RECOVERY %	SPT BLOWS/8-INCHES IN 8-INCH INCREMENTS	TPV (PPM)	BORING AND SAMPLING NOTES
SURFACE ELEVATION									
	Brown moist Clayey Silty Sand, debris of Bricks (FILL)	4.0	5	1		100		-	*Soil samples collected from 2-3 ft, 10-12 ft and 20 ft for Toluene analysis
				2	100				
				3	100				
				4	100				
				5	50				
				6	100				
				7	100				
				8	100				
				9	100				
				10	100				
Bottom of Test Boring at 20.0 ft		20.0	20						

SAMPLER TYPE
 SPT - STANDARD PENETRATION TEST
 TPV - TOTAL PHOTO-IONIZATION VAPORS
 TFV - TOTAL FLAME-IONIZATION VAPORS
 PPM - PARTS PER MILLION

AT COMPLETION
 AFTER
 WATER ON RODS

FT. HSA - HOLLOW STEM AUGERS
 FT. GBO - GEOPROBE
 FT. HA - H
 FT. MD - M
 FT. ND - N

APPENDIX C
ANALYTICAL RESULTS

ATEC[®] Associates, Inc.



Environmental Consultants

5150 East 65th Street
Indianapolis, Indiana 46220-4871
(317) 849-4990, FAX (317) 849-5260



Solid & Hazardous Waste Site Assessments
Remedial Design & Construction
Underground Tank Management
Asbestos Surveys & Analysis
Hydrogeologic Investigations & Monitoring
Analytical Testing / Chemistry
Industrial Hygiene / Hazard Communication
Environmental Audits & Permitting
Exploratory Drilling & Monitoring Wells

September 29, 1995

Brad Lewis
ATEC Associates, Inc.
5150 E. 65th St.
Indianapolis, IN 46220-4871

Re: Twelve Soil VOA
City of South Bend
ATEC Work Order Number 9509339
ATEC Project Number 21-07-9500802

Dear Mr. Lewis:

Enclosed is a thirty-one page report of results for the Organic Analyses for the twelve soil and water samples which were submitted to the ATEC Environmental/Analytical Testing Division on September 19, 1995, on behalf of the City of South Bend. The volatile samples were analyzed on a Finnigan Incos 50 GC/MS/DS system, complete with Superincos Software, via SW 846 Method 8240 for Purgeable Organic Compounds. Prior to analysis, the system was tuned against Bromofluorobenzene and calibrated with the appropriate standard.

The analytical procedures are performed in accordance with the ATEC Analytical Standard Operating Procedures, which are based on the methods referenced in this report. These SOPs are available for your review upon request.

All Soil results are reported on an "as received" basis unless otherwise specified. Any associated Quality Control information will be maintained in the Testing Division files, a copy of which can be forwarded to you upon request. After a thirty-day period, a fee will be assessed for this additional information.

A Definition of LIMS Terms is included in this report for your convenience. Two copies of this Analytical Report are being provided for your records. Additional copies can be provided at a minimum cost of \$30.00 per copy. It has been a pleasure serving you and, as always, if there are any questions concerning these results or the ATEC policies, please feel free to contact me.

Respectfully submitted,

ATEC ASSOCIATES, INC.



Mary McGill-Maxwell
GC/MS Group Leader
Environmental/Analytical
Testing Division

MMM/lam

ATEC ENVIRONMENTAL DIV.
5150 E. 65TH ST.
Indianapolis, IN 46220

Attn: Brad Lewis
Invoice Number:

Order #: 95-09-339
Date: 09/25/95 15:22
Work ID: City of S.B. (2107-9500802)
Date Received: 09/19/95
Date Completed: 09/25/95

SAMPLE IDENTIFICATION

<u>ATEC</u> <u>Sample</u> <u>Number</u>	<u>Client</u> <u>Sample</u> <u>Description</u>
01	B-1 (10-12)
03	B-3 (20')
05	B-5 (20')
07	B-7 (20')
09	B-9 (20')
11	B-11 (10-12)

<u>ATEC</u> <u>Sample</u> <u>Number</u>	<u>Client</u> <u>Sample</u> <u>Description</u>
02	B-2 (2-3)
04	B-4 (20')
06	B-6 (20')
08	B-8 (20')
10	B-10(20')
12	B-12 (20')

This report shall not be reproduced except
in full, without approval of the Laboratory.


Certified By
Mary McGill-Maxwell

Received: 09/19/95

A TEC Associates REPORT

Work Order # 95-09-339

REPORT COMMENTS

LIMS General Definition of Terms

Order Number: ATEC Laboratory Identification for your sample set.
(Please reference this number with any correspondence)

Sample Number: ATEC Laboratory Identification for individual samples
with the set.

Sample Description: Your Sample Identification

Test Description: Analytical Test

Result: Analytical Value Obtained

Result Qualifiers: < denotes less than
> denotes greater than
N/A denotes not applicable
NR denotes not reported
J denotes analyte detected but amount present is less
than the Quantitation Limit
M denotes analyte spiked with matrix spike compound
B denotes analyte found in method blank
ND not detected

Units: Unit of Measurement

Limit: Denotes Quantitation Limit: Limit of reliability based
on the sample quantity analyzed, the sample matrix, and
the analytical method sensitivity

Analyzed: Optional Field for Date Analyzed

By: Optional Field for Test Analyst

Received: 09/19/95

SAMPLE ID B-1 (10-12) TEST CODE 8240 NAME Volatile
 FRACTION 01A Date & Time Collected 09/18/95 Category SOIL

DATE ANALYZED	<u>09/21/95</u>
INSTRUMENT	<u>Incos BV2</u>
DILUTION FACTOR	<u>1</u>
ANALYST	<u>R. Booknis</u>
VERIFIED BY	<u>M. McGill</u>
UNITS	<u>ug/Kg</u>
COMMENTS:	
Analytical Method	<u>SW 846 Mtd. 8240A</u>

PRIORITY POLLUTANTS
VOLATILE COMPOUNDS

PARAMETER	CAS #	RESULT	LIMIT
Chloromethane	74-87-3	<u><10</u>	<u>10</u>
Bromomethane	74-83-9	<u><10</u>	<u>10</u>
Vinyl Chloride	75-01-4	<u><10</u>	<u>10</u>
Chloroethane	75-00-3	<u><10</u>	<u>10</u>
Methylene Chloride	75-09-2	<u>8</u>	<u>5</u>
Acetone	67-64-1	<u><100</u>	<u>100</u>
Carbon Disulfide	75-15-0	<u><100</u>	<u>100</u>
1,1-Dichloroethene	75-35-4	<u><5</u>	<u>5</u>
1,1-Dichloroethane	75-34-3	<u><5</u>	<u>5</u>
Total 1,2-Dichloroethene		<u><5</u>	<u>5</u>
Chloroform	67-66-3	<u><5</u>	<u>5</u>
1,2-Dichloroethane	107-06-2	<u><5</u>	<u>5</u>
2-Butanone	78-93-3	<u><100</u>	<u>100</u>
1,1,1-Trichloroethane	71-55-6	<u><5</u>	<u>5</u>
Carbon Tetrachloride	56-23-5	<u><5</u>	<u>5</u>
Vinyl Acetate	108-05-4	<u><50</u>	<u>50</u>
Bromodichloromethane	75-27-4	<u><5</u>	<u>5</u>
1,2-Dichloropropane	78-87-5	<u><5</u>	<u>5</u>
Trans-1, 3-Dichloropropene	10061-02-6	<u><5</u>	<u>5</u>
Trichloroethene	79-01-6	<u><5</u>	<u>5</u>

Received: 09/19/95

SAMPLE ID B-1 (10-12) TEST CODE 8240 NAME Volatile
FRACTION 01A Date & Time Collected 09/18/95 Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	<5	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID B-2 (2-3) TEST CODE 8240 NAME Volatile
 FRACTION O2A Date & Time Collected 09/18/95 Category SOIL

DATE ANALYZED	<u>09/22/95</u>
INSTRUMENT	<u>Incos BV2</u>
DILUTION FACTOR	<u>1</u>
ANALYST	<u>R. Booknis</u>
VERIFIED BY	<u>M. McGill</u>
UNITS	<u>ug/Kg</u>
COMMENTS:	
Analytical Method	<u>SW 846 Mtd. 8240A</u>

**PRIORITY POLLUTANTS
VOLATILE COMPOUNDS**

PARAMETER	CAS #	RESULT	LIMIT
Chloromethane	74-87-3	<10	10
Bromomethane	74-83-9	<10	10
Vinyl Chloride	75-01-4	<10	10
Chloroethane	75-00-3	<10	10
Methylene Chloride	75-09-2	13	5
Acetone	67-64-1	<100	100
Carbon Disulfide	75-15-0	<100	100
1,1-Dichloroethene	75-35-4	<5	5
1,1-Dichloroethane	75-34-3	<5	5
Total 1,2-Dichloroethene		<5	5
Chloroform	67-66-3	<5	5
1,2-Dichloroethane	107-06-2	<5	5
2-Butanone	78-93-3	<100	100
1,1,1-Trichloroethane	71-55-6	<5	5
Carbon Tetrachloride	56-23-5	<5	5
Vinyl Acetate	108-05-4	<50	50
Bromodichloromethane	75-27-4	<5	5
1,2-Dichloropropane	78-87-5	<5	5
Trans-1, 3-Dichloropropene	10061-02-6	<5	5
Trichloroethene	79-01-6	<5	5

Received: 09/19/95

SAMPLE ID B-2 (2-3) TEST CODE 8240 NAME Volatile
FRACTION 02A Date & Time Collected 09/18/95 Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	5	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID B-3 (20') TEST CODE 8240 NAME Volatile
 FRACTION 03A Date & Time Collected 09/18/95 Category SDIL

DATE ANALYZED	<u>09/21/95</u>
INSTRUMENT	<u>Incos BV2</u>
DILUTION FACTOR	<u>1</u>
ANALYST	<u>R. Booknis</u>
VERIFIED BY	<u>M. McGill</u>
UNITS	<u>ug/Kg</u>
COMMENTS:	
Analytical Method	<u>SW 846 Mtd. 8240A</u>

PRIORITY POLLUTANTS
VOLATILE COMPOUNDS

PARAMETER	CAS #	RESULT	LIMIT
Chloromethane	74-87-3	<u><10</u>	<u>10</u>
Bromomethane	74-83-9	<u><10</u>	<u>10</u>
Vinyl Chloride	75-01-4	<u><10</u>	<u>10</u>
Chloroethane	75-00-3	<u><10</u>	<u>10</u>
Methylene Chloride	75-09-2	<u>9</u>	<u>5</u>
Acetone	67-64-1	<u><100</u>	<u>100</u>
Carbon Disulfide	75-15-0	<u><100</u>	<u>100</u>
1,1-Dichloroethene	75-35-4	<u><5</u>	<u>5</u>
1,1-Dichloroethane	75-34-3	<u><5</u>	<u>5</u>
Total 1,2-Dichloroethene		<u><5</u>	<u>5</u>
Chloroform	67-66-3	<u><5</u>	<u>5</u>
1,2-Dichloroethane	107-06-2	<u><5</u>	<u>5</u>
2-Butanone	78-93-3	<u><100</u>	<u>100</u>
1,1,1-Trichloroethane	71-55-6	<u><5</u>	<u>5</u>
Carbon Tetrachloride	56-23-5	<u><5</u>	<u>5</u>
Vinyl Acetate	108-05-4	<u><50</u>	<u>50</u>
Bromodichloromethane	75-27-4	<u><5</u>	<u>5</u>
1,2-Dichloropropane	78-87-5	<u><5</u>	<u>5</u>
Trans-1, 3-Dichloropropene	10061-02-6	<u><5</u>	<u>5</u>
Trichloroethene	79-01-6	<u><5</u>	<u>5</u>

Received: 09/19/95

SAMPLE ID B-3 (20') TEST CODE 8240 NAME Volatile
FRACTION 03A Date & Time Collected 09/18/95 Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	110	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID B-4 (20') TEST CODE 8240 NAME Volatile
 FRACTION 04A Date & Time Collected 09/18/95 Category SOIL

DATE ANALYZED	<u>09/21/95</u>
INSTRUMENT	<u>Ineos BV2</u>
DILUTION FACTOR	<u>1</u>
ANALYST	<u>R. Booknis</u>
VERIFIED BY	<u>M. McGill</u>
UNITS	<u>ug/Kg</u>
COMMENTS:	
Analytical Method	<u>SW 846 Mtd. 8240A</u>

**PRIORITY POLLUTANTS
 VOLATILE COMPOUNDS**

PARAMETER	CAS #	RESULT	LIMIT
Chloromethane	74-87-3	<u><10</u>	<u>10</u>
Bromomethane	74-83-9	<u><10</u>	<u>10</u>
Vinyl Chloride	75-01-4	<u><10</u>	<u>10</u>
Chloroethane	75-00-3	<u><10</u>	<u>10</u>
Methylene Chloride	75-09-2	<u>9</u>	<u>5</u>
Acetone	67-64-1	<u><100</u>	<u>100</u>
Carbon Disulfide	75-15-0	<u><100</u>	<u>100</u>
1,1-Dichloroethene	75-35-4	<u><5</u>	<u>5</u>
1,1-Dichloroethane	75-34-3	<u><5</u>	<u>5</u>
Total 1,2-Dichloroethene		<u><5</u>	<u>5</u>
Chloroform	67-66-3	<u><5</u>	<u>5</u>
1,2-Dichloroethane	107-06-2	<u><5</u>	<u>5</u>
2-Butanone	78-93-3	<u><100</u>	<u>100</u>
1,1,1-Trichloroethane	71-35-6	<u><5</u>	<u>5</u>
Carbon Tetrachloride	56-23-5	<u><5</u>	<u>5</u>
Vinyl Acetate	108-05-4	<u><50</u>	<u>50</u>
Bromodichloromethane	75-27-4	<u><5</u>	<u>5</u>
1,2-Dichloropropane	78-87-5	<u><5</u>	<u>5</u>
Trans-1, 3-Dichloropropene	10061-02-6	<u><5</u>	<u>5</u>
Trichloroethene	79-01-6	<u><5</u>	<u>5</u>

Received: 09/19/95

SAMPLE ID B-4 (20') TEST CODE 8240 NAME Volatile
FRACTION 04A Date & Time Collected 09/18/95 Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	87	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID B-5 (20') TEST CODE 8240 NAME Volatile
 FRACTION 05A Date & Time Collected 09/18/95 Category SOIL

DATE ANALYZED	<u>09/21/95</u>
INSTRUMENT	<u>Incos BV2</u>
DILUTION FACTOR	<u>1</u>
ANALYST	<u>R. Booknis</u>
VERIFIED BY	<u>M. McGill</u>
UNITS	<u>ug/Kg</u>
COMMENTS:	
Analytical Method	<u>SW 846 Mtd. 8240A</u>

PRIORITY POLLUTANTS
VOLATILE COMPOUNDS

PARAMETER	CAS #	RESULT	LIMIT
Chloromethane	74-87-3	<10	10
Bromomethane	74-83-9	<10	10
Vinyl Chloride	75-01-4	<10	10
Chloroethane	75-00-3	<10	10
Methylene Chloride	75-09-2	8	5
Acetone	67-64-1	<100	100
Carbon Disulfide	75-15-0	<100	100
1,1-Dichloroethene	75-35-4	<5	5
1,1-Dichloroethane	75-34-3	<5	5
Total 1,2-Dichloroethene		<5	5
Chloroform	67-66-3	<5	5
1,2-Dichloroethane	107-06-2	<5	5
2-Butanone	78-93-3	<100	100
1,1,1-Trichloroethane	71-55-6	<5	5
Carbon Tetrachloride	56-23-5	<5	5
Vinyl Acetate	108-05-4	<50	50
Bromodichloromethane	75-27-4	<5	5
1,2-Dichloropropane	78-87-5	<5	5
Trans-1, 3-Dichloropropene	10061-02-6	<5	5
Trichloroethene	79-01-6	<5	5

Received: 09/19/95

SAMPLE ID 8-5 (20') TEST CODE 8240 NAME Volatile
FRACTION 05A Date & Time Collected 09/18/95 Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	29	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID B-6 (20') TEST CODE 8240 NAME Volatile
 FRACTION 06A Date & Time Collected 09/19/95 Category SOIL

DATE ANALYZED 09/21/95
 INSTRUMENT Incos BV2
 DILUTION FACTOR 1
 ANALYST R. Booknis
 VERIFIED BY M. McGill
 UNITS ug/Kg

COMMENTS:

Analytical Method SW 846 Mtd. 8240A

PRIORITY POLLUTANTS
VOLATILE COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>RESULT</u>	<u>LIMIT</u>
Chloromethane	74-87-3	<10	10
Bromomethane	74-83-9	<10	10
Vinyl Chloride	75-01-4	<10	10
Chloroethane	75-00-3	<10	10
Methylene Chloride	75-09-2	9	5
Acetone	67-64-1	<100	100
Carbon Disulfide	75-15-0	<100	100
1,1-Dichloroethene	75-35-4	<5	5
1,1-Dichloroethane	75-34-3	<5	5
Total 1,2-Dichloroethene		<5	5
Chloroform	67-66-3	<5	5
1,2-Dichloroethane	107-06-2	<5	5
2-Butanone	78-93-3	<100	100
1,1,1-Trichloroethane	71-55-6	<5	5
Carbon Tetrachloride	56-23-5	<5	5
Vinyl Acetate	108-05-4	<50	50
Bromodichloromethane	75-27-4	<5	5
1,2-Dichloropropane	78-87-5	<5	5
Trans-1, 3-Dichloropropene	10061-02-6	<5	5
Trichloroethene	79-01-6	<5	5

Received: 09/19/95

SAMPLE ID B-6 (20') TEST CODE 8240 NAME Volatile
FRACTION 06A Date & Time Collected 09/19/95 Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	120	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID B-7 (20') TEST CODE 8240 NAME Volatile
 FRACTION 07A Date & Time Collected 09/19/95 Category SOIL

DATE ANALYZED 09/22/95
 INSTRUMENT Incos BV2
 DILUTION FACTOR 1
 ANALYST R. Booknis
 VERIFIED BY M. McGill
 UNITS ug/Kg

COMMENTS:

Analytical Method SW 846 Mtd. 8240A

**PRIORITY POLLUTANTS
 VOLATILE COMPOUNDS**

PARAMETER	CAS #	RESULT	LIMIT
Chloromethane	74-87-3	<10	10
Bromomethane	74-83-9	<10	10
Vinyl Chloride	75-01-4	<10	10
Chloroethane	75-00-3	<10	10
Methylene Chloride	75-09-2	6	5
Acetone	67-64-1	<100	100
Carbon Disulfide	75-15-0	<100	100
1,1-Dichloroethene	75-35-4	<5	5
1,1-Dichloroethane	75-34-3	<5	5
Total 1,2-Dichloroethene		<5	5
Chloroform	67-66-3	<5	5
1,2-Dichloroethane	107-06-2	<5	5
2-Butanone	78-93-3	<100	100
1,1,1-Trichloroethane	71-55-6	<5	5
Carbon Tetrachloride	56-23-5	<5	5
Vinyl Acetate	108-05-4	<50	50
Bromodichloromethane	75-27-4	<5	5
1,2-Dichloropropane	78-87-5	<5	5
Trans-1, 3-Dichloropropene	10061-02-6	<5	5
Trichloroethene	79-01-6	<5	5

Received: 09/19/95

SAMPLE ID B-7 (20') TEST CODE 8240 NAME Volatile
FRACTION 07A Date & Time Collected 09/19/95 Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	21	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID B-8 (20') TEST CODE 8240 NAME Volatile
 FRACTION 08A Date & Time Collected 09/19/95 Category SOIL

DATE ANALYZED 09/22/95
 INSTRUMENT Incos BV2
 DILUTION FACTOR 1
 ANALYST R. Booknis
 VERIFIED BY M. McGill
 UNITS ug/Kg

COMMENTS:

Analytical Method SW 846 Mtd. 8240A

PRIORITY POLLUTANTS
VOLATILE COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>RESULT</u>	<u>LIMIT</u>
Chloromethane	74-87-3	<10	10
Bromomethane	74-83-9	<10	10
Vinyl Chloride	75-01-4	<10	10
Chloroethane	75-00-3	<10	10
Methylene Chloride	75-09-2	9	5
Acetone	67-64-1	<100	100
Carbon Disulfide	75-15-0	<100	100
1,1-Dichloroethene	75-35-4	<5	5
1,1-Dichloroethane	75-34-3	<5	5
Total 1,2-Dichloroethene		<5	5
Chloroform	67-66-3	<5	5
1,2-Dichloroethane	107-06-2	<5	5
2-Butanone	78-93-3	<100	100
1,1,1-Trichloroethane	71-55-6	<5	5
Carbon Tetrachloride	56-23-5	<5	5
Vinyl Acetate	108-05-4	<50	50
Bromodichloromethane	75-27-4	<5	5
1,2-Dichloropropane	78-87-5	<5	5
Trans-1, 3-Dichloropropene	10061-02-6	<5	5
Trichloroethene	79-01-6	<5	5

Received: 09/19/95

SAMPLE ID B-8 (20') TEST CODE B240 NAME Volatile
FRACTION Q8A Date & Time Collected 09/19/95 Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	140	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID B-9 (20') TEST CODE 8240 NAME Volatile
 FRACTION 09A Date & Time Collected 09/19/95 Category SOIL

DATE ANALYZED	<u>09/22/95</u>
INSTRUMENT	<u>Incos 8V2</u>
DILUTION FACTOR	<u>1</u>
ANALYST	<u>R. Booknis</u>
VERIFIED BY	<u>M. McGill</u>
UNITS	<u>ug/Kg</u>
COMMENTS:	
Analytical Method	<u>SW 846 Mtd. 8240A</u>

PRIORITY POLLUTANTS
VOLATILE COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>RESULT</u>	<u>LIMIT</u>
Chloromethane	74-87-3	<10	10
Bromomethane	74-83-9	<10	10
Vinyl Chloride	75-01-4	<10	10
Chloroethane	75-00-3	<10	10
Methylene Chloride	75-09-2	7	5
Acetone	67-64-1	<100	100
Carbon Disulfide	75-15-0	<100	100
1,1-Dichloroethene	75-35-4	<5	5
1,1-Dichloroethane	75-34-3	<5	5
Total 1,2-Dichloroethene		<5	5
Chloroform	67-66-3	<5	5
1,2-Dichloroethane	107-06-2	<5	5
2-Butanone	78-93-3	<100	100
1,1,1-Trichloroethane	71-55-6	<5	5
Carbon Tetrachloride	56-23-5	<5	5
Vinyl Acetate	108-05-4	<50	50
Bromodichloromethane	75-27-4	<5	5
1,2-Dichloropropane	78-87-5	<5	5
Trans-1, 3-Dichloropropene	10061-02-6	<5	5
Trichloroethene	79-01-6	<5	5

Received: 09/19/95

SAMPLE ID B-9 (201) TEST CODE 8240 NAME Volatile
 FRACTION 09A Date & Time Collected 09/19/95 Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	30	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID B-10(201) TEST CODE 8240 NAME Volatiles
 FRACTION 10A Date & Time Collected 09/19/95 Category SOIL

DATE ANALYZED	<u>09/22/95</u>
INSTRUMENT	<u>Incos BV2</u>
DILUTION FACTOR	<u>1</u>
ANALYST	<u>R. Booknis</u>
VERIFIED BY	<u>M. McGill</u>
UNITS	<u>ug/Kg</u>
COMMENTS:	
Analytical Method	<u>SW 846 Mtd. 8240A</u>

PRIORITY POLLUTANTS
VOLATILE COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>RESULT</u>	<u>LIMIT</u>
Chloromethane	74-87-3	<u><10</u>	<u>10</u>
Bromomethane	74-83-9	<u><10</u>	<u>10</u>
Vinyl Chloride	75-01-4	<u><10</u>	<u>10</u>
Chloroethane	75-00-3	<u><10</u>	<u>10</u>
Methylene Chloride	75-09-2	<u>5</u>	<u>5</u>
Acetone	67-64-1	<u><100</u>	<u>100</u>
Carbon Disulfide	75-15-0	<u><100</u>	<u>100</u>
1,1-Dichloroethene	75-35-4	<u><5</u>	<u>5</u>
1,1-Dichloroethane	75-34-3	<u><5</u>	<u>5</u>
Total 1,2-Dichloroethene		<u><5</u>	<u>5</u>
Chloroform	67-66-3	<u><5</u>	<u>5</u>
1,2-Dichloroethane	107-06-2	<u><5</u>	<u>5</u>
2-Butanone	78-93-3	<u><100</u>	<u>100</u>
1,1,1-Trichloroethane	71-55-6	<u><5</u>	<u>5</u>
Carbon Tetrachloride	56-23-5	<u><5</u>	<u>5</u>
Vinyl Acetate	108-05-4	<u><50</u>	<u>50</u>
Bromodichloromethane	75-27-4	<u><5</u>	<u>5</u>
1,2-Dichloropropane	78-87-5	<u><5</u>	<u>5</u>
Trans-1, 3-Dichloropropene	10061-02-6	<u><5</u>	<u>5</u>
Trichloroethene	79-01-6	<u><5</u>	<u>5</u>

Received: 09/19/95

SAMPLE ID B-10(201) TEST CODE 8240 NAME Volatile
FRACTION 10A Date & Time Collected 09/19/95 Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	71	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID B-11 (10-12) TEST CODE 8240 NAME Volatile
 FRACTION 11A Date & Time Collected 09/19/95 Category SOIL

DATE ANALYZED	<u>09/22/95</u>
INSTRUMENT	<u>Incos BV2</u>
DILUTION FACTOR	<u>1</u>
ANALYST	<u>R. Booknis</u>
VERIFIED BY	<u>M. McGill</u>
UNITS	<u>ug/Kg</u>
COMMENTS:	
Analytical Method	<u>SW 846 Mtd. 8240A</u>

PRIORITY POLLUTANTS
VOLATILE COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>RESULT</u>	<u>LIMIT</u>
Chloromethane	74-87-3	<u><10</u>	<u>10</u>
Bromomethane	74-83-9	<u><10</u>	<u>10</u>
Vinyl Chloride	75-01-4	<u><10</u>	<u>10</u>
Chloroethane	75-00-3	<u><10</u>	<u>10</u>
Methylene Chloride	75-09-2	<u>7</u>	<u>5</u>
Acetone	67-64-1	<u><100</u>	<u>100</u>
Carbon Disulfide	75-15-0	<u><100</u>	<u>100</u>
1,1-Dichloroethene	75-35-4	<u><5</u>	<u>5</u>
1,1-Dichloroethane	75-34-3	<u><5</u>	<u>5</u>
Total 1,2-Dichloroethene		<u><5</u>	<u>5</u>
Chloroform	67-66-3	<u><5</u>	<u>5</u>
1,2-Dichloroethane	107-06-2	<u><5</u>	<u>5</u>
2-Butanone	78-93-3	<u><100</u>	<u>100</u>
1,1,1-Trichloroethane	71-55-6	<u><5</u>	<u>5</u>
Carbon Tetrachloride	56-23-5	<u><5</u>	<u>5</u>
Vinyl Acetate	108-05-4	<u><50</u>	<u>50</u>
Bromodichloromethane	75-27-4	<u><5</u>	<u>5</u>
1,2-Dichloropropane	78-87-5	<u><5</u>	<u>5</u>
Trans-1,3-Dichloropropene	10061-02-6	<u><5</u>	<u>5</u>
Trichloroethene	79-01-6	<u><5</u>	<u>5</u>

Received: 09/19/95

SAMPLE ID B-11 (10-12) TEST CODE 8240 NAME Volatile
FRACTION 11A Date & Time Collected 09/19/95 Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	130	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID B-12 (20') TEST CODE 8240 NAME Volatile
 FRACTION 12A Date & Time Collected 09/19/95 Category SOIL

DATE ANALYZED	<u>09/22/95</u>
INSTRUMENT	<u>Incos BV2</u>
DILUTION FACTOR	<u>1</u>
ANALYST	<u>R. Booknis</u>
VERIFIED BY	<u>M. McGill</u>
UNITS	<u>ug/Kg</u>
COMMENTS:	
Analytical Method	<u>SW 846 Mtd. 8240A</u>

PRIORITY POLLUTANTS
VOLATILE COMPOUNDS

PARAMETER	CAS #	RESULT	LIMIT
Chloromethane	74-87-3	<u><10</u>	<u>10</u>
Bromomethane	74-83-9	<u><10</u>	<u>10</u>
Vinyl Chloride	75-01-4	<u><10</u>	<u>10</u>
Chloroethane	75-00-3	<u><10</u>	<u>10</u>
Methylene Chloride	75-09-2	<u>8</u>	<u>5</u>
Acetone	67-64-1	<u><100</u>	<u>100</u>
Carbon Disulfide	75-15-0	<u><100</u>	<u>100</u>
1,1-Dichloroethene	75-35-4	<u><5</u>	<u>5</u>
1,1-Dichloroethane	75-34-3	<u><5</u>	<u>5</u>
Total 1,2-Dichloroethene		<u><5</u>	<u>5</u>
Chloroform	67-66-3	<u><5</u>	<u>5</u>
1,2-Dichloroethane	107-06-2	<u><5</u>	<u>5</u>
2-Butanone	78-93-3	<u><100</u>	<u>100</u>
1,1,1-Trichloroethane	71-55-6	<u><5</u>	<u>5</u>
Carbon Tetrachloride	56-23-5	<u><5</u>	<u>5</u>
Vinyl Acetate	108-05-4	<u><50</u>	<u>50</u>
Bromodichloromethane	75-27-4	<u><5</u>	<u>5</u>
1,2-Dichloropropane	78-87-5	<u><5</u>	<u>5</u>
Trans-1, 3-Dichloropropene	10061-02-6	<u><5</u>	<u>5</u>
Trichloroethene	79-01-6	<u><5</u>	<u>5</u>

Received: 09/19/95

SAMPLE ID B-12 (20') TEST CODE 8240 NAME Volatile
FRACTION 12A Date & Time Collected 09/19/95 Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	92	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID Method Blank TEST CODE 8240 NAME Volatile
 FRACTION 12B Date & Time Collected _____ Category SOIL

DATE ANALYZED	<u>09/21/95</u>
INSTRUMENT	<u>Incos BV2</u>
DILUTION FACTOR	<u>1</u>
ANALYST	<u>R. Booknis</u>
VERIFIED BY	<u>M. McGill</u>
UNITS	<u>ug/Kg</u>
COMMENTS:	

Analytical Method	<u>SW 846 Mtd. 8240A</u>

PRIORITY POLLUTANTS
VOLATILE COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>RESULT</u>	<u>LIMIT</u>
Chloromethane	74-87-3	<u><10</u>	<u>10</u>
Bromomethane	74-83-9	<u><10</u>	<u>10</u>
Vinyl Chloride	75-01-4	<u><10</u>	<u>10</u>
Chloroethane	75-00-3	<u><10</u>	<u>10</u>
Methylene Chloride	75-09-2	<u>12</u>	<u>5</u>
Acetone	67-64-1	<u><100</u>	<u>100</u>
Carbon Disulfide	75-15-0	<u><100</u>	<u>100</u>
1,1-Dichloroethene	75-35-4	<u><5</u>	<u>5</u>
1,1-Dichloroethane	75-34-3	<u><5</u>	<u>5</u>
Total 1,2-Dichloroethene		<u><5</u>	<u>5</u>
Chloroform	67-66-3	<u><5</u>	<u>5</u>
1,2-Dichloroethane	107-06-2	<u><5</u>	<u>5</u>
2-Butanone	78-93-3	<u><100</u>	<u>100</u>
1,1,1-Trichloroethane	71-55-6	<u><5</u>	<u>5</u>
Carbon Tetrachloride	56-23-5	<u><5</u>	<u>5</u>
Vinyl Acetate	108-05-4	<u><50</u>	<u>50</u>
Bromodichloromethane	75-27-4	<u><5</u>	<u>5</u>
1,2-Dichloropropane	78-87-5	<u><5</u>	<u>5</u>
Trans-1, 3-Dichloropropene	10061-02-6	<u><5</u>	<u>5</u>
Trichloroethene	79-01-6	<u><5</u>	<u>5</u>

Received: 09/19/95

SAMPLE ID Method Blank TEST CODE 8240 NAME Volatile
FRACTION 12B Date & Time Collected _____ Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	<5	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

Received: 09/19/95

SAMPLE ID Method Blank TEST CODE 8240 NAME Volatile
 FRACTION 12C Date & Time Collected _____ Category SOIL

DATE ANALYZED 09/22/95
 INSTRUMENT Incos BV2
 DILUTION FACTOR 1
 ANALYST R. Booknis
 VERIFIED BY M. McGill
 UNITS ug/Kg

COMMENTS:

Analytical Method SM 846 Mtd. 8240A

PRIORITY POLLUTANTS
VOLATILE COMPOUNDS

PARAMETER	CAS #	RESULT	LIMIT
Chloromethane	74-87-3	<10	10
Bromomethane	74-83-9	<10	10
Vinyl Chloride	75-01-4	<10	10
Chloroethane	75-00-3	<10	10
Methylene Chloride	75-09-2	5	5
Acetone	67-64-1	<100	100
Carbon Disulfide	75-15-0	<100	100
1,1-Dichloroethene	75-35-4	<5	5
1,1-Dichloroethane	75-34-3	<5	5
Total 1,2-Dichloroethene		<5	5
Chloroform	67-66-3	<5	5
1,2-Dichloroethane	107-06-2	<5	5
2-Butanone	78-93-3	<100	100
1,1,1-Trichloroethane	71-55-6	<5	5
Carbon Tetrachloride	56-23-5	<5	5
Vinyl Acetate	108-05-4	<50	50
Bromodichloromethane	75-27-4	<5	5
1,2-Dichloropropane	78-87-5	<5	5
Trans-1, 3-Dichloropropene	10061-02-6	<5	5
Trichloroethene	79-01-6	<5	5

Received: 09/19/95

SAMPLE ID Method Blank TEST CODE 8240 NAME Volatile
FRACTION 12C Date & Time Collected _____ Category SOIL

Dibromochloromethane	124-48-1	<5	5
1,1,2-Trichloroethane	79-00-5	<5	5
Benzene	71-43-2	<5	5
cis-1, 3-Dichloropropene	10061-01-5	<5	5
2-Chloroethylvinylether	110-75-8	<10	10
Bromoform	75-25-2	<5	5
4-Methyl-2-Pentanone	108-10-1	<50	50
2-Hexanone	591-78-6	<50	50
Tetrachloroethene	127-18-4	<5	5
1,1,2,2-Tetrachloroethane	79-34-5	<5	5
Toluene	108-88-3	<5	5
Chlorobenzene	108-90-7	<5	5
Ethylbenzene	100-41-4	<5	5
Styrene	100-42-5	<5	5
Total Xylenes		<5	5
Acrolein	107-02-8	<10	10
Acrylonitrile	107-13-1	<100	100
Iodomethane	74-88-4	<100	100
trans 1,4-Dichloro-2-butene	110-57-6	<100	100
Ethyl methacrylate	97-63-2	<100	100
1,2,3-Trichloropropane	96-18-4	<100	100
Trichlorofluoromethane	75-69-4	<10	10
Dichlorodifluoromethane	75-61-8	<100	100

ATEC Environmental Consultants

Division of ATEC Associates, Inc.
5150 East 65th Street
Indianapolis, Indiana 46220-4871
(317) 849-4990, FAX # (317) 849-4278

CHAIN OF CUSTODY RECORD

LAB PROJ. NO.
9509339

PROJECT NAME *Subsurface Investigation*
CLIENT *City of South Bend*

PROJ. NO.
21-01-95
22802

SAMPLERS: (Signature)
Kayal Kumbhar

SAMPLING METHOD
bed

DATE

TIME

COMPOSITE

GRAB

WATER

SOIL

FILTERED

ACIDIFIED

ICED

NUMBER OF CONTAINERS

LAB I.D. NUMBER

VOLATILE ORGANICS

BTEX

TOTAL HYDROCARBONS

PCBS

TOTAL METALS (8)

LABORATORY ANALYSIS

SAMPLE LOCATION / REMARKS

Sample ID	Date	Time	Composite	Grab	Water	Soil	Filtered	Acidified	Iced	Number of Containers	Lab I.D. Number	Volatiles	BTEX	Total Hydrocarbons	PCBS	Total Metals (8)	
B-1 (0-12)	9-19-95	1:50		X		X			X	1	1	X					
B-2 (2-3)	9-19-95	2:55		X		X			X	1	2	X					
B-3 (2-6)	9-19-95	3:50		X		X			X	1	3	X					
B-4 (2-6)	9-19-95	4:40		X		X			X	1	4	X					
B-5 (2-6)	9-19-95	6:00		X		X			X	1	5	X					
B-6 (2-6)	9-19-95	8:15		X		X			X	1	6	X					
B-7 (2-6)	9-19-95	8:56		X		X			X	1	7	X					
B-8 (2-6)	9-19-95	9:33		X		X			X	1	8	X					
B-9 (2-6)	9-19-95	10:24		X		X			X	1	9	X					
B-10 (2-6)	9-19-95	11:00		X		X			X	1	10	X					
B-11 (0-12)	9-19-95	11:26		X		X			X	1	11	X					
B-12 (2-6)	9-19-95	12:28		X		X			X	1	12	X					

correct location
 per copy of
 location
 2/2/97

Received by: (Signature)

Date / Time

Relinquished by: (Signature)

Received by: (Signature)

Date / Time

Relinquished by: (Signature)

Date / Time

Project Manager / Phone #:

Date / Time

Received by Laboratory by (Signature)

Date / Time

Relinquished by: (Signature)

Date / Time

Date / Time
9-19-95 *4:50*

Kayal Kumbhar

Kayal Kumbhar

9/19/95 *4:30*

ATEC Associates, Inc.



Environmental Consultants

5150 East 65th Street
Indianapolis, Indiana 46220-4871
(317) 849-4990, FAX (317) 849-5260



Solid & Hazardous Waste Site Assessments
Remedial Design & Construction
Underground Tank Management
Asbestos Surveys & Analysis
Hydrogeologic Investigations & Monitoring
Analytical Testing / Chemistry
Industrial Hygiene / Hazard Communication
Environmental Audits & Permitting
Exploratory Drilling & Monitoring Wells

October 9, 1995

Brad Lewis
ATEC Associates, Inc.
5150 E. 65th Street
Indianapolis, IN 46220

Re: Three Soil Toluene
City of South Bend
ATEC Work Order Number 9510044
ATEC Project Number 21-07-9500802

Dear Mr. Lewis:

Enclosed is a six page report of results for the Organic Analyses for the three soil samples which were submitted to the ATEC Environmental/Analytical Testing Division on October 3, 1995, on behalf of the City of South Bend. The Toluene samples were analyzed on a Finnigan Incos 50 GC/MS/DS system, complete with Superincos Software, via SW 846 Method 8240 for Purgeable Organic Compounds. Prior to analysis, the system was tuned against Bromofluorobenzene and calibrated with the appropriate standard.

The analytical procedures are performed in accordance with the ATEC Analytical Standard Operating Procedures, which are based on the methods referenced in this report. These SOPs are available for your review upon request.

All Soil results are reported on an "as received" basis unless otherwise specified. Any associated Quality Control information will be maintained in the Testing Division files, a copy of which can be forwarded to you upon request. After a thirty-day period, a fee will be assessed for this additional information.

A Definition of LIMS Terms is included in this report for your convenience. Two copies of this Analytical Report are being provided for your records. Additional copies can be provided at a minimum cost of \$30.00 per copy. It has been a pleasure serving you and, as always, if there are any questions concerning these results or the ATEC policies, please feel free to contact me.

Respectfully submitted,

ATEC ASSOCIATES, INC.



Mary McGill-Maxwell
GC/MS Group Leader
Environmental/Analytical
Testing Division

MMM/lam

ATEC Associates, Inc.
5150 East 65th
Indianapolis IN 46220

Attn : Brad Lewis

Cust Proj #: City of South Bend 2107-9500802

Lab Proj #: 95100353
Date : 10/06/1995

Date Received : 10/03/1995
Date Completed: 10/04/1995

REPORT OF ANALYSIS

ATEC Sample Number	Client Sample Description	ATEC Sample Number	Client Sample Description
95-001777	B-3-1 (20) (9510044-1	95-001778	B-8-1 (20) (9510044-2
95-001779	B-11-1(10-12) (9510044-3	95-001802	Method Blank

This report shall not be reproduced except in full, without approval of the Laboratory.

Mary R. McGill-Maxwell
Certified By
Mary R. McGill-Maxwell

Date of Report: 10/06/95
Project Number: 95100353
Lab ID: 95-0001777
Date Collected: 10/02/95 11:07
Collected By: Client
Date Received: 10/03/95 10:20
C of C Number:
Temperature: Received on Ice

Attention: Brad Lewis
ATEC Associates, Inc.
5150 East 65th
Indianapolis IN 46220

Sample Desc: B-3-1 (20) (9510044-1)

ORGANIC
GC/MS VOLATILES
Toluene

Result	Unit	Det. Limit	Procedure	Test Date
<5	ug/Kg	5	SW 8240	10/03/95

Date of Report: 10/06/95
Project Number: 95100353
Lab ID: 95-0001778
Date Collected: 10/02/95 12:10
Collected By: Client
Date Received: 10/03/95 10:20
C of C Number:
Temperature: Received on Ice

Attention: Brad Lewis
ATEC Associates, Inc.
5150 East 65th
Indianapolis IN 46220

Sample Desc: B-8-1 (20) (9510044-2)

ORGANIC
CMS VOLATILES
Toluene

Result	Unit	Det. Limit	Procedure	Test Date
<5	ug/Kg	5	SW 8240	10/03/95

Date of Report: 10/06/95
Project Number: 95100353
Lab ID: 95-0001779
Date Collected: 10/02/95 12:40
Collected By: Client
Date Received: 10/03/95 10:20
C of C Number:
Temperature: Received on Ice

Attention: Brad Lewis
ATEC Associates, Inc.
5150 East 65th
Indianapolis IN 46220

Sample Desc: B-11-1(10-12) (9510044-3)

ORGANIC
CMS VOLATILES
Toluene

Result	Unit	Det. Limit	Procedure	Test Date
<5	ug/Kg	5	SW 8240	10/03/95

Date of Report: 10/06/95
Project Number: 95100353
Lab ID: 95-0001802
Date Collected: 10/03/95 12:40
Collected By: Client
Date Received: 10/03/95 10:20
C of C Number:
Temperature: Received on Ice

Attention: Brad Lewis
ATEC Associates, Inc.
5150 East 65th
Indianapolis IN 46220

Sample Desc: Method Blank

ORGANIC
SCMS VOLATILES
Toluene

Result	Unit	Det. Limit	Procedure	Test Date
<5	ug/Kg	5	SW 8240	10/03/95



Division of ATEC Associates, Inc.
5150 East 65th Street
Indianapolis, Indiana 46220-4871
(317) 849-4990, FAX # (317) 849-4278

PROJ. NO.
21-57-95

PROJECT NAME
Subsurface Investigation

LAB PROJ. NO.
G510044

CHAIN OF CUSTODY RECORD

CS,BAZ

CLIENT
City of South Bend

LABORATORY ANALYSIS

SAMPLERS: (Signature)
Karel Kowalski

SAMPLE LOCATION / REMARKS

SAMPLING METHOD

GED

COMPOSITE

GRAB

WATER

SOIL

FILTERED

ACIDIFIED

ICED

NUMBER OF CONTAINERS

LAB ID NUMBER

VOLATILE ORGANICS	BTX&E	TOTAL HYDROCARBONS	PCBS	TOTAL METALS (6)	TOXIC

RELEASED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
<i>Karel Kowalski</i>	10-2-95	7:00	<i>Brod K Lewis</i>	10/2/95	6:30
<i>Karel Kowalski</i>	10-2-95	11:07	<i>Brod K Lewis</i>	10/3/95	10:26a
<i>Brod K Lewis</i>	10-2-95	12:10	<i>Brod K Lewis</i>	10/3/95	10:26a
<i>Brod K Lewis</i>	10-2-95	12:40	<i>Brod K Lewis</i>		
<i>Brod K Lewis</i>	10-2-95	1:10	<i>Brod K Lewis</i>		

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
<i>Brod K Lewis</i>	10/3/95	10:26a	<i>Brod K Lewis</i>		
<i>Brod K Lewis</i>			<i>Brod K Lewis</i>		
<i>Brod K Lewis</i>			<i>Brod K Lewis</i>		
<i>Brod K Lewis</i>			<i>Brod K Lewis</i>		

Corporate Headquarters

8665 Bash Street
Indianapolis, IN 46256-1202
(317) 577-1761
FAX (317) 842-7308

With Offices Nationwide