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EPA, REGION V

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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105 South Meridian Street
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Telephone 317-232-8603
Environmental Helpline 1-800-451-6027

VIA CERTIFIED MAIL - P352-040-398

April 20, 1993

Mr. Joseph H. McCorkle
Plant Engineering Manager
Johnson Controls, Inc.
System Products Division
1302 East Monroe Street
Goshen, Indiana 46526

RECEIVED MAY 03 1993
WMD RCRA
RECORD CENTER Part A

Dear Mr. McCorkle:

Re: Site Investigation Report
Johnson Controls, Inc.
Goshen, Indiana
IND 009549593

The Indiana Department of Environmental Management (IDEM) has reviewed the Site Investigation Report for Johnson Controls, dated December 10, 1992. The report summarizes the efforts to identify sources and pathways of contamination.

From the information submitted, it is clear that the hydrogeology of the site is known, and that the control of on-site sources of contamination should proceed as a priority. Subsequent efforts should include monitoring of the plume off-site. As source controls are implemented, the plume should be tracked to determine if it continues to migrate. Still needed is a complete determination of the rate, extent, and concentration of the plume. As yet, the boundaries of the plume have not been identified.

Concurrent with the ongoing groundwater remediation, this is a formal request to initiate source controls on the contaminated soils beneath the units. Please submit to the IDEM, within sixty (60) days, a plan to address the soils of concern. Additionally, please continue to submit groundwater status reports to the IDEM at the address above every ninety (90) days.

If you have any questions regarding this correspondence, please contact Mr. Stephen West at 317/232-3264.

Sincerely,

Victor P. Windle

Victor P. Windle, Chief
Plan Review and Permit Section
Hazardous Waste Management Branch
Solid and Hazardous Waste Management

cc: Mr. Hak Cho, U.S. EPA, Region V
Mr. Roger Koelpin
File: IC1c, Elkhart Co.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

FILE

INDIANAPOLIS

MAY 03 1993
RECORD CENTER Part A

OFFICE MEMORANDUM

NOT FOR PUBLIC VIEW

DATE: April 12, 1993

TO: Stephen West
Plan Review & Permits Section

THRU: Karyl Schmidt KS 4-12-93
Harold Templin HT 4/12/93

FROM: Roger Koelpin RK 4/12/93

SUBJECT: Review of Johnson Controls, Goshen, Elkhart County, 12/10/92 Site Investigation Report (IND009549593)

I have reviewed the Johnson Controls Site Investigation Report. The report summarizes their efforts in identifying sources of contamination, and that the contamination has migrated off site via ground water. Johnson Controls has gathered enough information about the area hydrogeology to identify on-site sources and that control of those sources of contamination should proceed as a priority.

Subsequent efforts should include monitoring of the plume off-site. As source controls are implemented, the plume should be monitored to see if it persists off-site. If the plume persists, more investigation is needed to determine the extent of plume. As yet, the boundaries of the plume have not been identified.

RCRA regulations call for determination of the extent of contamination, and the rate of migration. Compliance with this requirement will be necessary at some point during closure of the regulated units that are at Johnson Controls. However, compliance with RCRA was not an objective of this review at this time given the voluntary nature of Johnson Controls' efforts.

cc: RCRA 4A File
Fayola Wright, US EPA, Region V

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EPA, REGION V

Susan Sylvester, REB

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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105 South Meridian Street
P.O. Box 6015
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Telephone 317-232-8603
Environmental Helpline 1-800-451-6027

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MAY 22 1992
OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION V

VIA CERTIFIED MAIL - P749-694-821

May 20, 1992

RECEIVED MAR 10 1993
WMD RCRA
RECORD CENTER Compliance

Mr. Joseph H. McCorkel,
Plant Engineering Manager
Johnson Controls, Inc.
Systems Products Division
1302 East Monroe Street
Goshen, IN 46526

Dear Mr. McCorkel:

Re: Interim Investigation Report
Johnson Controls, Inc.
Goshen, IN
IND 009549593

The Indiana Department of Environmental Management (IDEM) has reviewed the Interim Investigation Report dated February 26, 1992, outlining the steps taken to date to evaluate the contaminated groundwater plume emanating from the Goshen, Indiana, site.

The following comments were generated by IDEM Technical Staff, and represent the position the IDEM is taking, as well as suggestions regarding the next steps which Johnson Controls should take.

If you have any questions regarding this correspondence, please contact Mr. Stephen West of my office at 317/232-3264.

Sincerely,

Victor P. Windle

Victor P. Windle, Chief
Plan Review and Permit Section
Hazardous Waste Management Branch
Solid and Hazardous Waste Management

Enclosures

cc: Mr. Hak Cho, U.S. EPA, Region V
File: IC1c, Elkhart Co.

ramifications for Johnson Controls with regard to liability concerns.

Subsequent phases of the groundwater investigation to determine the extent of off-site contamination must also address gaps in our knowledge of the system to be remediated. The data submitted for review identified at least three (3) distinct flow zones in the area, yet stopped short of determining whether the plume had migrated into the deepest flow zone west of MW-13. At least three (3) general questions must be resolved in the future:

First, the stratigraphy of the flow zones must be defined. Currently, correlation of "clay" aquitards is based on the depths from surface at which they were encountered in the borings. The presence or absence of the aquitards was at best based on five (5) foot sampling intervals, and more typically with cuttings on the auger flights, or resistance to drilling. The limited thickness of the aquitards, and their significance to the distribution of contamination calls for more precise characterization. IDEM prefers more thorough sampling and testing of the flow zones, as per the IDEM Draft Descriptive Requirements for Unconsolidated Deposits (enclosed). However, staff is willing to discuss alternatives such as the use of geophysical methods, or other investigative techniques.

Second, the structure of the aquitards and vertical gradients should be resolved. The surfaces of the aquitards should be mapped given the potential for density driven flow of the contaminants. Vertical gradients across the flow zones should also be mapped because of the potential for cross-contamination between the flow zones. The mapping efforts will require precise elevation determinations at the borings and monitoring wells. Please see the IDEM Draft Descriptive Requirements for Unconsolidated Deposits for guidance.

Finally, subsequent phases should extend westward to find the end of the plume, where concentrations fall well below MCLs promulgated in the January 30, 1991 Federal Register, Vol. 56, which will become effective July 30, 1992. It may be possible to extend the scope of the proposed hydraulic characterization of the aquifer at minimal cost, to provide information also useful to tracking the plume. For example, pumping tests of the flow zones at the site could document the integrity of the aquitards. Then, provided that the aquitards tested at the site are correlatable west of MW-13, this information could be carried over to the west instead of having to be entirely redone. However, additional borings to the west tracking the plume are needed.

Additionally, it would be prudent for Johnson Controls to thoroughly research the number of water supply wells west of MW-13 through the Elkhart River floodplain. The severity of the contamination is a function of the type and number of potential

C. For boring 16, 18-24 inches, the 1,1,1-trichloroethane concentration was not reported.

D. For boring 17, 12-18 inches, the tetrachloroethylene concentration was not reported.

E. For boring 17, 18-24 inches, the trichloroethylene concentration should be 4400 ppb as reported in the lab report.

4. Table 4, Second Round Analytical Results, did not include the results for boring 22, 4.5-6 feet.

5. Table 5, Second Round Analytical Results, did not include the 1,1,1-trichloroethane concentration for boring 28, 4.5-6 feet.

6. Page 36 and 37 of the Field log Book Notes in Appendix C are missing.

7. The first page of the lab report for boring 5, 0-6 inches, lab #22583, was missing from the report.

8. The holding times for the analysis of volatile organic constituents (VOCs) were exceeded for the first round samples (#1-6, 15-17). The second round samples were within holding times. Since high levels of contamination were found in the first round samples, as well as the second round samples, sampling and analysis for these areas will not have to be repeated. However, the facility should be sure to meet holding times for further sampling and analysis while determining the extent of contamination.

Cole

MAR 4 10 18 AM '92

OFFICE OF SOLID
AND HAZARDOUS
WASTE MGMT
DEM

February 26, 1992

Indiana Department of Environmental Management
Plan Review and Permit Section
Hazardous Waste Management
105 South Meridian Street
P. O. Box 6015
Indianapolis, IN 46205-6015

Attention: Mr. Steve West, Project Coordinator

RE: Johnson Controls Inc.
RCRA Closure
Cole Account 24291

Gentlemen:

On February 19, 1992 a copy of the Interim Site Investigation Report was forwarded to your office for review. A typographic error was found in the Water Table Data shown on Page 3 of the Site Investigation Section. Static Water Level was 790.54 vs 709.54 originally indicated. Also noted was the variance between the static water level noted in the table and the static water levels noted on the Well Logs. The difference was due to the fact that originally static water levels were taken on December 4, 1991 and the static water levels noted on the Well Logs were taken on January 16, 1992. Enclosed herewith is a copy of the Traverse Group, Inc. letter dated February 21, 1992 which completely discusses this information.

Through this interim report it can be easily seen that the RCRA Closure is becoming a long term project and requires an additional time extension of 180 days to continue our work toward clean closure. Although the closure could take 3 to 5 years or more, it is our understanding IDEM prefers to make the time extension in six month increments. Our supplemental site investigation to delineate the full extent of the plume is scheduled to begin sometime in the near future. It is Johnson Control's desire to make sure the investigative activities continue to move forward quickly so that the site remediation can occur as soon as possible.

2211 EAST JEFFERSON BOULEVARD SOUTH BEND, INDIANA 46615
219 236-4400 FAX: 219 236-4471
ENGINEERS ARCHITECTS PLANNERS

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Airport Plaza Park
Ann Arbor, Michigan 48108

(313) 747-9300 Phone
(313) 747-9229 Fax

RECEIVED FEB 26 1992

Cole Associates Inc.

- Groundwater and Soil Contamination Assessment and Cleanup
- Underground Storage Tank Management
- Industrial Environmental Audits
- Property Development Risk Assessments

February 21, 1992

Fred Rouse, P.E.
Senior Project Engineer
Cole Associates Inc.
2211 E. Jefferson Boulevard
South Bend, Indiana 46615

Dear Fred:

RE: MODIFICATIONS TO THE SITE INVESTIGATION RESULTS REPORT JOHNSON CONTROLS GOSHEN, INDIANA FACILITY

Per our conversation of February 21, 1992 the following modifications should be noted regarding the Site Investigation Results Report of February 13, 1992. The water table data on Page 3 of the report was incorrect with regards to the static water level observation of December 4, 1991 at MW-1. The static water level was reported as 709.54 feet above sea level, the actual observation for this date was 790.54 feet above sea level. The corrected table is illustrated below.

WATER TABLE DATA
Johnson Controls Goshen, Indiana Facility

WELL	TOP OF CASING ELEVATION (FEET)	WATER LEVEL READING*	STATIC WATER LEVEL (FEET)
MW-1	799.14	8.60	790.54
MW-2	803.51	13.08	790.43
MW-3	800.72	10.35	790.37

NOTE: * Reading in feet below top of casing.

It was not made specifically clear in the report that the static water level observation of December 4, 1991 used to calculate ground water flow direction and gradient is not the same as those listed on the well logs. The static water levels listed on the well logs were obtained by Cole Associates on January 16, 1992. These January, 1992 observations were listed because static water levels for all of the wells were not obtainable on December 4, 1991. For ground water contours to be constructed properly all of the static water levels should come from water table observations of the same time period. The observation of the static

February 19, 1992

Indiana Department of Environmental Management
Plan Review and Permit Section
Hazardous Waste Management Branch
Office of Solid and Hazardous Waste Management
105 South Meridian Street
P. O. Box 6015
Indianapolis, In 46225

Attention: Stephen West

RE: Interim Site Investigation Report
Johnson Controls Inc.
Goshen, Indiana
IND 009549593
Account No. 24291

Gentlemen:

Enclosed herewith is one (1) copy of the Interim Site Investigation Report for your review. It is our intent to begin the supplemental site investigation at the earliest possible date to completely delineate the contamination found off-site. Once you and your staff have had a chance to review the package, we would like to set up a meeting with you to review the data, address any comments or concerns IDEM may have, and discuss our approach to contain further spread of the plumb off-site.

If you have any questions regarding this interim report, please feel free to contact us at your convenience.

Very truly yours,

COLE ASSOCIATES

Frederick L. Rouse, Jr.

Frederick L. Rouse, Jr. PE
Senior Project Engineer

FR:jed
Encl: As Noted
cc: Mr. Joseph H. McCorkel
Mr. Steve Koster

2211 EAST JEFFERSON BOULEVARD SOUTH BEND, INDIANA 46615
219 236-4400 FAX: 219 236-4471
ENGINEERS ARCHITECTS PLANNERS

INTERIM
SITE INVESTIGATION REPORT

at

JOHNSON CONTROLS, INCORPORATED
Goshen, Indiana

February 1992

Certified by:

ROLLIN E. FARRAND
REGISTERED
No.
7602
STATE OF
INDIANA
PROFESSIONAL ENGINEER

Rollin E. Farrand, P.E.

ROLLIN E. FARRAND, SR., P.E.
Registered Professional Engineer
State of Indiana No. 7602

Certified by:

LAWRENCE W. GRAUVOGEL
REGISTERED
NO.
17799
STATE OF
INDIANA
PROFESSIONAL ENGINEER

LAWRENCE W. GRAUVOGEL
Registered Professional Engineer
State of Indiana No. 17799

COLE ASSOCIATES INC.
Engineers/Architects/Landscape Architects/Planners/Surveyors
2211 East Jefferson Boulevard
South Bend, Indiana 46615

INTERIM
SITE INVESTIGATION REPORT

for

JOHNSON CONTROLS, INCORPORATED

Goshen, Indiana

PROJECT TEAM

JOHNSON CONTROLS, INCORPORATED

Terry Hammond	Plant Manager
Julian Derridinger	Controller
Don DeLay	Human Resource Manager
Joseph McCorkel	Plant Engineering Manager

COLE ASSOCIATES INC.

Rollin E. Farrand, Sr., P.E.	Vice President–Engineering
Lawrence W. Grauvogel, P.E., C.I.H.	Chief Industrial Hygienist
Frederick L. Rouse, Jr., P.E.	Senior Project Engineer

TRAVERSE GROUP, INC.

Steve Koster, P.E.	Vice President–Eastern Operations
Jenny Gosling	Operations Manager
Mark Tussing	Hydrogeologist

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II. SUMMARY AND CONCLUSION

III. SITE INVESTIGATION

APPENDIX

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1. WMU No. 1 & 2
2. WMU No. 3

I. *PURPOSE AND METHOD*

In accordance with the approved Closure Plan, dated March 20, 1991, a site investigation was begun April 19, 1991. The first 68 samples were collected between April 19, 1991 and May 17, 1991. The first round of sampling took place at Waste Management Units (WMUs) No. 1 through 4. This report deals primarily with WMUs No. 1 through 3, where solvents were stored prior to disposal. See Figures No. 1 and No. 2

Soil Borings No. 1 through 6 were collected from WMU No. 1 and No. 2 and Soil Borings No. 15 through 17 were collected from WMU No. 3 during the first round of sampling. As per the approved closure plan, soil samples were taken at 6-inch intervals from grade to 24 inches below grade. The results of the analysis indicated high levels of soil contamination at the three WMUs. Tables 1 and 2 list the results of this phase of the site investigation. The laboratory results are provided in Appendix D.

After reviewing the results with Johnson Controls, Inc., duplicate samples were collected from borings No. 2, 4 and 5, and a separate laboratory was used to verify the initial results. These samples were taken in June 1991 and results were available in July, 1991. The results did confirm the accuracy of the original laboratory. These results were lower than the original analytical results due to the disturbance of the soil during the first round of sampling which allowed these compounds to volatilize prior to the second sampling. These samples were taken approximately two months after the first soil samples. The contamination levels remained elevated. The results of the confirmation samples are listed in Table 3. The analytical results are provided in Appendix D.

Further, in accordance with the approved Closure Plan, a second-round of samples were taken from 5 to 10 feet outside of the original samples and at a depth of 4.5 to 6 feet. At WMU No. 1 and 2, samples were taken at Borings No. 3, 4 and 6 and Borings No. 19 through 24. Boring No. 24 had 260,000 ppb of trichloroethylene in the soil. At WMU No. 3, samples were taken at Boring Nos. 15 through 17. A background sample was collected in the lawn area near the front of the building at a depth of 2–3.5 feet. The analysis for this sample reported only methylene chloride present as a laboratory contaminant.

One sample was collected at the groundwater level at Boring No. 4 to check if contamination had reached the groundwater. The results indicated that several volatile compounds had reached the groundwater. Tables 4 and 5 summarize the second-round analytical results for WMU No. 1 and 2 and WMU No. 3, respectively. The laboratory results are provided in Appendix D.

Following the completion of the second round of sampling and reviewing the extent of contamination, it was decided to perform an accelerated on-site program to delineate the full extent of the contamination. A work plan was

initiated to rapidly determine the extent of VOC contamination in the subsurface soil and groundwater. The key element of this phase of the project was the use of an on-site laboratory utilizing the static headspace technique, EPA Method 3810 in conjunction with an abbreviated EPA Method 8260 analysis and the use of a hollow-stem screened auger. Samples were taken at 5-foot intervals in the soil and 10-foot intervals in the groundwater. The turnaround time for field analysis was approximately 1-1/2 hours. The auger holes varied in depth of from 35 feet to 110 feet based on the depth to the confining clay layer.

II. *SUMMARY AND CONCLUSIONS*

The results of this site investigation indicated the following impacts:

1. A contamination plume was found to extend in a northwesterly direction and was shown to have impacted off-site properties to the north and west of the Johnson Controls Site.

2. A second area of contamination was found on the west side of the manufacturing plant. The contamination on the west side has impacted residential properties.

3. Residential properties at 516 and 517 South 15th Street had trichloroethylene levels in their drinking water wells of 3,100 ppb. These properties are being placed on city water. These preliminary results were provided verbally and are subject to revision.

4. Preliminary samples at residential properties on Sanders Street indicated low levels of chlorinated solvents in their wells as follows:

*1108 Sanders Street	Trichlorethylene	3.92 ppb
*1110 Sanders Street	Trichloroethylene	70.0 ppb
	Trans-1,2 dichlorothylene	0.07 ppb
	cis- 1,2 dichlorothylene	1.87 ppb
	1,1 dichloroethane	0.18 ppb
	1,1,1 trichloroethane	10.40 ppb
*1113 Sanders	Trans-1,2 dichloroethylene	0.11 ppb
	cis- 1,2 dichloroethylene	10.6 ppb
	Trichloroethylene	0.41 ppb

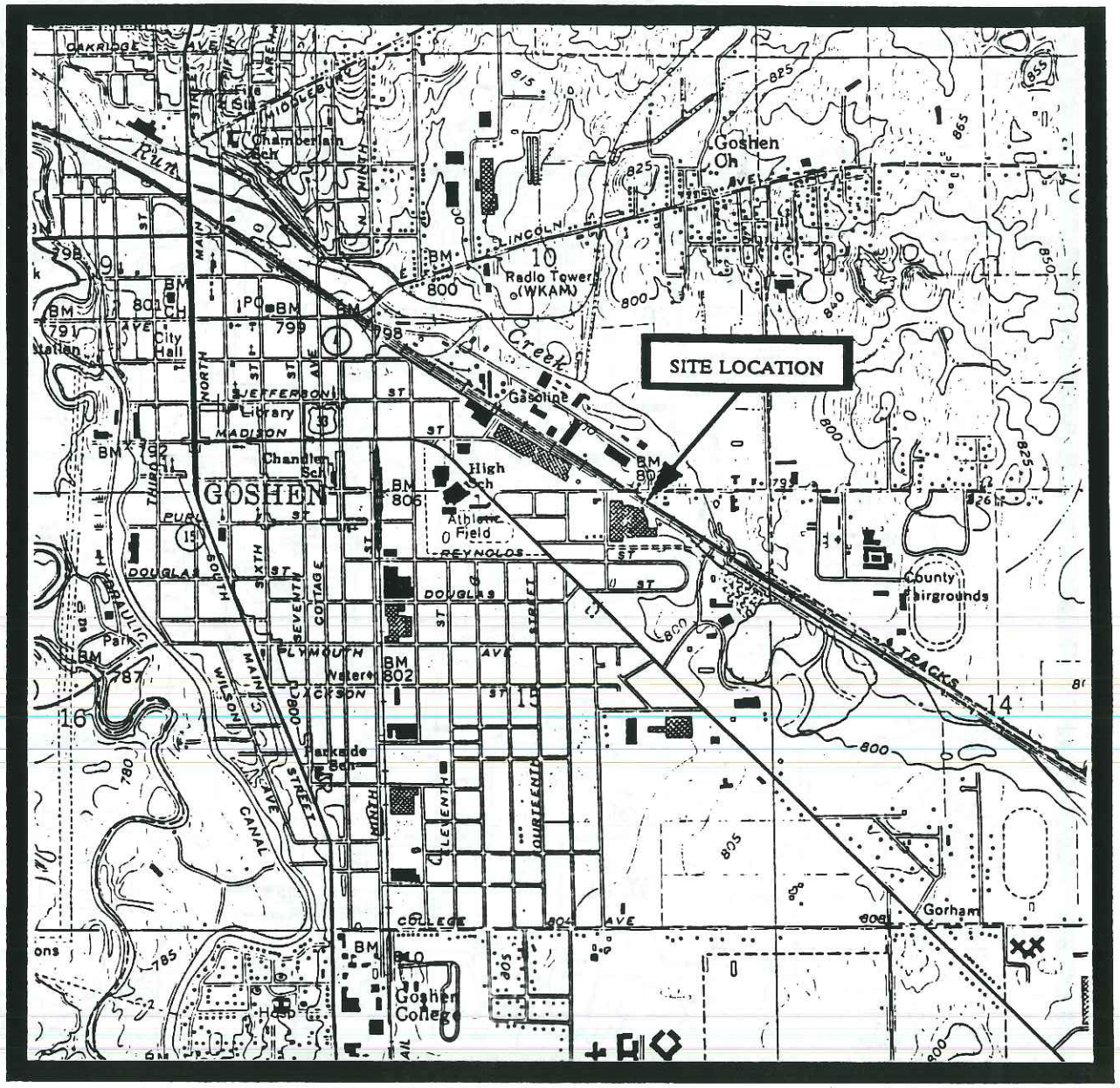


Figure 2

SITE LOCATION MAP

Johnson Controls, Inc.
Goshen, Indiana

Source: United States Geological Survey, 1981

The Traverse Group, Inc.

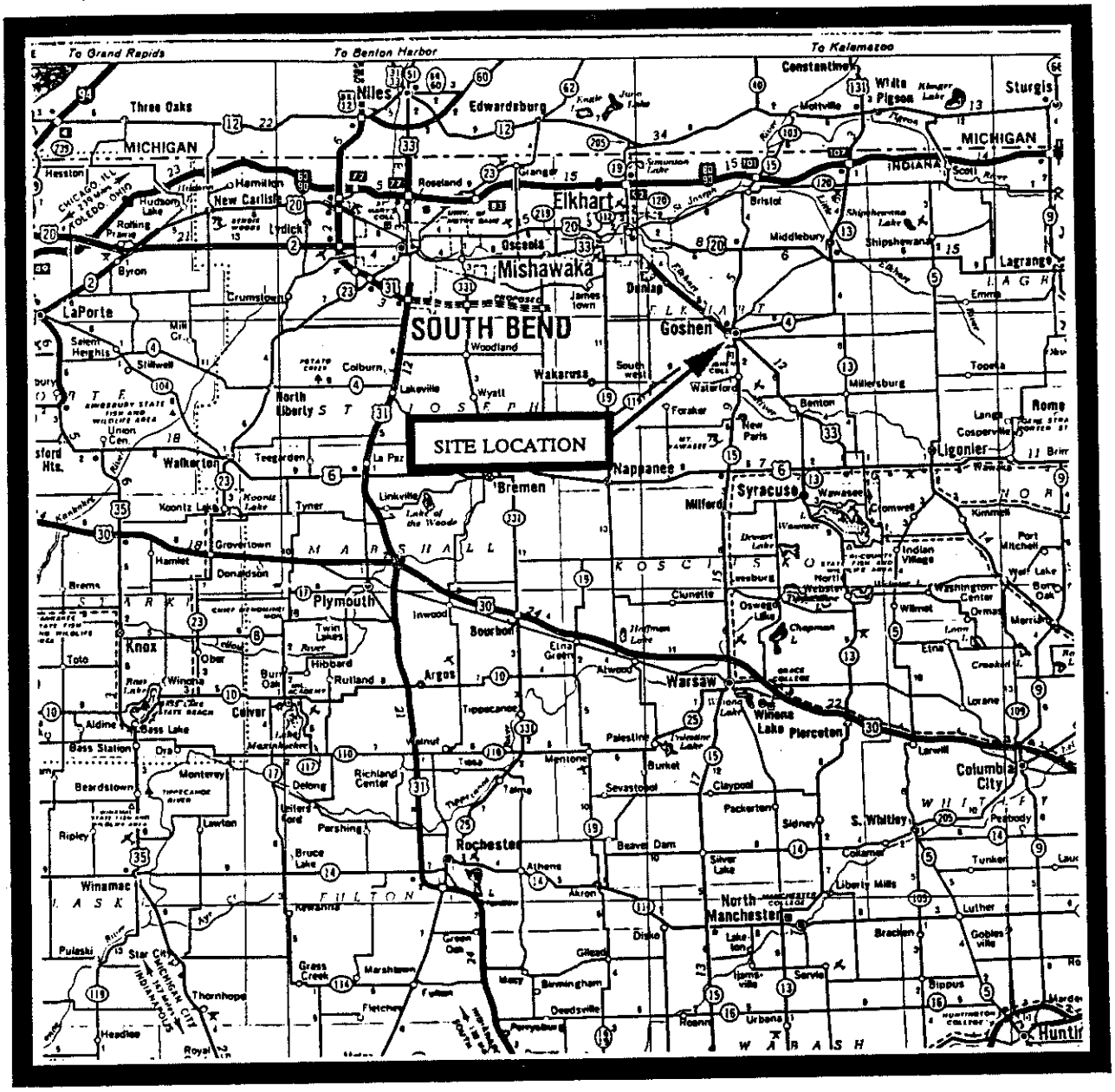


Figure 1

REGIONAL LOCATION MAP

Johnson Controls, Inc.
Goshen, Indiana

Source: Gousha Indiana Road Map

The Traverse Group, Inc.

APPENDIX

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Airport Plaza Park
Ann Arbor, Michigan 48108

(313) 747-9300 Phone
(313) 747-9229 Fax

- Groundwater and Soil Contamination Assessment and Cleanup
- Underground Storage Tank Management
- Industrial Environmental Audits
- Property Development Risk Assessments

February 13, 1992

Fred Rouse, P.E.
Senior Project Engineer
Cole Associates Inc.
2211 E. Jefferson Boulevard
South Bend, Indiana 46615

Dear Fred:

RE: SITE INVESTIGATION RESULTS
JOHNSON CONTROLS GOSHEN, INDIANA FACILITY

As you know, The Traverse Group, Inc. (TGI), an environmental engineering firm headquartered in Ann Arbor, Michigan was retained to conduct a site investigation at the Johnson Controls Goshen, Indiana Facility. Prior to completing the full site investigation, TGI is submitting the results of the field activities and sample analysis through January 10, 1992 for review by the Indiana Department of Environmental Management.

Included with this transmittal are the following documents: Figure 1. Regional Site Location Map; Figure 2. Site Location Map; Figure 3. Site Map, depicting ground water flow direction along with monitoring well and auger boring locations; Figure 4. Total Organic Compound Contours, in ground water at 15' below grade; Figure 5. Trichloroethylene Contours, in ground water at 15' below grade; Figure 6. 1,1,1-Trichloroethane Contours, in ground water at 15' below grade; Figure 7. cis-1,2-Dichloroethylene Contours, in ground water at 15' below grade; Appendix A: Well and Boring Logs; Appendix B: Analytical Data Summary Tables; Appendix C: Field Logbook Notes; and Volume 2 Field Analytical Laboratory Data.

A site location summary followed by a brief description of the on-site field procedures is presented below.

SITE LOCATION

Johnson Controls, Inc. Control Products Division operates a manufacturing facility in Goshen, Indiana. Specifically the site is located in the northeast 1/4 of section 15, Elkhart Township. This site is bordered on the northeast by railroad tracks, to the north by industrial operations, and to the west and south by residential dwellings. A large quarry facility is located directly southeast of the site. Operation of the quarry has created a large body of standing water. Site location with respect to major highways and municipalities can be seen on Figure 1, while the site location in reference to topographic features and local waterways can be seen on Figure 2.

The nearest surface water body is Rock Run Creek which is situated along the northeast border of the site. Elkhart River, which is part of the St. Joseph River basin in Indiana, is located approximately 1 1/4 miles west of the site.

SITE INVESTIGATION

The field investigation designed by TGI to delineate the extent of impacted resources at the site included the following tasks: placement of piezometric wells as part of a preliminary hydrogeologic study to determine ground water flow direction and gradient; contaminant delineation using a hollow stem drilling rig equipped with a screened lead auger for soil and ground water sample collection in conjunction with on-site sample analysis; and placement of monitoring wells for plume verification and as permanent ground water monitoring points. The contaminant delineation task involved tracking four compounds (1,1,1 trichloroethane, trichloroethylene, cis 1,2 dichloroethylene, and tetrachloroethylene) as a means of determining the vertical and horizontal extent of impacted soil and ground water at the site.

Introduction

TGI conducted field operations on the following dates: December 2-6, 1991; December 9-12, 1991; December 17-20, 1991; and January 6-10, 1992. During the 18 day investigation a total of 21 auger hole borings were placed and 12 monitoring wells were installed. Boring and well locations can be seen on Figure 3. The auger borings were designated AH-1 through AH-21, while the monitoring wells are labeled MW-1 through MW-12. The boring logs and well logs are included in Appendix A.

The sampling plan included collection of 220 soil and ground water samples that were analyzed in the on-site laboratory and 32 additional soil and ground water samples that were submitted to Environmental Health Laboratories (EHL) of South Bend, Indiana for fixed base analysis. Further details on the sampling technique and on-site analysis methodology are outlined below.

Preliminary Hydrogeologic Investigation

The first field task was placement of four wells to determine ground water flow direction and gradient. Three of the wells were placed in a triangular array approximately 200 feet apart, while the fourth well was placed in the source area (WMU 1&2 as designated by Cole Associates). The wells were constructed with two-inch diameter stainless steel casings, five foot number seven slot stainless steel screens, and equipped with flush mount locking protective covers. The well screens were placed one foot above the water table to four feet below. A sand pack was placed around the screens to approximately one foot above the screened interval. The remaining annular space was grouted with a mixture of portland cement and powered bentonite, which was delivered using a centrifugal pump. A surge block and bailer was used to develop the wells.

Top of casing elevations and well spacial locations were surveyed by Cole Associates. Based on water level readings collected on December 4, 1991 and the survey data the ground water flow direction was calculated as North 55° West at a gradient of 0.0006 feet/feet. Ground water flow direction is depicted on Figure 3. Water table data used in the ground water flow calculation is summarized in the table below. Auger hole locations were based on the ground water flow direction and were placed in transects both across and along the hydraulic gradient.

WATER TABLE DATA
Johnson Controls Goshen, Indiana Facility

WELL	TOP OF CASING ELEVATION (FEET)	WATER LEVEL READING*	STATIC WATER LEVEL (FEET)
MW-1	799.14	8.60	709.54
MW-2	803.51	13.08	790.43
MW-3	800.72	10.35	790.37

NOTE: * Reading in feet below top of casing.

Contaminant Delineation

Split spoon soil samples were collected at each auger boring at five foot intervals from five feet below grade to the ground water table approximately 12 feet below grade. The soil samples were immediately containerized in vials provided by EHL and delivered to the on-site lab for analysis.

Ground water samples were collected at 10 foot intervals from the ground water table to the underlying clay layer. The depth of the clay layer varied from 50 to 110 feet below grade. Prior to collection of the water samples, each sample depth was developed by bailing an estimated two well volumes from the augers. The water samples were retrieved using a stainless steel bailer and collected in sample vials provided by the analytical laboratory. The samples were immediately sealed and delivered to the on-site laboratory for analysis.

All sampling and drilling equipment was decontaminated by steam cleaning between each sampling event. Boring development water and soil cuttings were containerized for proper disposal.

The on-site water analysis was conducted by EHL using a gas chromatography mass spectrometry work station utilizing the static headspace technique, EPA Method 3810, for extraction of volatile organic chemicals from the samples and an abbreviated EPA Method 8260 for analysis. As with the water samples, the soil analysis was an abbreviated headspace method for the indicator chlorinated hydrocarbons. Approximately 10 percent of the samples were split for confirmation analysis at the EHL fixed-base laboratory. Field analytical data can be found in Volume 2. The ground water plume contours for the three of the four chlorinated hydrocarbon compounds (trichloroethylene, 1,1,1-trichloroethane, and cis 1,2-dichloroethylene) tracked during the investigation are presented in Figures 4 through 8.

Based on review of the auger hole borings logs the site geology can be summarized as fine to medium grained sands with intermittent gravel lenses overlying a gray clay.

Monitoring Well Placement

Plume verification wells were constructed in the manner described earlier. Well screen placement was determined by review of the on-site laboratory analysis. Specifically, the wells were placed as described below.

Well MW-5 was screened at 7-12 feet below grade and located upgradient of source area in the southeast corner of the site property. Well MW-6 was screened 11 1/2-16 1/2 feet below grade and located directly south of WMU No 3 (as designated by Cole) at Johnson Controls southern property boundary.

Wells MW-7 and MW-8 were clustered in the area of highest hydrocarbon concentration on the east side of the main building as determined by the on-site analytical data. Well MW-7 was screened at 71 1/2-76 1/2 feet below grade to monitor any changes in plume depth, while MW-8 was screened in the vertical zone of highest concentration at 20-25 feet below grade.

Well MW-9 was located at the northern extent of the plume to monitor lateral plume movement and was screened at 20 1/2 - 25 1/2 feet below grade. Well MW-10, screened at 20-25 feet below grade, is a guardian well and was placed to monitor any horizontal downgradient movement of the plume.

Wells MW-11 and MW-12 were placed as a cluster unit in the area of highest hydrocarbon concentration on the east side of the main building. Well MW-11 was screened in the vertical zone of highest concentration at 20-25 feet below grade, and MW-12 was placed to monitor any changes in plume depth with the screen situated at 55-60 feet below grade.

The wells were developed with a centrifugal pump to assist in the removal of soil fines. At the conclusion of this phase of the site investigation, the wells were purged, samples were collected and submitted to EHL's fixed base laboratory for purge and trap analysis.

All on-site activities were recorded by the TGI on-site project coordinator in a bound log book dedicated to the site. Copies of the field notes are included in Appendix C.

CLOSING

TGI understands that a complete site investigation report will be generated following the supplemental site investigation. If you have any questions or require additional information, please contact me or Jenny Gosling, Operations Manager.

Sincerely,

Mark Tussing
Project Coordinator

Reviewed by:

Jenny E. Gosling

Jenny E. Gosling, P.E.
Operations Manager

III. SITE INVESTIGATION

TABLE 1 (continued)

Borin No.	Depth (In.)	Volatile Organic Compound	Concentration (ppb)
2	18–24	O-Dichlorobenzene	110
		p-Dichlorobenzene	67
		1,2- Dichloroethane	150
		1,2- Dichloroethylene, cis	8,200
		1,2- Dichloroethylene, trans	150
		Methylene Chloride	53
		Tetrachloroethylene	1,600
		1,2,4- Trichlorobenzene	98
		1,1,1- Trichloroethane	980
		Trichloroethylene	160,000
3	0–6	Methylene Chloride	230
3	6–12	Methylene Chloride	320
		Trichloroethylene	570
3	12–18	1,2- Dichloroethylene, cis	86
		Methylene Chloride	330
		Tetrachloroethylene	130
		1,1,1- Trichloroethane	110
		Trichloroethylene	4,700
3	12–18	1,2-Dichloroethylene, cis	400
		Methylene Chloride	280
		Tetrachloroethylene	160
		1,1,1-Trichloroethane	220
		Trichloroethylene	9,800
3	18–24	1,2-Dichloroethylene, cis	480
		Methylene Chloride	420
		Tetrachloroethylene	400
		1,1,1-Trichloroethane	950
		Trichloroethylene	17,000
4	0–6	1,2-Dichloroethylene, cis	300
		Methylene Chloride	420
		Tetrachloroethylene	270
		1,1,1-Trichloroethane	290
		Trichloroethylene	11,000

TABLE 1

FIRST ROUND SAMPLING RESULTS
MWU NO. 1 & 2

Boring No.	Depth (In.)	Volatile Organic Compound	Concentration (ppb)
1	0–6	Methylene Chloride	300
		Tetrachloroethylene	130
		1,1,1 Trichloroethane	74
		Trichloroethylene	980
1	6–12	Methylene chloride	210
1	12–18	1,2 Dichloroethylene, cis	67
		Methylene Chloride	210
		Napthalene	73
		Tetrachloroethylene	160
		1,1,1 Trichloroethane	76
		Trichloroethylene	1,600
1	18–24	1,2- Dichloroethylene, cis	160
		Methylene Chloride	300
		Tetrachloroethylene	270
		1,1,1 Trichloroethane	99
		Trichloroethylene	2,700
2	0–6	1,2- Dichloroethylene, cis	480
		Methylene Chloride	290
		Tetrachloroethylene	160
		1,1,1- Trichloroethane	200
		Trichloroethylene	8,700
2	6–12	1,1- Dichloroethane	47
		1,2 Dichloroethylene, cis	1,500
		Methylene Chloride	56
		Tetrachloroethylene	410
		1,1,1- Trichloroethane	370
		Trichloroethylene	11,000
2	12–18	1,2- Dichloroethylene, cis	500
		Methylene Chloride	120
		Tetrachloroethylene	190
		1,1,1- Trichloroethane	130
		Trichloroethylene	4,300

TABLE 1 (continued)

Boring No.	Depth (In.)	Volatile Organic Compound	Concentration (ppb)
4	12–18	1,2-Dichloroethane	71
		1,2-Dichloroethane, cis	1,300
		Methylene Chloride	320
		Tetrachloroethylene	760
		1,1,1-Trichloroethane	870
4	18–24	1,2-Dichloroethylene, cis	810
		Methylene Chloride	370
		Tetrachloroethylene	420
		1,1,1-Trichloroethane	480
		Trichloroethylene	15,000
4	24–30	Chlorobenzene	52
		o-Dichlorobenzene	75
		p-Dichlorobenzene	160
		1,1-Dichloroethane	650
		1,2-Dichloroethane, cis	17,000
		1,2-Dichloroethylene, trans	250
		Methylene Chloride	280
		Tetrachloroethylene	5,000
		Toluene	160
		1,2,3-Trichlorobenzene	300
		1,2,4-Trichlorobenzene	170
		1,1,1-Trichloroethane	7,200
		Trichloroethylene	230,000
		Total Xylenes	45
5	0–6	1,2-Dichloroethane, cis	410
		Methylene Chloride	49
		Tetrachloroethylene	190
		1,1,1-Trichloroethane	280
		Trichloroethylene	8,700
5	0–6	1,2-Dichloroethane, cis	190
		Methylene Chloride	190
		Tetrachloroethylene	93
		1,1,1-Trichloroethane	120
		Trichloroethylene	3,600

TABLE 1 (continued)

Boring No.	Depth (In.)	Volatile Organic Compound	Concentration (ppb)
5	6–12	1,2-Dichloroethane, cis	430
		Methylene Chloride	200
		Tetrachloroethylene	160
		1,1,1-Trichloroethane	200
		Trichloroethylene	6,700
5	12–18	m-Dichlorobenzene	52
		1,1-Dichloroethane	610
		1,1-Dichloroethylene	84
		1,2-Dichloroethylene, cis	12,000
		1,2-Dichloroethylene, trans	200
		Methylene Chloride	280
		Tetrachloroethylene	4,200
		1,1,1-Trichloroethane	7,000
		Trichloroethylene	140,000
5	12–18	1,1-Dichloroethane	69
		1,2-Dichloroethylene, cis	2,100
		Tetrachloroethylene	1,300
		1,1,1-Trichloroethane	1,000
		Trichloroethylene	32,000
6	6–12	Methylene Chloride	390
		1,1,1-Trichloroethane	700
		Trichloroethylene	110
6	12–18	1,1-Dichloroethane	71
		1,2-Dichloroethylene, cis	260
		1,2-Dichloroethylene, trans	46
		Tetrachloroethylene	310
		Toluene	74
		1,1,1-Trichloroethane	4,800
		Trichloroethylene	1,200
6	18–24	1,1-Dichloroethane	77
		1,2-Dichloroethylene, cis	150
		Methylene Chloride	350
		Tetrachloroethylene	430
		1,1,1-Trichloroethane	1,500
		Trichloroethylene	1,500

TABLE 2

FIRST ROUND SAMPLING RESULTS
MWU NO. 3

Boring No.	Depth (In.)	Volatile Organic Compound	Concentration (ppb)
15	0–6	1,2-Dichloroethylene, cis	60
		Methylene Chloride	460
		Tetrachloroethylene	330
		1,1,1-Trichloroethane	110
		Trichloroethylene	8,900
15	6–12	1,2-Dichloroethylene, cis	88
		Methylene Chloride	260
		Tetrachloroethylene	140
		1,1,1-Trichloroethane	92
		Trichloroethylene	6,500
15	12–18	1,2-Dichloroethylene, cis	120
		Methylene Chloride	410
		Tetrachloroethylene	130
		Trichloroethylene	6,800
15	18–24	Methylene Chloride	420
		Trichloroethylene	950
16	0–6	1,2-Dichloroethylene, cis	200
		Methylene Chloride	153
		Tetrachloroethylene	820
		1,1,1-Trichloroethane	1,300
		Trichloroethylene	8,100
		1,2,4-Trimethylbenzene	59
16	0–6	1,2-Dichloroethylene, cis	200
		Methylene Chloride	65
		Tetrachloroethylene	840
		1,1,1-Trichloroethane	1,200
		Trichloroethylene	5,500
		1,2,4-Trimethylbenzene	<45

TABLE 2 (continued)

Boring No.	Depth (In.)	Volatile Organic Compound	Concentration (ppb)
16	6–12	1,2-Dichloroethylene, cis	200
		Methylene Chloride	65
		Tetrachloroethylene	840
		1,1,1-Trichloroethane	1,200
		Trichloroethylene	5,500
		1,2,4- Trimethylbenzene	<45
		Total Xylenes	100
16	12–18	1,2-Dichloroethylene, cis	390
		Methylene Chloride	520
		Tetrachloroethylene	120
		Toluene	240
		Trichloroethylene	6,200
16	18–24	1,2-Dichloroethylene, cis	830
		Methylene Chloride	410
		Tetrachloroethylene	140
		Toluene	230
		Trichloroethylene	11,000
17	0–6	1,2-Dichloroethylene, cis	1,100
		1,2-Dichloroethylene, trans	60
		Methylene Chloride	140
		1,1,1-Trichloroethane	77
		Trichloroethylene	3,900
17	6–12	1,2-Dichloroethylene, cis	3,500
		1,2-Dichloroethylene, trans	96
		1,1,1-Trichloroethane	180
		Trichloroethylene	6,600
17	12–18	1,2-Dichloroethylene, cis	2,000
		1,2-Dichloroethylene, trans	49
		Methylene Chloride	240
		1,1,1-Trichloroethane	130
		Trichloroethylene	3,900
17	18–24	1,2-Dichloroethylene, cis	1,100
		Methylene Chloride	260
		1,1,1-Trichloroethane	110
		Trichloroethylene	4,900

TABLE 3

CONFIRMATION SAMPLES

Volatile Organic Compound	Borings – Results (ppb) #2	#4	#4 duplicate	#5
1,2 Dichloroethylene, cis	480	830	5,400	1,700
Tetrachloroethylene	260	400	1,000	470
1,1,1 Trichloroethane	140	400	1,000	470
Trichloroethylene	4,300	12,000	30,000	19,200

TABLE 4

SECOND ROUND ANALYTICAL RESULTS
WMU NO. 1 & 2

Boring No.	Depth (Feet.)	Analytical Results (ug/kg)	
3*	4–51/2	1,1-Dichloroethane	130
		1,2-Dichloroethylene, cis	1,900
		1,2-Dichloroethylene, trans	45
		Tetrachloroethylene	5,700
		1,1,1-Trichloroethane	1,800
		Trichloroethylene	41,000
		Total VOCs	50,575
4	12–141/2 (@ groundwater)	1,1-Dichloroethane	60
		1,2-Dichloroethylene, cis	1,300
		Isopropylbenzene	4,600
		Tetrachloroethylene	290
		1,1,1-Trichloroethane	440
		Trichloroethylene	11,000
		Total Xylenes	74
		Total VOCs	17,764
6*	4–51/2	1,2-Dichloroethylene, cis	260
		Tetrachloroethylene	280
		1,1,1-Trichloroethane	420
		Trichloroethylene	560
		Total VOCS	1,520

TABLE 4 (continued)

Boring No.	Depth (Feet.)	Analytical Results (ug/kg)	
19*	41/2–6	1,1-Dichloroethane	67
		1,2-Dichloroethylene, cis	980
		Tetrachloroethylene	660
		1,1,1-Trichloroethane	470
		Trichloroethylene	18,000
		Total VOCs	20,177
20*	41/2–6	p Dichlorobenzene	22
		1,1-Dichloroethane	470
		1,2-Dichloroethylene, cis	10,000
		1,2-Dichloroethylene, trans	490
		Tetrachloroethylene	2,100
		1,2,4-Trichlorobenzene	330
		1,1,1-Trichloroethane	2,400
		Trichloroethylene	33,000
		Total VOCs	48,812
21*	41/2–6	1,1-Dichloroethane	47
		1,2-Dichloroethylene, cis	240
		Tetrachloroethylene	2,500
		1,1,1-Trichloroethane	950
		Trichloroethylene	1,700
		Total VOCs	5,437
22	6–71/2	1,1-Dichloroethane	250
		1,2-Dichloroethylene, cis	5,600
		1,2-Dichloroethylene, trans	260
		Tetrachloroethylene	2,300
		1,1,1-Trichloroethane	2,200
		1,1,2-Trichloroethane	130
		Trichloroethylene	27,000
		Methylene chloride	1,000
		Total VOCs	38,740

TABLE 4 (continued)

Boring No.	Depth (Feet.)	Analytical Results (ug/kg)	
23	81/2–10	Ethylbenzene	79
		Napthalene	140
		Toluene	120
		Trichloroethylene	34
		1,2,4-Trichlorobenzene	290
		1,3,5- Trimethylbenzene	72
		Total Xylenes	530
		Other alkyl-substituted Benzene	2,700
		Total VOCs	3,965
24*	41/2–6	Benzene	27
		1,1-Dichloroethane	330
		1,2-Dichloroethylene, cis	49,000
		1,2-Dichloroethylene, trans	600
		p- Dichlorobenzene	46
		Tetrachloroethylene	3,200
		Toluene	790
		1,2,3-Trichlorobenzene	160
		1,2,4-Trichlorobenzene	75
		1,1,1-Trichloroethane	1,600
		Trichloroethylene	260,000
		Total Xylenes	350
		Long claim hydrocarbons	1,600
		Total VOCs	317,778

*Methylene Chloride was originally reported in these samples. Upon further evaluation, it was determined methylene chloride was present from laboratory background contamination, and not in the original sample.

TABLE 5

SECOND ROUND ANALYTICAL RESULTS
WMU NO. 3

Boring No.	Depth (Feet.)	Analytical Results (ug/kg)	
15	41/2–6	1,1,1- Trichloroethane	35
		Trichloroethylene	1,300
		Total xylenes	57
		Total VOCs	1,392
16*	41/2–5	1,2- Dichloroethylene, CIS	130
		1,1,1- Trichloroethane	44
		Trichloroethylene	950
		Total VOCs	1,124
17*	4–51/2	Trichloroethylene	670
		1,1,1- Trichloroethane	22
		Total VOCs	692
25	41/2–6	Trichloroethylene	84
		Total VOCs	84
26	41/2–6	Trichloroethylene	170
		Total VOCs	170
27	41/2–6	Trichloroethylene	270
		Total VOCs	270
28	41/2–6	Trichloroethylene	490
		Total VOCs	490

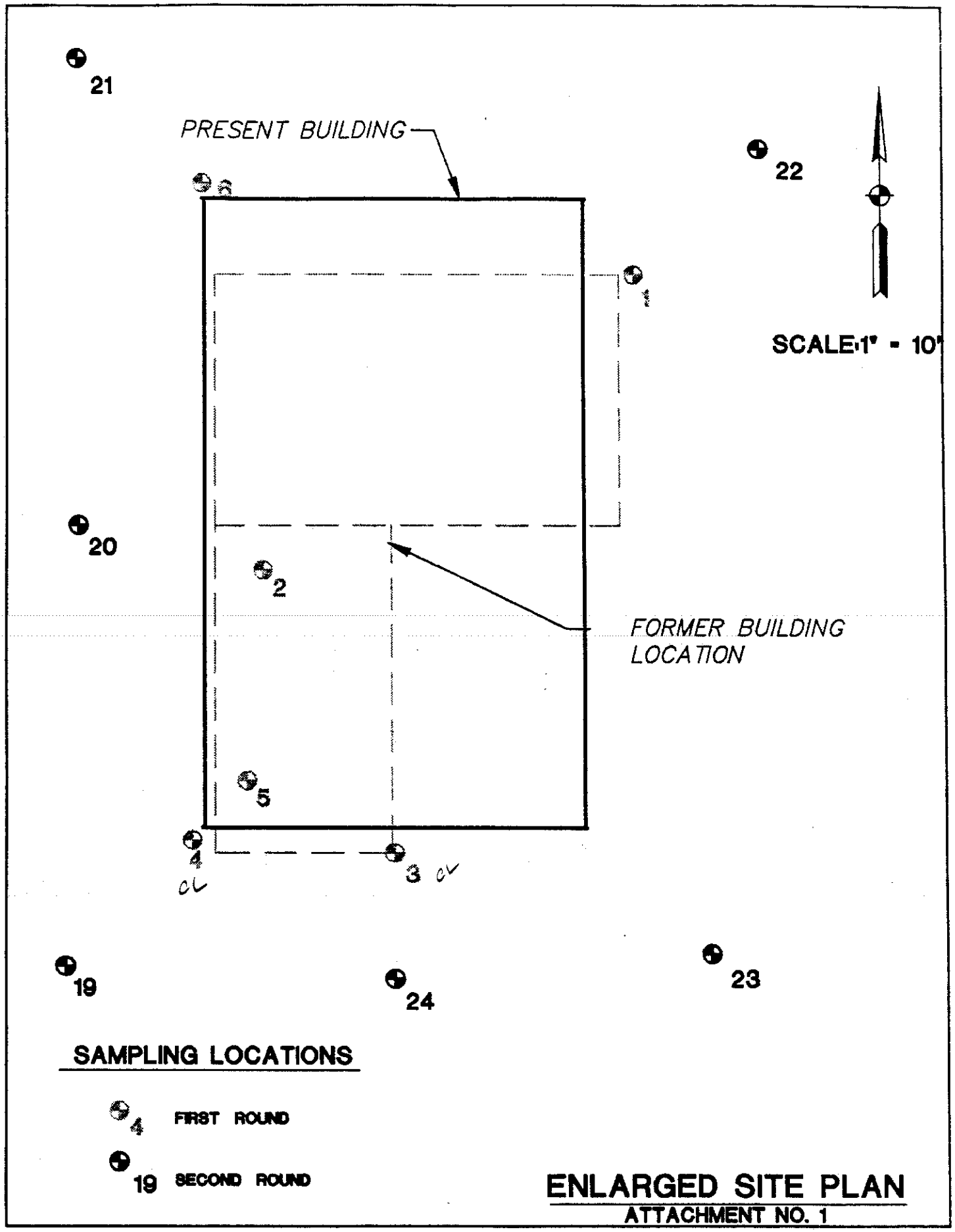
* Methylene Chloride was originally reported in these samples. Upon further evaluation, it was determined Methylene Chloride was present as a laboratory background contaminant, and not in the original sample.

APPENDIX

APPENDIX A

AUGER BORING AND WELL LOGS

Document		Page
AH-1	Auger Boring 1	A-1
AH-2	Auger Boring 2	A-2
AH-3	Auger Boring 3	A-4
AH-4	Auger Boring 4	A-6
AH-5	Auger Boring 5	A-8
AH-6	Auger Boring 6	A-10
AH-7	Auger Boring 7	A-11
AH-8	Auger Boring 8	A-12
AH-9	Auger Boring 9	A-14
AH-10	Auger Boring 10	A-15
AH-11	Auger Boring 11	A-17
AH-12	Auger Boring 12	A-18
AH-13	Auger Boring 13	A-19
AH-14	Auger Boring 14	A-21
AH-15	Auger Boring 15	A-23
AH-16	Auger Boring 16	A-24
AH-17	Auger Boring 17	A-26
AH-18	Auger Boring 18	A-27
AH-19	Auger Boring 19	A-28
AH-20	Auger Boring 20	A-30
AH-21	Auger Boring 21	A-31
MW-1	Monitor Well 1	A-32
MW-2	Monitor Well 2	A-33
MW-3	Monitor Well 3	A-34
MW-4	Monitor Well 4	A-35
MW-5	Monitor Well 5	A-36
MW-6	Monitor Well 6	A-37
MW-7	Monitor Well 7	A-38
MW-8	Monitor Well 8	A-40
MW-9	Monitor Well 9	A-41
MW-10	Monitor Well 10	A-42
MW-11	Monitor Well 11	A-43
MW-12	Monitor Well 12	A-44



ENLARGED SITE PLAN

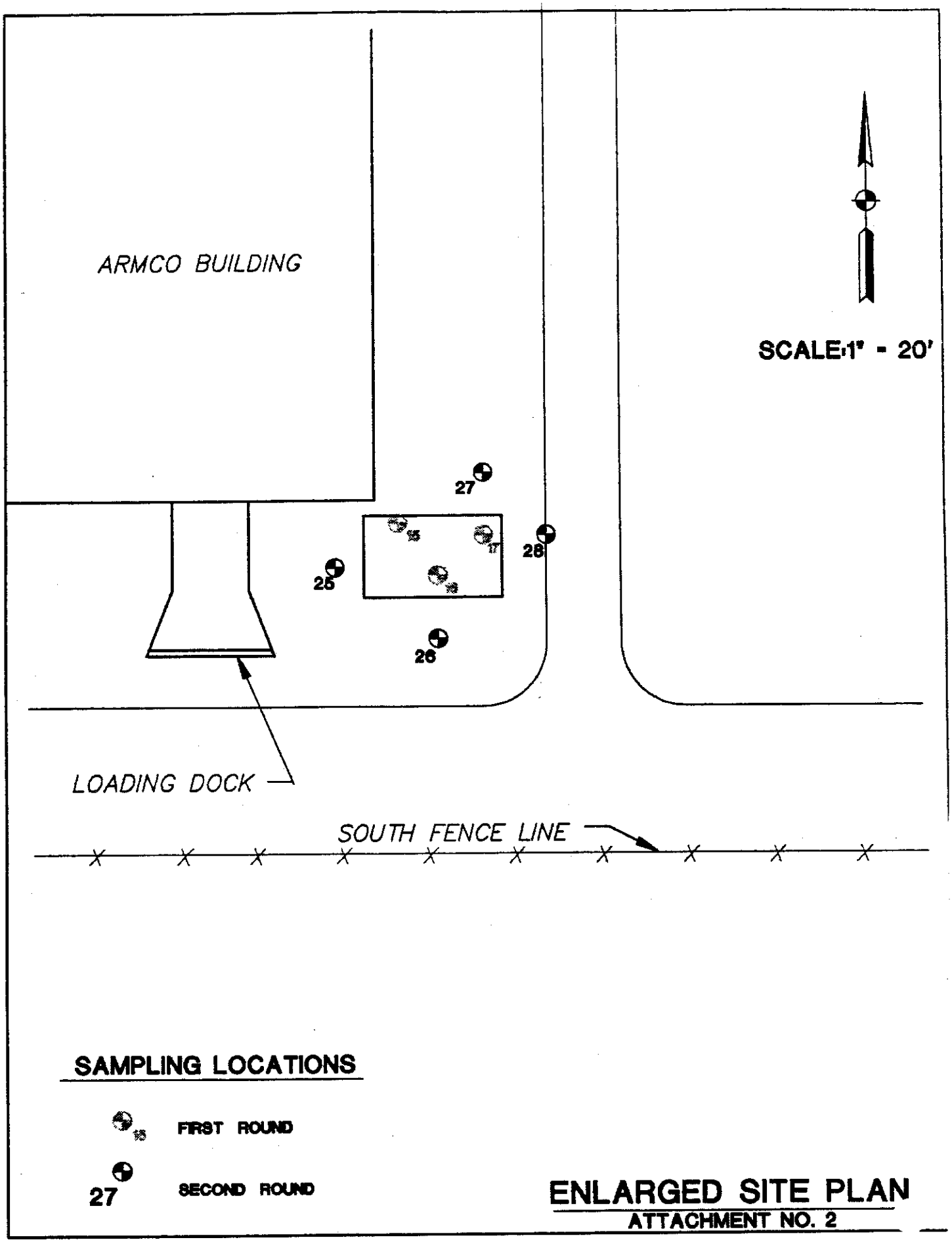
ATTACHMENT NO. 1

COLE ASSOCIATES
ENGINEERS ARCHITECTS PLANNERS
SOUTH BEND INDIANAPOLIS CHESTERTON
MERRILLVILLE BUCHANAN, MI

DRAWN VAN	CHECK FLR	DATE 11\91	NO. 24291

JOHNSON CONTROL
WASTE MANAGEMENT UNIT NO. 1 & 2
GOSHEN, INDIANA

FIG.NO. 1



ENLARGED SITE PLAN

ATTACHMENT NO. 2

COLE ASSOCIATES
ENGINEERS ARCHITECTS PLANNERS
SOUTH BEND INDIANAPOLIS CHESTERTON
MERRILLVILLE BUCHANAN, MI

DRAWN VAN	CHECK FLR	DATE 11\91	NO. 24291

JOHNSON CONTROL
WASTE MANAGEMENT UNIT NO. 3
GOSHEN, INDIANA

FIG.NO.
2

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

Sheet 1 of 1

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-4-91

BORING/WELL #: AH-1
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 20-30°F

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
0			2'	Sand and gravel fill	
	Soil	SS	6'	Silty red-brown sand with trace of gravel	
10	Soil	SS	10' 11'		
	Water	Bailer	14'	Medium, brown sand with trace of gravel	
20					
	Water	Bailer	25'		
30					
	Water	Bailer	35'		
40					
	Water	Bailer	45'		
50					
	Water	Bailer	55'		
	Water	Bailer	58' 60'	Gravel	
60				End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: natural cuttings 60' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

Sheet 1 of 2

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-4-91

BORING/WELL #: AH-2
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 20-30°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		2'	Gravel fill	
Soil	SS	5'	Silty, brown sand	
		9'		
Soil	SS	11'	Fine, brown sand with trace of gravel	
Water	Bailer	15'	Medium, brown sand with trace of gravel	
Water	Bailer	25'		
Water	Bailer	35'		
Water	Bailer	45'		
Water	Bailer	55'		
Water	Bailer	65'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 85' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-4-91

BORING/WELL #: AH-2
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 20-30°F

DEPTH: 70, 80, 90, 100, 110, 120, 130

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Medium, brown sand with trace of gravel	
		74'		
Water	Bailer	75'	Silty, brown sand	
Water	Bailer	83'		
		85'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 85' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

Sheet 1 of 2

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-5-91

BORING/WELL #: AH-3
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Clear, 20-30°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		2'	Gravel fill	
			Silty, black sand with plastic and wire debris	
Soil	SS	6'	Silty, gray sand	
Soil	SS	10' 11'	Fine, brown sand with gravel	
Water	Bailer	15'		
Water	Bailer	25'		
Water	Bailer	35'		
Water	Bailer	45'		
Water	Bailer	55'		
Water	Bailer	65'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 110' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

Sheet 2 of 2

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-5-91

BORING/WELL #: AH-3
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Clear, 20-30°F

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
70	Water	Bailer	75'	Medium, brown sand with trace of gravel	
80	Water	Bailer	85'		
90	Water	Bailer	95'		
100	Water	Bailer	105'	Silty, brown sand	
110	Water	Bailer	109' 110'	End of Boring (stiff, gray clay)	
120					
130					

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 110' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-6-91

BORING/WELL #: AH-4
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		6"	Asphalt	
Soil	SS	6'	Silty, brown clay	
Soil	SS	11'		
		13'		
Water	Bailer	15'	Medium, brown sand with trace of gravel	
Water	Bailer	25'		
Water	Bailer	35'		
Water	Bailer	45'		
Water	Bailer	55'		
		60'		
Water	Bailer	65'	Medium, brown sand with gravel	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 96' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-6-91

BORING/WELL #: AH-4
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH: 70, 80, 90, 100, 110, 120, 130

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
Water	Bailer	75'	Medium, brown sand with gravel	
		80'		
Water	Bailer	85'	Fine to medium, brown sand	
Water	Bailer	95' 96'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 96' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

not found on 4/2/92 map

The Traverse Group, Inc.
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Sheet 1 of 2

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-6-91

BORING/WELL #: AH-5
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 8' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Silty, black sand	
Soil	SS	5'		
			Silty, brown sand	
Water	Bailer	10'		
Water	Bailer	20'		
Water	Bailer	30'	Medium, brown sand with gravel	
Water	Bailer	40'		
Water	Bailer	50'		
Water	Bailer	60'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 115' to 12', benseal 12' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-6-91

BORING/WELL #: AH-5
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 8' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
70	Water	Bailer	70'	Coarse, brown sand with gravel	
80	Water	Bailer	80'		
90	Water	Bailer	90'		
100	Water	Bailer	100'		
110	Water	Bailer	110'		
			113'	End of Boring (stiff, gray clay)	
	Water	Bailer	115'		
120					
130					

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 115' to 12', benseal 12' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
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PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-9-91

BORING/WELL #: AH-6
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 10' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		2'6"	Gravel fill	
Soil	SS	4'	Silty, black sand with plastic and wire debris	
		7'	Silty, gray-black sand	
Soil	SS	11'	Medium, brown sand with gravel	
Water	Bailer	14'		
Water	Bailer	23'		
Water	Bailer	34'		
Water	Bailer	44'		
Water	Bailer	49'		
		51'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 51' to 10', bentonite seal 10' to grade
COMMENTS: N/A = not applicable

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Sheet 1 of 1

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-9-91

BORING/WELL #: AH-7
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
0			6"	Asphalt	
				Gravel fill	
			4'		
	Soil	SS	6'	Silty, brown sand	
10	Soil	SS	10' 11'	Medium, brown sand	
	Water	Bailer	15'		
20					
	Water	Bailer	25'		
30				Medium, brown sand with small gravel	
	Water	Bailer	35'		
40					
	Water	Bailer	45'		
50					
	Water	Bailer	55'		
60	Water	Bailer	61'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: natural cuttings 61' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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Sheet 1 of 1

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-9-91

BORING/WELL #: AH-8
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
0			1'	Asphalt 0" to 6", gravel fill 6" to 1'	
				Silty, brown sand	
	Soil	SS	5'		
10	Soil	SS	10'		
	Water	Bailer	15'	Medium, brown sand with small gravel	
20					
	Water	Bailer	25'		
30			30'		
	Water	Bailer	35'	Medium, tan sand with large gravel	
40			43'		
	Water	Bailer	45'	End of Boring (stiff, gray clay)	
50					
60					

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 45' to 13', benseal 13' to grade
COMMENTS: N/A = not applicable

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Sheet 1 of 2

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-10-91

BORING/WELL #: AH-9
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		6"	Asphalt	
			Sand and gravel fill	
Soil	SS	5'		
Soil	SS	11'		
Water	Bailer	15'	Medium, tan sand	
Water	Bailer	25'		
Water	Bailer	35'		
Water	Bailer	45'	Medium, tan sand with small gravel	
Water	Bailer	55'		
Water	Bailer	65'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 76' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-10-91

BORING/WELL #: AH-9
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH: 70, 80, 90, 100, 110, 120, 130

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Silty, brown sand	
Water	Bailer	75', 76'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 76' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-10-91

BORING/WELL #: AH-10
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		6"	Asphalt	
			Silty, brown sand	
Soil	SS	5'		
			Fine, brown sand	
Soil	SS	10' 11'		
Water	Bailer	15'		
			Medium, tan sand	
Water	Bailer	25'		
Water	Bailer	34' 35'		
			Medium, tan sand with gravel	
Water	Bailer	45'		
Water	Bailer	55'		
Water	Bailer	65'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 75' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-10-91

BORING/WELL #: AH-10
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
70				Medium, tan sand with gravel	
	Water	Bailer	75'	End of Boring (stiff, gray clay)	
80					
90					
100					
110					
120					
130					

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 75' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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Sheet 1 of 1

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-17-91

BORING/WELL #: AH-11
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Clear, 30-40°F

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
0				Silty, brown sand	
	Soil	SS	5' 6'		
				Fine brown sand	
10	Soil	SS	11'		
	Water	Bailer	14'		
20				Medium, brown sand	
	Water	Bailer	25'		
30					
	Water	Bailer	35'		
40				Medium, tan sand with gravel	
	Water	Bailer	45'		
50					
	Water	Bailer	55'		
60					
			62'6"		
	Water	Bailer	64'	End of Boring (stiff gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: natural cuttings 64' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-18-91

BORING/WELL #: AH-12
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 12' below grade
DEVELOPMENT: N/A
WEATHER: Sunny, 30-40°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		6"	Silty, black sand	
			Silty, red-brown sand	
Soil	SS	4'		
			Medium, brown sand	
Soil	SS	11'		
Water	Bailer	14' 15'		
			Medium, tan sand with gravel	
Water	Bailer	23'		
Water	Bailer	34'		
Water	Bailer	44'		
Water	Bailer	49'		
		52'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 51' to 12', bentonite seal 12' to grade
COMMENTS: N/A = not applicable

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PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-18-91

BORING/WELL #: AH-13
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Clear, 30-40°F

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
Soil	SS	5'	Silty brown sand	
			Medium, brown sand	
Soil	SS	10' 11'	Medium, tan sand with gravel	
Water	Bailer	15'		
Water	Bailer	25'		
Water	Bailer	35'		
Water	Bailer	45'		
Water	Bailer	55'		
Water	Bailer	65'		
		68'	Silty, brown sand	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 75' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-18-91

BORING/WELL #: AH-13
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Clear, 30-40°F

DEPTH: 70, 80, 90, 100, 110, 120, 130

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		73'	Silty, brown sand	
Water	Bailer	75'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 75' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
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Sheet 1 of 2

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-18-91

BORING/WELL #: AH-14
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Clear, 30-40°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
Soil	SS	6'	Fine, brown sand with gravel	
Soil	SS	10' 11'	Medium, brown sand	
Water	Bailer	15'		
		18'	Medium, tan sand with gravel	
Water	Bailer	25'		
Water	Bailer	35'		
Water	Bailer	45'		
Water	Bailer	55'		
		60'	Silty, brown sand	
Water	Bailer	65'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 92' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
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Sheet 2 of 2

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-18-91

BORING/WELL #: AH-14
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Clear, 30-40°F

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
70					
	Water	Bailer	75'		
80				Medium, tan sand with gravel	
	Water	Bailer	85'		
			90'		
90	Water	Bailer	92'	End of Boring (still, dry, gray clay)	
100					
110					
120					
130					

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 92' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-19-91

BORING/WELL #: AH-15
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Clear, 7°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
Soil	SS	6'	Silty, brown sand	
		8'		
Soil	SS	11'	Fine brown sand	
Water	Bailer	14'	Medium, tan sand with gravel	
Water	Bailer	25'		
Water	Bailer	35'		
Water	Bailer	45'		
Water	Bailer	55'	End of Boring (stiff gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: natural cuttings 55' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
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Ann Arbor, Michigan 48108

Sheet 1 of 2

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-19-91

BORING/WELL #: AH-16
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 12' below grade
DEVELOPMENT: N/A
WEATHER: Clear, 7-10°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		6"	Road gravel	
Soil	SS	5'	Silty, red-brown sand	
			Fine, light brown sand	
Soil	SS	11'		
Water	Bailer	15'	Medium, brown sand	
Water	Bailer	25'		
		30'		
Water	Bailer	35'	Medium, tan sand with gravel	
Water	Bailer	45'		
Water	Bailer	55'		
		60'		
Water	Bailer	65'	Silty, brown sand	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 75' to 12', bentonite seal 12' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-19-91

BORING/WELL #: AH-16
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 12' below grade
DEVELOPMENT: N/A
WEATHER: Clear, 7-10°F

DEPTH: 70, 80, 90, 100, 110, 120, 130

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Medium, tan sand	
Water	Bailer	75'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 75' to 12', bentonite seal 12' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
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Sheet 1 of 1

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-20-91

BORING/WELL #: AH-17
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Clear, 25°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Silty, brown sand	
Soil	SS	6'		
			Fine, brown sand	
Soil	SS	10' 11'		
Water	Bailer	15'		
Water	Bailer	25'	Medium, tan sand with gravel	
Water	Bailer	35'		
Water	Bailer	45'		
Water	Bailer	48'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 48' to 13', benseal 13' to grade
COMMENTS: N/A = not applicable

The Traverse Group, Inc.
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PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 1-6-92

BORING/WELL #: AH-18
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
0			2'	Asphalt 0" to 4", gravel fill sand 4" to 2'	
	Soil	SS	6'		
10	Soil	SS	11'		
	Water	Bailer	14'	Fine to medium, tan sand with gravel	
20					
	Water	Bailer	25'		
30					
	Water	Bailer	35'		
40					
	Water	Bailer	45'		
50					
	Water	Bailer	55'		
60			60'	Stiff, gray clay	
	Water	Bailer	64' 65'	End of Boring	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: natural cuttings 65' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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Sheet 1 of 2

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 1-6-92

BORING/WELL #: AH-19
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		1'	Asphalt 0" - 4", gravel and fill sand 4" - 1'	
			Red-brown, silty red clay	
Soil	SS	6'		
			Medium to fine, brown-tan sand with gravel	
Soil	SS	11' 12'		
Water	Bailer	15'	Fine, brown sand-tan with small gravel	
Water	Bailer	25'		
Water	Bailer	35'		
Water	Bailer	45'		
Water	Bailer	55'		
Water	Bailer	65'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 77' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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3772 Plaza Drive, Suite 5
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PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 1-6-92

BORING/WELL #: AH-19
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH: 70, 80, 90, 100, 110, 120, 130

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Medium to fine, brown sand with gravel	
Water	Bailer	75'		
Water	Bailer	77'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 77' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 1-7-92

BORING/WELL #: AH-20
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Cloudy, 30-40°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		4"	Asphalt 0"- 4", gravel and brown fill sand 4" to 1'	
Soil	SS	4'	Red-brown, silty clay	
		6'		
Soil	SS	11'	Medium to fine, Brown-tan sand with gravel	
Water	Bailer	14'		
Water	Bailer	23'		
Water	Bailer	34'		
Water	Bailer	44'		
Water	Bailer	49'		
		50'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 50' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 1-8-92

BORING/WELL #: AH-21
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Rain, 30-40°F

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
0			4"	Asphalt	
	Soil	SS	4'	Red-brown, silty sand with gravel	
10	Soil	SS	10' 11'		
	Water	Bailer	14'	Red-brown, medium to fine sand with gravel	
			17'		
20	Water	Bailer	23'	Brown, medium sand with gravel	
30	Water	Bailer	34'		
40	Water	Bailer	44'		
50	Water	Bailer	54'		
60	Water	Bailer	64'		
	Water	Bailer	67' 68'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 68' to 13', bentonite seal 13' to grade
COMMENTS: N/A = not applicable

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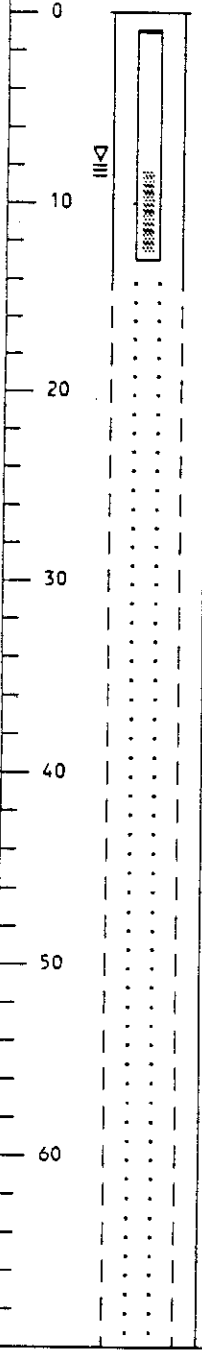
PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-2-91

BORING/WELL #: MW-1
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 799.14'
STATIC WATER LEVEL: 790.88'
DEVELOPMENT: Surge block and bailer
WEATHER: Rain, 30-40°F



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		2'	Gravel fill	
		5'	Silty, black sand with plastic debris	
		15'	Silty, black sand	
		16.5'	Stiff, gray clay	
		45'	Medium to fine, brown sand and gravel	
			End of Boring	

CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 8'
SCREEN: DIAMETER: 2" **SLOT:** 10 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 8' to 13'
PLUGGING/SEALING METHOD: Natural cuttings 45' to 13', gravel pack 7' to 13', cement 7' to grade
COMMENTS: N/A = not applicable

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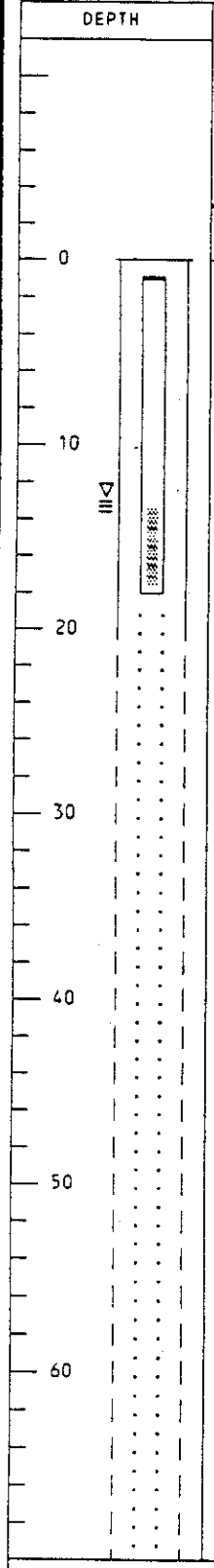
PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-2-91

BORING/WELL #: MW-2
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 803.51'
STATIC WATER LEVEL: 790.72'
DEVELOPMENT: surge block and bailer
WEATHER: Rain, 30-40°F



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Silty, brown sand	
		6'	Medium, brown sand	
		18'	End of Boring	

CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 13'
SCREEN: DIAMETER: 2" **SLOT:** 10 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 13' to 18'
PLUGGING/SEALING METHOD: Gravel pack 18' to 12', Benseal 12' to 11', cement 11' to grade
COMMENTS: Well finished with flush mount vault. N/A = not applicable

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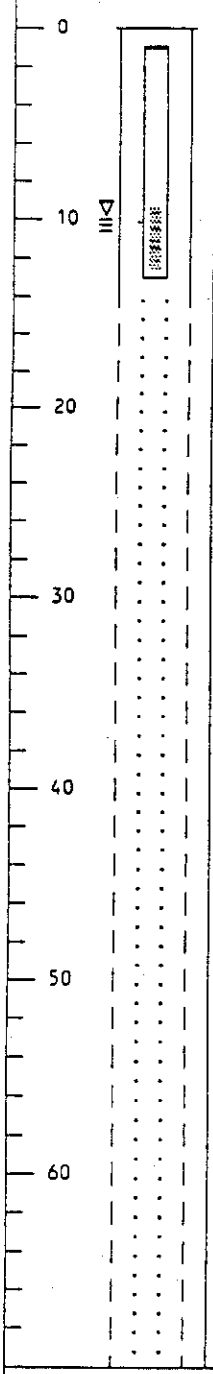
PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-3-91

BORING/WELL #: MW-3
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 800.72'
STATIC WATER LEVEL: 790.66'
DEVELOPMENT: Surge block and bailer
WEATHER: Cloudy, 30-40°F



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		2'	Gravel fill	
		5'	Silty, black sand with trace of gravel	
		9'	Silty, gray sand with trace of gravel	
Soil	SS	11'	Fine to medium, tan sand	
		13'	End of Boring	

CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 9'
SCREEN: DIAMETER: 2" **SLOT:** 10 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 9' to 13'
PLUGGING/SEALING METHOD: Gravel pack 13'to 8', benseal 8' to 7', neat cement 7' to grade
COMMENTS: Well finished with flush mount vault. N/A = not applicable

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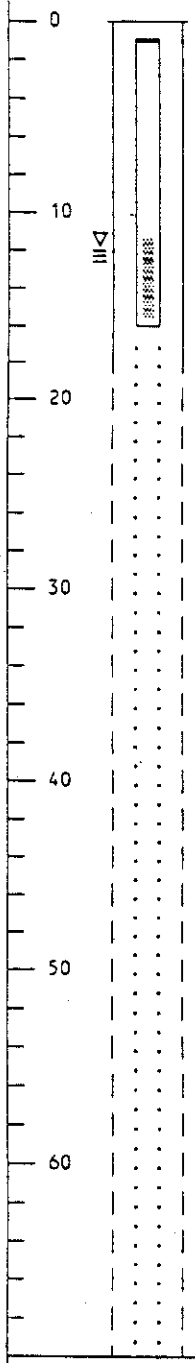
PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-3-91

BORING/WELL #: MW-4
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 802.73'
STATIC WATER LEVEL: 791.18'
DEVELOPMENT: Surge block and bailer
WEATHER: Cloudy, 30-40°F



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		2'	Gravel fill	
		11'	Silty, black sand with gravel	
		18'	Fine to medium, tan sand with trace of gravel End of Boring	

CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 11'
SCREEN: DIAMETER: 2" **SLOT:** 10 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 11'- 16'
PLUGGING/SEALING METHOD: Gravel pack 16' to 10', benseal 10' to 9', neat cement 9' to grade
COMMENTS: Well finished with flush mount vault. N/A = not applicable

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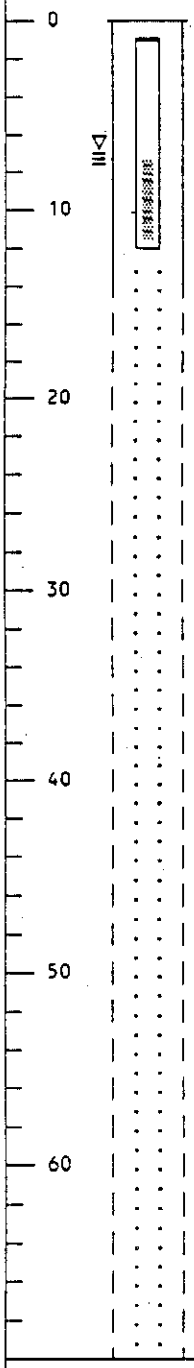
PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-11-91

BORING/WELL #: MW-5
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 798.26'
STATIC WATER LEVEL: 790.92'
DEVELOPMENT: Centrifugal pump
WEATHER: Cloudy, 20-30°F



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Silty, brown sand	
		5'	Medium, brown sand with gravel	
		13'	End of Boring	

CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 7'
SCREEN: DIAMETER: 2" **SLOT:** 10 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 7' to 12'
PLUGGING/SEALING METHOD: Gravel pack 12' to 6', benseal 6' to 5', neat cement 5' to grade
COMMENTS: Well finished with flush mount vault. N/A = not applicable

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Ann Arbor, Michigan 48108

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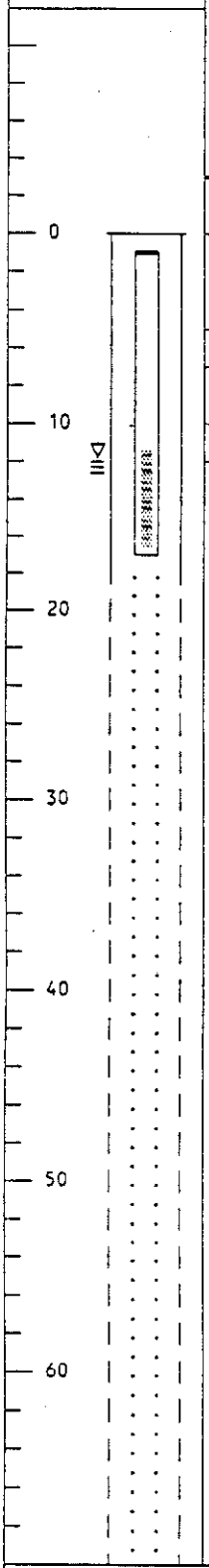
PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-11-91

BORING/WELL #: MW-6
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 803.06'
STATIC WATER LEVEL: 790.78'
DEVELOPMENT: Centrifugal pump
WEATHER: Sunny, 30°F



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		6"	Asphalt	
			Silty, brown sand	
Soil	SS	5' 6'		
			Medium, brown sand	
Soil	SS	11' 12'		
			Medium, tan sand with small gravel	
		18'	End of Boring	

CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 11.5'
SCREEN: DIAMETER: 2" **SLOT:** 10 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 11.5'- 16.5'
PLUGGING/SEALING METHOD: Gravel pack 17' to 10', benseal 10' to 9', neat cement 9' to grade
COMMENTS: Well finished with flush mount vault. N/A = not applicable

The Traverse Group, Inc.
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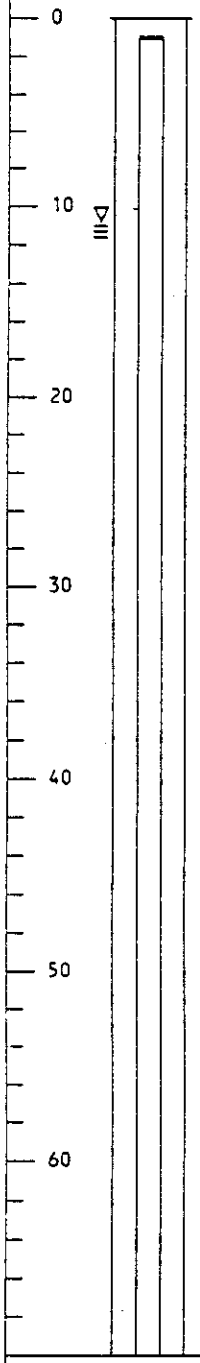
PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-17-91

BORING/WELL #: MW-7
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 800.97'
STATIC WATER LEVEL: 790.57'
DEVELOPMENT: Centrifugal pump
WEATHER: Rain and snow, 30-40°F



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		6"	Asphalt	
		6'	Silty, brown sand	
		12'	Fine, brown sand	
		48'	Medium, tan sand with trace of gravel	
			Medium, tan sand with gravel	

CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 71.5'
SCREEN: DIAMETER: 2" **SLOT:** 10 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 71.5'- 76.5
PLUGGING/SEALING METHOD: Natural cuttings 78' to 65', pressure neat cement 65' to grade
COMMENTS: Well finished with flush mount vault. N/A = not applicable

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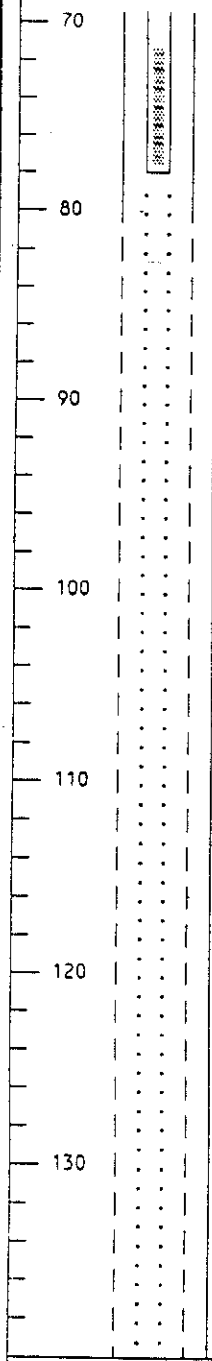
PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 12-17-91

BORING/WELL #: MW-7
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 800.97'
STATIC WATER LEVEL: 790.57'
DEVELOPMENT: Centrifugal pump
WEATHER: Rain and snow, 30-40°F



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Medium, tan sand with gravel	
		78'	End of Boring	

CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 71.5'
SCREEN: DIAMETER: 2" **SLOT:** 10 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 71.5'- 76.5'
PLUGGING/SEALING METHOD: Natural cuttings 78' to 65', pressure neat cement 65' to grade
COMMENTS: Well finished with flush mount vault. N/A = not applicable

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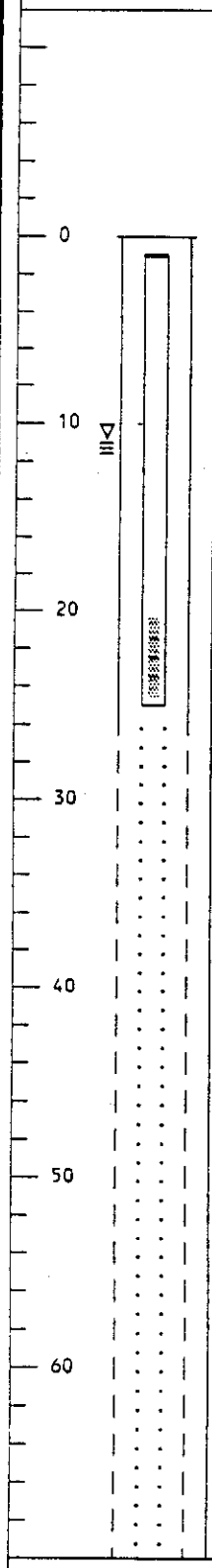
Sheet 1 of 1

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 1-7-92

BORING/WELL #: MW-8
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 801.19'
STATIC WATER LEVEL: 790.55'
DEVELOPMENT: centrifugal pump
WEATHER: cloudy, light rain



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		4"	Asphalt	
			Brown-black, silty clay	
		6'		
			Light yellow-tan, fine sand	
		15'		
			Medium to fine brown sand with small gravel	
		25'	End of Boring	

CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 20'
SCREEN: DIAMETER: 2" **SLOT:** 7 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 20' to 25'
PLUGGING/SEALING METHOD: Gravel pack 18' to 25', benseal 18' to 16', cement 16' to grade
COMMENTS: Well finished with flush mount pro cap. N/A = not applicable

The Traverse Group, Inc.
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Ann Arbor, Michigan 48108

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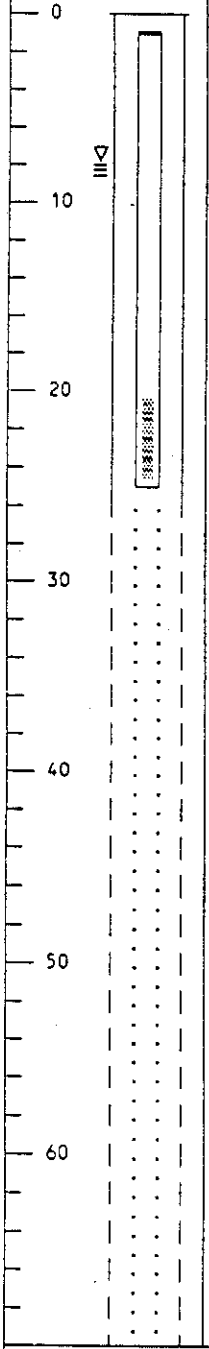
PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 1-9-92

BORING/WELL #: MW-9
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 798.19'
STATIC WATER LEVEL: 790.43'
DEVELOPMENT: centrifugal pump
WEATHER: cloudy, light rain



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		5'	Black-brown, silty clay	
		15'	Brown, silty sand	
		25'	Medium, tan sand with gravel End of Boring	

CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 20.5'
SCREEN: DIAMETER: 2" **SLOT:** 7 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 20.5' to 25.5'
PLUGGING/SEALING METHOD: Benseal 18' to 17', neat cement 17' to grade
COMMENTS: Well finished with flush mount pro cap. N/A = not applicable

The Traverse Group, Inc.
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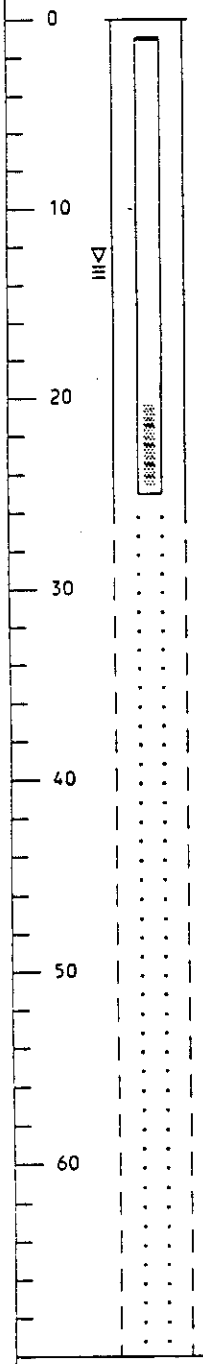
Ann Arbor, Michigan 48108

Sheet 1 of 1

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 1-9-92

BORING/WELL #: MW-10
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 803.03'
STATIC WATER LEVEL: 789.62'
DEVELOPMENT: centrifugal pump
WEATHER: cloudy, light rain



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Red-brown, silty clay	
		7'		
			Brown, medium sand with gravel	
		15'		
			Tan, medium to fine sand with gravel	
		25'	End of Boring	

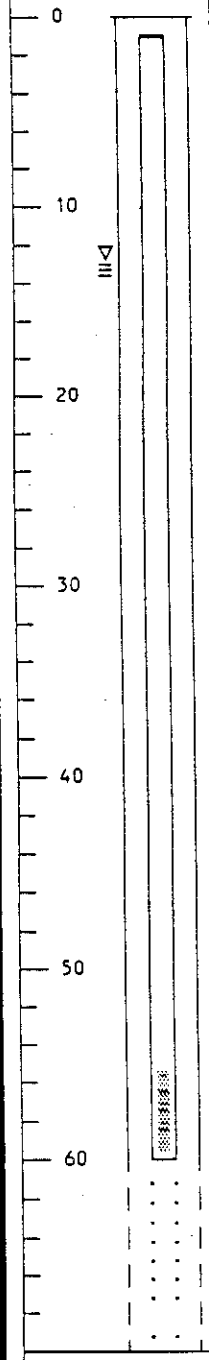
CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 20'
SCREEN: DIAMETER: 2" **SLOT:** 7 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 20' to 25'
PLUGGING/SEALING METHOD: Gravel pack 18' to 25', cement 18' to grade
COMMENTS: Well finished with flush mount pro cap. N/A = not applicable

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

Sheet 1 of 1

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 1-10-92

BORING/WELL #: MW-12
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 802.80'
STATIC WATER LEVEL: 789.81'
DEVELOPMENT: centrifugal pump
WEATHER: light rain, 30-40°F



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		2'	Asphalt 0" to 4", silty sand 4" to 2'	
		6'	Gravel fill and sand	
			Medium to fine, brown-tan sand with gravel	
		60'	End of Boring	

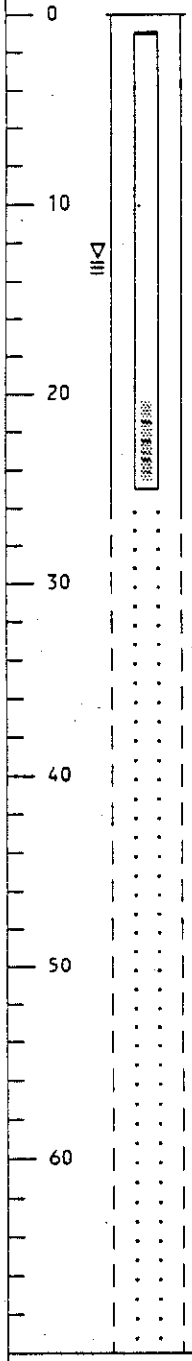
CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 55'
SCREEN: DIAMETER: 2" **SLOT:** 7 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 55' to 60'
PLUGGING/SEALING METHOD: gravel pack 54' to 60', cement 54' to grade
COMMENTS: Well finished with flush mount pro cap. N/A = not applicable

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

Sheet 1 of 1

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 1-9-92

BORING/WELL #: MW-11
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: 802.54'
STATIC WATER LEVEL: 789.81'
DEVELOPMENT: centrifugal pump
WEATHER: cloudy, light rain



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Red-brown, silty clay	
		7'	Brown, medium sand with gravel	
		15'	Tan, medium to fine sand with gravel	
		25'	End of Boring	

CASING: DIAMETER: 2" **TYPE:** Stainless steel flush joint **LENGTH:** 20'
SCREEN: DIAMETER: 2" **SLOT:** 7 **TYPE:** Stainless steel FJ **LENGTH:** 5' **INTERVAL:** 20' to 25
PLUGGING/SEALING METHOD: Gravel pack 18' to 25', cement 18' to grade
COMMENTS: Well finished with flush mount pro cap. N/A = not applicable

APPENDIX B

ANALYTICAL SUMMARY TABLES

BORINGS NO. 2 AND NO. 5

Client: Traverse Group
Jenny Gosling
3772 Plaza Dr., Ste. 5
Ann Arbor , MI 48108

Summary Report #: 30725-1552a
Includes HS Reports:
30232-765 & 30782-805 & 30834-855 & 30895-917
& 30931-932 & 31085-119 & 31184-199
& 31204-210 & 31386-402 & 31456-471

Copies To: Fred Rouse, Cole Associates

Includes P&T Reports:
30725-731 & 30779-781 & 30856-859 & 30918-920
& 30933-935 & 30960-962 & 31120-124 & 31200-201
& 31211-212 & 31403-407 & 31472-475 & 31544-552

Projects/Site: Johnson Controls, Goshen IN

Samples submitted: 227 groundwater and soil samples were submitted for headspace analysis.
32 groundwater and soil samples were submitted for Purge & Trap analysis.

Collected: 12/02/91 - 01/08/92 **By:** Client **Received:** 12/02/91 - 01/10/92

The following data was compiled from the Headspace (HS) sample results obtained by Enviornmental Health Laboratories (EHL) at the Johnson Controls Goshen, Indiana facility and from the Purge and Trap (P&T) results that were obtianed in the EHL laboratory. This summary includes all sample data from December 02, 1991 through January 10, 1992.

All Purge and Trap results summarized on this report, as well as those obtained for samples collected after January 10, 1992, have been reported to Cole Associates as separate reports by sample batch.

We appreciate the opportunity to provide you with this analysis. ¤
If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

Approved By: [signature]

Date: 2-7-92

PROJECT # B-1 AA
ACCOUNT # AA
REC'D DATE FEB 12 REC'D
ENTERED DATE

Client: Traverse Group

Summary Report #: 30725-1552a

						Cis-1,2 DCE		1,1,1-TCA		TriCE		TetCe			
Lab ID#	Sample #	Depth	Site	Matrix	Date Col.	HS	P & T	HS	P & T	HS	P & T	HS	P & T	Units	
30732	JC-1	10-12'	MW-1	SO	12-02-91	60		<7		490		<7		ug/Kg	
30733	JC-2	13-15'	MW-2	SO	12-02-91	15		33		360		<5		ug/Kg	
30734	JC-3	10-12'	MW-3	SO	12-03-91	325		2150		5850		2450		ug/Kg	
30735	JC-4	13-15'	MW-4	SO	12-03-91	230		<5		10		<5		ug/Kg	*
30725	JC-4	13-15'	MW-4	SO	12-03-91	Analysis Canceled by Client									
30738	JC-6	10-12'	AH-1	SO	12-04-91	425		290		2200		300		ug/Kg	
30739	JC-7	15'	AH-1	GW	12-04-91	2800		230		1600		75		ug/L	
30740	JC-8	25'	AH-1	GW	12-04-91	880		10.2		170		<5		ug/L	
30741	JC-9	35'	AH-1	GW	12-04-91	210		5.1		70		<5		ug/L	
30742	JC-10	45'	AH-1	GW	12-04-91	6.3		<5		<5		<5		ug/L	
30743	JC-11	55'	AH-1	GW	12-04-91	<5		<5		<5		<5		ug/L	
30744	JC-12	60'	AH-1	GW	12-04-91	<5		<5		<5		<5		ug/L	
30745	JC-13	5-7'	AH-2	SO	12-04-91	<11		25		180		<11		ug/Kg	
30726	JC-13	10-12'	AH-2	SO	12-04-91				57		4800		200	ug/Kg	*
30746	JC-14	15'	AH-2	GW	12-04-91	1400		430		7200		13		ug/L	
30747	JC-15	25'	AH-2	GW	12-04-91	450		39		2000		190		ug/L	
30748	JC-16	35'	AH-2	GW	12-04-91	120		11		330		64		ug/L	
30749	JC-17	45'	AH-2	GW	12-04-91	<5		<5		18		<5		ug/L	
30750	JC-18	55'	AH-2	GW	12-04-91	<5		<5		<5		<5		ug/L	
30727	JC-18	85'	AH-2	GW	12-04-91						1.5			ug/L	
30752	JC-19	65'	AH-2	GW	12-04-91	<5		<5		21		<5		ug/L	
30753	JC-20	75'	AH-2	GW	12-04-91	<5		<5		15		<5		ug/L	
30754	JC-21	5-7'	AH-3	SO	12-05-91	51		18		<8		<8		ug/Kg	*
30755	JC-22	10-12'	AH-3	SO	12-05-91	<10		26		<10		<10		ug/Kg	*
30756	JC-23	15'	AH-3	GW	12-05-91	9.9		9.9		12.7		<5		ug/L	*
30757	JC-24	25'	AH-3	GW	12-05-91	<5		<5		<5		<5		ug/L	*
30758	JC-25	35'	AH-3	GW	12-05-91	<5		<5		<5		<5		ug/L	*
30759	JC-26	45'	AH-3	GW	12-05-91	<5		<5		<5		<5		ug/L	
30760	JC-27	55'	AH-3	GW	12-05-91	<5		<5		<5		<5		ug/L	
30761	JC-28	65'	AH-3	GW	12-05-91	<5		<5		<5		<5		ug/L	
30762	JC-29	75'	AH-3	GW	12-05-91	<5		<5		<5		<5		ug/L	
30763	JC-30	85'	AH-3	GW	12-05-91	<5		<5		<5		<5		ug/L	
30730	JC-31	95'	AH-3	GW	12-05-91		<0.5		<0.5		<0.5		<1.0	ug/L	

						Cis-1,2 DCE		1,1,1-TCA		TriCE		TetCE		
Lab ID#	Sample #	Depth	Site	Matrix	Date Col.	HS	P & T	HS	P & T	HS	P & T	HS	P & T	Units
30764	JC-32	105'	AH-3	GW	12-05-91	<5		<5		<5		<5		ug/L
30765	JC-33	110'	AH-3	GW	12-05-91	<5		<5		<5		<5		ug/L
30782	JC-34	5-7'	AH-4	SO	12-06-91	<9		<9		<9		<9		ug/Kg
30783	JC-35	10-12'	AH-4	SO	12-06-91	<6		17		23		<6		ug/Kg
30784	JC-36	15'	AH-4	GW	12-06-91	<5		<5		<5		<5		ug/L
30785	JC-37	25'	AH-4	GW	12-06-91	<5		<5		<5		<5		ug/L
30786	JC-38	35'	AH-4	GW	12-06-91	<5		<5		<5		<5		ug/L
30787	JC-39	45'	AH-4	GW	12-06-91	<5		<5		<5		<5		ug/L
30788	JC-40	55'	AH-4	GW	12-06-91	<5		<5		<5		<5		ug/L
30789	JC-41	65'	AH-4	GW	12-06-91	<5		<5		<5		<5		ug/L
30790	JC42	75'	AH-4	GW	12-06-91	<5		<5		<5		<5		ug/L
30791	JC-43	85'	AH-4	GW	12-06-91	<5		<5		<5		<5		ug/L
30792	JC-44	95'	AH-4	GW	12-06-91	<5		<5		<5		<5		ug/L
30793	JC-45	97'	AH-4	GW	12-06-91	<5		<5		<5		<5		ug/L
30794	JC-46	5-7'	AH-5	SO	12-06-91	<9		<9		<9		<9		ug/Kg
30795	JC-47	10'	AH-5	GW	12-06-91	<5		<5		<5		<5		ug/L
30796	JC-48	20'	AH-5	GW	12-06-91	<5		<5		<5		<5		ug/L
30797	JC-49	30'	AH-5	GW	12-06-91	<5		<5		<5		<5		ug/L
30779	JC-50	40'	AH-5	GW	12-06-91		<0.5		<0.5		<0.5		<1.0	ug/L
30798	JC-51	50'	AH-5	GW	12-06-91	<5		<5		<5		<5		ug/L
30799	JC-52	60'	AH-5	GW	12-06-91	<5		<5		<5		<5		ug/L
30800	JC-53	70'	AH-5	GW	12-06-91	<5		<5		<5		<5		ug/L
30801	JC-54	80'	AH-5	GW	12-06-91	<5		<5		<5		<5		ug/L
30802	JC-55	90'	AH-5	GW	12-06-91	<5		<5		<5		<5		ug/L
30803	JC-56	100'	AH-5	GW	12-06-91	<5		<5		<5		<5		ug/L
30804	JC-57	110'	AH-5	GW	12-06-91	<5		<5		<5		<5		ug/L
30780	JC-58	115'	AH-5	GW	12-06-91		<0.5		<0.5		<0.5		<1.0	ug/L
30834	JC-61	5-7'	AH-6	SO	12-09-91	<9		<9		<9		<9		ug/Kg
30835	JC-62	10-12'	AH-6	SO	12-09-91	<7		<7		<7		<7		ug/Kg
30836	JC-63	15'	AH-6	SO	12-09-91	<5		<5		<5		<5		ug/Kg
30837	JC-64	25'	AH-6	GW	12-09-91	71		<5		<5		<5		ug/L
30838	JC-65	35'	AH-6	GW	12-09-91	60		<5		<5		<5		ug/L
30839	JC-66	45'	AH-6	GW	12-09-91	30		<5		<5		<5		ug/L

Client: Traverse Group

Summary Report #: 30725-1552a

						Cis-1,2 DCE		1,1,1-TCA		TriCE		TetCE			
Lab ID#	Sample #	Depth	Site	Matrix	Date Col.	HS	P & T	HS	P & T	HS	P & T	HS	P & T	Units	
30840	JC-67	51	AH-6	GW	12-09-91	<5		<5		<5		<5		ug/L	
30841	JC-68	8'	MW-1	GW	12-09-91	102		<5		38		<5		ug/L	
30842	JC-69	5-7'	AH-7	SO	12-09-91	<9		96		680		<5		ug/Kg	
30843	JC-70	10-12'	AH-7	SO	12-09-91	<9		78		730		<5		ug/Kg	
30844	JC-71	15'	AH-7	GW	12-09-91	510		290		4200		<5		ug/L	
30845	JC-72	25'	AH-7	GW	12-09-91	790		11		850		<5		ug/L	
30846	JC-73	35'	AH-7	GW	12-09-91	107		8.5		150		<5		ug/L	
30847	JC-74	45'	AH-7	GW	12-09-91	<5		<5		<5		<5		ug/L	
30848	JC-75	55'	AH-7	GW	12-09-91	<5		<5		<5		<5		ug/L	
30849	JC-76	5-7'	AH-8	SO	12-09-91	12		15		470		<7		ug/Kg	
30850	JC-77	10-12'	AH-8	SO	12-09-91	14		19		620		<6		ug/Kg	
30851	JC-78	15'	AH-8	GW	12-09-91	<5		6.2		73		<5		ug/L	
30852	JC-79	25'	AH-8	GW	12-09-91	109		<5		490		<5		ug/L	
30853	JC-80	35'	AH-8	GW	12-09-91	470		<5		170		<5		ug/L	
30854	JC-81	43'	AH-8	GW	12-09-91	48		<5		59		<5		ug/L	
30856	JC-83	61'	AH-7	GW	12-09-91						4.4			ug/L	*
30857	JC-84	10-12'	AH-8	SO	12-09-91				6.4		320			ug/Kg	*
30895	JC-87	5-7'	AH-9	SO	12-10-91	<8		<8		89		<8		ug/Kg	
30896	JC-88	10-12'	AH-9	SO	12-10-91	7.4		6.8		96		<7		ug/Kg	
30897	JC-89	15'	AH-9	GW	12-10-91	33		17		127		<5		ug/L	
30898	JC-90	25'	AH-9	GW	12-10-91	300		<5		28		<5		ug/L	*
30899	JC-91	35'	AH-9	GW	12-10-91	560		<5		70		<5		ug/L	*
30900	JC-92	45'	AH-9	GW	12-10-91	127		<5		10.6		<5		ug/L	*
30901	JC-93	55'	AH-9	GW	12-10-91	<5		<5		<5		<5		ug/L	
30902	JC-94	65'	AH-9	GW	12-10-91	<5		<5		<5		<5		ug/L	
30903	JC-95	75'	AH-9	GW	12-10-91	<5		<5		<5		<5		ug/L	
30904	JC-96	80'	AH-9	GW	12-10-91	<5		<5		<5		<5		ug/L	
30905	JC-97	5-7'	AH-10	SO	12-10-91	12		15		300		9.8		ug/Kg	
30906	JC-98	10-12'	AH-10	SO	12-10-91	50		69		1500		33		ug/Kg	
30907	JC-99	15'	AH-10	GW	12-10-91	860		770		8700		<5		ug/L	
30908	JC-100	25'	AH-10	GW	12-10-91	660		26		1300		24		ug/L	
30909	JC-101	35'	AH-10	GW	12-10-91	14		<5		91		<5		ug/L	

Client: Traverse Group

Summary Report #: 30725-1552a

						Cis-1,2 DCE		1,1,1-TCA		TriCE		TetCE			
Lab ID#	Sample #	Depth	Site	Matrix	Date Col.	HS	P & T	HS	P & T	HS	P & T	HS	P & T	Units	
30910	JC-102	45'	AH-10	GW	12-10-91	<5		<5		9.6		<5		ug/L	
30911	JC-103	55'	AH-10	GW	12-10-91	<5		<5		10		<5		ug/L	
30912	JC-104		MW-3	GW	12-10-91	44		68		460		72		ug/L	
30913	JC-105	65'	AH-10	GW	12-10-91	5.1		<5		42		<5		ug/L	
30914	JC-106	75'	AH-10	GW	12-10-91	<5		<5		6.5		<5		ug/L	*
30915	JC-107		MW-4	GW	12-10-91	2300		42		530		6.4		ug/L	
30916	JC-108		MW-2	GW	12-10-91	<5		<5		54		<5		ug/L	
30918	JC-110	25'	AH-10	GW	12-10-91				15		500		6.2	ug/L	*
30919	JC-111	75'	AH-10	GW	12-10-91						2.9			ug/L	
31545		15'	MW-5	GW	01-09-92		<0.5		<0.5		<0.5		<1.0	ug/L	
30931	JC-113	5-7'	MW-6	SO	12-11-91	<10		10.7		<10		<10		ug/Kg	
30932	JC-114	10-12'	MW-6	SO	12-11-91	<6		17		10.4		<6		ug/Kg	*
30933	JC-115	5-7'	MW-6	SO	12-11-91				17		6.4			ug/Kg	*
30934	JC-116	10-12'	MW-6	SO	12-11-91				9.7		8.0			ug/Kg	*
31546		15'	MW-6	GW	01-10-92				0.8					ug/L	
30960	JC-118	5-7'	MW-7	SO	12-12-91				1.4		220		3.0	ug/Kg	*
30961	JC-119	10-12'	MW-7	SO	12-12-91				400		12000		56	ug/Kg	*
31547		85'	MW-7	GW	01-10-92		-		-		-		-	ug/L	*
31085	JC-121	5-7'	AH-11	SO	12-17-91	<20		<20		<20		<20		ug/Kg	
31086	JC-122	10-12'	AH-11	SO	12-17-91	<16		<16		<16		<16		ug/Kg	
31087	JC-123	15'	AH-11	GW	12-17-91	<5		<5		<5		<5		ug/L	
31088	JC-124	25'	AH-11	GW	12-17-91	<5		<5		<5		<5		ug/L	
31089	JC-125	35'	AH-11	GW	12-17-91	<5		<5		<5		<5		ug/L	
31090	JC-126	45'	AH-11	GW	12-17-91	<5		<5		<5		<5		ug/L	
31091	JC-127	55'	AH-11	GW	12-17-91	<5		<5		<5		<5		ug/L	
31092	JC-128	65'	AH-11	GW	12-17-91	<5		<5		<5		<5		ug/L	
31093	JC-129	5-7'	AH-12	SO	12-18-91	<10		<10		<10		<10		ug/Kg	
31094	JC-130	10-12'	AH-12	SO	12-18-91	<5		<5		<5		<5		ug/Kg	
31095	JC-131	15'	AH-12	GW	12-18-91	8.5		<5		<5		<5		ug/L	
31096	JC-132	25'	AH-12	GW	12-18-91	130		<5		<5		<5		ug/L	
31097	JC-133	35'	AH-12	GW	12-18-91	20		<5		<5		<5		ug/L	

						Cis-1,2 DCE		1,1,1-TCA		TriCE		TetCE			
Lab ID#	Sample #	Depth	Site	Matrix	Date Col.	HS	P & T	HS	P & T	HS	P & T	HS	P & T	Units	
31098	JC-134	45'	AH-12	GW	12-18-91	6.5		<5		<5		<5		ug/L	
31099	JC-135	50'	AH-12	GW	12-18-91	17		<5		<5		<5		ug/L	
31100	JC-136	5-7'	AH-13	SO	12-18-91	22		<6		<6		<6		ug/Kg	
31101	JC-137	10-12'	AH-13	SO	12-18-91	<5		<5		<5		<5		ug/Kg	
31102	JC-138	15'	AH-13	GW	12-18-91	12		<5		20		<5		ug/L	
31103	JC-139	25'	AH-13	GW	12-18-91	<5		<5		8.3		<5		ug/L	
31104	JC-140	35'	AH-13	GW	12-18-91	280		<5		27		<5		ug/L	
31105	JC-141	45'	AH-13	GW	12-18-91	170		<5		<5		<5		ug/L	
31106	JC-142	55'	AH-13	GW	12-18-91	63		<5		<5		<5		ug/L	
31107	JC-143	65'	AH-13	GW	12-18-91	15		<5		<5		<5		ug/L	
31108	JC-144	75'	AH-13	GW	12-18-91	19		<5		<5		<5		ug/L	
31109	JC-145	5-7'	AH-14	SO	12-18-91	<8		<8		<8		200		ug/Kg	
31110	JC-146	10-12'	AH-14	SO	12-18-91	5.8		<5		<5		180		ug/Kg	
31111	JC-147	15'	AH-14	GW	12-18-91	<5		<5		<5		29		ug/L	
31112	JC-148	25'	AH-14	GW	12-18-91	17		<5		39		<5		ug/L	
31113	JC-149	35'	AH-14	GW	12-18-91	24		<5		<5		<5		ug/L	
31114	JC-150	45'	AH-14	GW	12-18-91	13		<5		<5		<5		ug/L	
31115	JC-151	55'	AH-14	GW	12-18-91	14		<5		<5		<5		ug/L	
31116	JC-152	65'	AH-14	GW	12-18-91	<5		<5		<5		<5		ug/L	
31117	JC-153	75'	AH-14	GW	12-18-91	<5		<5		<5		<5		ug/L	
31118	JC-154	85'	AH-14	GW	12-18-91	<5		<5		<5		<5		ug/L	
31119	JC-155	91'	AH-14	GW	12-18-91	<5		<5		<5		<5		ug/L	
31120	JC-156	25'	AH-13	GW	12-18-91						3.7			ug/L	*
31121	JC-157	25'	AH-14	GW	12-18-91						42			ug/L	*
31124	JC-160	5-7'	AH-12	SO	12-18-91		-		-		-		-	ug/Kg	*
31184	JC-161	5-7'	AH-15	SO	12-19-91	<5		<5		<5		7.4		ug/Kg	
31185	JC-162	10-12'	AH-15	SO	12-19-91	<5		<5		<5		15		ug/Kg	
31186	JC-163	15'	AH-15	GW	12-19-91	<5		17		<5		53		ug/L	
31187	JC-164	25'	AH-15	GW	12-19-91	<5		<5		<5		<5		ug/L	
31188	JC-165	35'	AH-15	GW	12-19-91	<5		<5		<5		<5		ug/L	
31189	JC-166	45'	AH-15	GW	12-19-91	<5		<5		<5		<5		ug/L	
31190	JC-167	55'	AH-15	GW	12-19-91	<5		<5		<5		<5		ug/L	
31191	JC-168	5-7'	AH-16	SO	12-19-91	<6		<6		<6		<6		ug/Kg	

						Cis-1,2 DCE		1,1,1-TCA		TriCE		TetCE			
Lab ID#	Sample #	Depth	Site	Matrix	Date Col.	HS	P & T	HS	P & T	HS	P & T	HS	P & T	Units	
31192	JC-169	10-12'	AH-16	SO	12-19-91	<5		<5		<5		<5		ug/Kg	
31193	JC-170	15'	AH-16	GW	12-19-91	<5		<5		<5		<5		ug/L	
31194	JC-171	25'	AH-16	GW	12-19-91	<5		<5		<5		<5		ug/L	
31195	JC-172	35'	AH-16	GW	12-19-91	<5		<5		<5		<5		ug/L	
31196	JC-173	45'	AH-16	GW	12-19-91	<5		<5		<5		<5		ug/L	
31197	JC-174	55'	AH-16	GW	12-19-91	<5		<5		<5		<5		ug/L	
31198	JC-175	65'	AH-16	GW	12-19-91	<5		<5		<5		<5		ug/L	
31199	JC-176	75'	AH-16	GW	12-19-91	<5		<5		<5		<5		ug/L	
31200	JC-177	25'	AH-15	GW	12-19-91		<0.5		<0.5		<0.5		<1.0	ug/L	
31204	JC-179	5-7'	AH-17	SO	12-20-91	<6		<6		<6		<6		ug/Kg	
31205	JC-180	10-12'	AH-17	SO	12-20-91	<5		<5		<5		<5		ug/Kg	
31206	JC-181	15'	AH-17	GW	12-20-91	<5		<5		<5		<5		ug/L	
31207	JC-182	25'	AH-17	GW	12-20-91	<5		<5		<5		<5		ug/L	
31208	JC-183	35'	AH-17	GW	12-20-91	<5		<5		<5		<5		ug/L	
31209	JC-184	45'	AH-17	GW	12-20-91	<5		<5		<5		<5		ug/L	
31210	JC-185	47'	AH-17	GW	12-20-91	<5		<5		<5		<5		ug/L	
31211	JC-186	25'	AH-17	GW	12-20-91		-		-		-		-	ug/L	*
31386	JC-188	5-7'	AH-18	SO	01-06-92	<6		<6		24		<6		ug/Kg	
31387	JC-189	10-12'	AH-18	SO	01-06-92	<5		<5		95		<5		ug/Kg	
31388	JC-190	15'	AH-18	GW	01-06-92	7.0		<5		260		<5		ug/L	
31389	JC-191	25'	AH-18	GW	01-06-92	180		18		8400		<5		ug/L	
31390	JC-192	35'	AH-18	GW	01-06-92	580		<5		600		<5		ug/L	
31391	JC-193	45'	AH-18	GW	01-06-92	380		<5		600		<5		ug/L	
31392	JC-194	55'	AH-18	GW	01-06-92	180		<5		50		<5		ug/L	
31393	JC-195	62'	AH-18	GW	01-06-92	125		<5		22		<5		ug/L	
31394	JC-196	10-12'	AH-19	SO	01-06-92	<5		24		370		<5		ug/Kg	
31395	JC-197	15'	AH-19	GW	01-06-92	16		460		3700		<6		ug/L	
31396	JC-198	25'	AH-19	GW	01-06-92	660		94		2300		<5		ug/L	
31397	JC-199	35'	AH-19	GW	01-06-92	630		<11		69		<11		ug/L	
31398	JC-200	45'	AH-19	GW	01-06-92	230		<5		74		<5		ug/L	
31399	JC-201	55'	AH-19	GW	01-06-92	108		<6		26		<6		ug/L	
31400	JC-202	65'	AH-19	GW	01-06-92	68		<6		6.5		<6		ug/L	
31401	JC-203	75'	AH-19	GW	01-06-92	180		<5		10		<5		ug/L	
31402	JC-204	78'	AH-19	GW	01-06-92	147		<5		117		<5		ug/L	

Client: Traverse Group

Summary Report #: 30725-1552a

Lab ID#	Sample #	Depth	Site	Matrix	Date Col.	Cis-1,2 DCE HS	Cis-1,2 DCE P & T	1,1,1-TCA HS	1,1,1-TCA P & T	TriCE HS	TriCE P & T	TetCE HS	TetCE P & T	Units	
31403	JC-205	25'	AH-18	GW	01-06-92				26		10000		1.8	ug/L	*
31404	JC-206	10-12'	AH-19	SO	01-06-92				28		930			ug/Kg	*
31407	JC-209	25'	AH-19	GW	01-06-92		0.7		120		2600			ug/L	*
31456	JC-210	5-7'	AH-20	SO	01-07-92	86		19		275		<5		ug/Kg	
31457	JC-211	10-12'	AH-20	SO	01-07-92	<5		5.3		94		<5		ug/Kg	
31458	JC-212	15'	AH-20	GW	01-07-92	<5		5.0		77		<5		ug/L	
31459	JC-213	25'	AH-20	GW	01-07-92	<5		<5		33		<5		ug/L	
31460	JC-214	35'	AH-20	GW	01-07-92	<5		<5		<5		<5		ug/L	
31461	JC-215	45'	AH-20	GW	01-07-92	<5		<5		<5		<5		ug/L	
31462	JC-216	50'	AH-20	GW	01-07-92	<5		<5		<5		<5		ug/L	
31463	JC-219	5-7'	AH-21	SO	01-08-92	<5		<5		<5		<5		ug/Kg	
31464	JC-220	10-12'	AH-21	SO	01-08-92	<5		<5		<5		<5		ug/Kg	
31465	JC-221	15'	AH-21	GW	01-08-92	<5		<5		<5		<5		ug/L	
31466	JC-222	25'	AH-21	GW	01-08-92	<5		<5		<5		<5		ug/L	
31467	JC-223	35'	AH-21	GW	01-08-92	<5		<5		<5		<5		ug/L	
31468	JC-224	45'	AH-21	GW	01-08-92	<5		<5		<5		<5		ug/L	
31469	JC-225	55'	AH-21	GW	01-08-92	<5		<5		<5		<5		ug/L	
31470	JC-226	65'	AH-21	GW	01-08-92	<5		<5		<5		<5		ug/L	
31471	JC-227	68'	AH-21	GW	01-08-92	<5		<5		<5		<5		ug/L	
31472	JC-217	25'	AH-20	GW	01-07-92						14			ug/L	
31474	JC-228	25'	AH-21	GW	01-08-92		<0.5		<0.5		<0.5		<1.0	ug/L	
31544		25'	MW-8	GW	01-09-92				20		790			ug/L	*
31549		25'	MW-9	GW	01-10-92		-		-		-		-	ug/L	*
31550		25'	MW-10	GW	01-10-92		<0.5		<0.5		<0.5		<1.0	ug/L	
31552		25'	MW-11	GW	01-10-92				47		7900		1.1	ug/L	*
31551		60'	MW-12	GW	01-10-92						15			ug/L	*

* This sample has additional volitale organic compounds present.

Ammended 2-7-92 to correct title heading from 1,2--DCA to Cis 1,2-DCE and report number.

APPENDIX C

FIELD LOG BOOK NOTES

Client: Cole Associates

Report #: 22986-008

Site: Hole # 6 C-D 6"-12"

Lab #: 22992

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	<	45	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 6 A-B 0"-6"

Lab #: 22993

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**390**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45		< 45	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**170**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45		< 45	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	103		
1,2-Dichloroethane-d_4	70-121	96		
Toluene - d_8	81-117	105		

Analyzed: 05-13 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 6 ~~A-B: 0"~~-6"

Lab #: 22993

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	<	45	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates | Report #: 22986-008

Site: Hole # 6 ~~G-H-1~~8"-24" | Lab #: 22990

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**350**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**430**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**1,500**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**1,500**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	96		
1,2-Dichloroethane-d_4	70-121	92		
Toluene - d_8	81-117	102		

Analyzed: 05-12-~~to 05~~-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 6 ~~G.H. 1~~8"-24"

Lab #: 22990

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	45		< 45	µg/kg
Bromobenzene	45		< 45	µg/kg
Bromochloromethane	45		< 45	µg/kg
Bromodichloromethane	45		< 45	µg/kg
Bromoform	45		< 45	µg/kg
Bromomethane	90		< 90	µg/kg
n-Butylbenzene	45		< 45	µg/kg
sec-Butlybenzene	45		< 45	µg/kg
tert-Butylbenzene	45		< 45	µg/kg
Carbon tetrachloride	45		< 45	µg/kg
Chlorobenzene	45		< 45	µg/kg
Chloroethane	90		< 90	µg/kg
Chloroform	45		< 45	µg/kg
Chloromethane	45		< 45	µg/kg
o-Chlorotoluene	45		< 45	µg/kg
p-Chlorotoluene	45		< 45	µg/kg
Dibromochloromethane	45		< 45	µg/kg
1,2-Dibromo-3-Chloropropane	45		< 45	µg/kg
1,2-Dibromoethane(EDB)	45		< 45	µg/kg
Dibromomethane	45		< 45	µg/kg
m-Dichlorobenzene	45		< 45	µg/kg
o-Dichlorobenzene	45		< 45	µg/kg
p-Dichlorobenzene	45		< 45	µg/kg
Dichlorodifluoromethane	45		< 45	µg/kg
1,1-Dichloroethane	45	√	**77**	**µg/kg**
1,2-Dichloroethane	45		< 45	µg/kg
1,1-Dichloroethylene	45		< 45	µg/kg
1,2-Dichloroethylene, cis	45	√	**150**	**µg/kg**
1,2-Dichloroethylene, trans	45		< 45	µg/kg
1,2-Dichloropropane	45		< 45	µg/kg
1,3-Dichloropropane	45		< 45	µg/kg
2,2-Dichloropropane	45		< 45	µg/kg
1,1-Dichloropropyle	45		< 45	µg/kg
1,3-Dichloropropylene, cis	45		< 45	µg/kg
1,3-Dichloropropylene, trans	45		< 45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 4 I-J 24"-30"

Lab #: 23003

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**280**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**5000**	**µg/kg**
Toluene	45	√	**160**	**µg/kg**
1,2,3-Trichlorobenzene	45	√	**300**	**µg/kg**
1,2,4-Trichlorobenzene	45	√	**170**	**µg/kg**
1,1,1-Trichloroethane	45	√	**7,200**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**230,000**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45	√	**45**	**µg/kg**

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery		
Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	95	94	96
1,2-Dichloroethane-d_4	70-121	95	98	91
Toluene - d_8	81-117	102	97	92

Analyzed: 05-13 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 4 [redacted]-30"

Lab #: 23003

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	45		< 45	µg/kg
Bromobenzene	45		< 45	µg/kg
Bromochloromethane	45		< 45	µg/kg
Bromodichloromethane	45		< 45	µg/kg
Bromoform	45		< 45	µg/kg
Bromomethane	90		< 90	µg/kg
n-Butylbenzene	45		< 45	µg/kg
sec-Butlybenzene	45		< 45	µg/kg
tert-Butylbenzene	45		< 45	µg/kg
Carbon tetrachloride	45		< 45	µg/kg
Chlorobenzene	45	√	**52**	**µg/kg**
Chloroethane	90		< 90	µg/kg
Chloroform	45		< 45	µg/kg
Chloromethane	45		< 45	µg/kg
o-Chlorotoluene	45		< 45	µg/kg
p-Chlorotoluene	45		< 45	µg/kg
Dibromochloromethane	45		< 45	µg/kg
1,2-Dibromo-3-Chloropropane	45		< 45	µg/kg
1,2-Dibromoethane(EDB)	45		< 45	µg/kg
Dibromomethane	45		< 45	µg/kg
m-Dichlorobenzene	45		< 45	µg/kg
o-Dichlorobenzene	45	√	**75**	**µg/kg**
p-Dichlorobenzene	45	√	**160**	**µg/kg**
Dichlorodifluoromethane	45		< 45	µg/kg
1,1-Dichloroethane	45	√	**650**	**µg/kg**
1,2-Dichloroethane	45		< 45	µg/kg
1,1-Dichloroethylene	45		< 45	µg/kg
1,2-Dichloroethylene, cis	45	√	**17,000**	**µg/kg**
1,2-Dichloroethylene, trans	45	√	**250**	**µg/kg**
1,2-Dichloropropane	45		< 45	µg/kg
1,3-Dichloropropane	45		< 45	µg/kg
2,2-Dichloropropane	45		< 45	µg/kg
1,1-Dichloropropyle	45		< 45	µg/kg
1,3-Dichloropropylene, cis	45		< 45	µg/kg
1,3-Dichloropropylene, trans	45		< 45	µg/kg

Continued on the following page.

Client: Cole Associates | Report #: 22986-008

Site: Hole # 4 ~~G-H-2~~ 18"-24" | Lab #: 23002

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**370**	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**420**	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**480**	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**15000**	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery		
Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	92	87	
1,2-Dichloroethane-d_4	70-121	94	102	
Toluene - d_8	81-117	97	102	

Analyzed: 05-13 to 05-23-91 | Analyst: BK | Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 4 ~~Grid 2~~ 18"-24"

Lab #: 23002

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results		
Benzene	45		<	45	µg/kg
Bromobenzene	45		<	45	µg/kg
Bromochloromethane	45		<	45	µg/kg
Bromodichloromethane	45		<	45	µg/kg
Bromoform	45		<	45	µg/kg
Bromomethane	90		<	90	µg/kg
n-Butylbenzene	45		<	45	µg/kg
sec-Butlybenzene	45		<	45	µg/kg
tert-Butylbenzene	45		<	45	µg/kg
Carbon tetrachloride	45		<	45	µg/kg
Chlorobenzene	45		<	45	µg/kg
Chloroethane	90		<	90	µg/kg
Chloroform	45		<	45	µg/kg
Chloromethane	45		<	45	µg/kg
o-Chlorotoluene	45		<	45	µg/kg
p-Chlorotoluene	45		<	45	µg/kg
Dibromochloromethane	45		<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45		<	45	µg/kg
1,2-Dibromoethane(EDB)	45		<	45	µg/kg
Dibromomethane	45		<	45	µg/kg
m-Dichlorobenzene	45		<	45	µg/kg
o-Dichlorobenzene	45		<	45	µg/kg
p-Dichlorobenzene	45		<	45	µg/kg
Dichlorodifluoromethane	45		<	45	µg/kg
1,1-Dichloroethane	45		<	45	µg/kg
1,2-Dichloroethane	45		<	45	µg/kg
1,1-Dichloroethylene	45		<	45	µg/kg
1,2-Dichloroethylene, cis	45	√		**810**	µg/kg
1,2-Dichloroethylene, trans	45		<	45	µg/kg
1,2-Dichloropropane	45		<	45	µg/kg
1,3-Dichloropropane	45		<	45	µg/kg
2,2-Dichloropropane	45		<	45	µg/kg
1,1-Dichloropropyle	45		<	45	µg/kg
1,3-Dichloropropylene, cis	45		<	45	µg/kg
1,3-Dichloropropylene, trans	45		<	45	µg/kg

Continued on the following page.

Client: Cole Associates | Report #: 22986-008

Site: Hole # 4 ~~E-F-1~~2"-18" | Lab #: 23001

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	320	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	760	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	870	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45		< 45	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	101		
1,2-Dichloroethane-d_4	70-121	96		
Toluene - d_8	81-117	99		

Analyzed: 05-13-91 | Analyst: BK | Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 4 E-F 12"-18"

Lab #: 23001

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results		
Benzene	45		<	45	µg/kg
Bromobenzene	45		<	45	µg/kg
Bromochloromethane	45		<	45	µg/kg
Bromodichloromethane	45		<	45	µg/kg
Bromoform	45		<	45	µg/kg
Bromomethane	90		<	90	µg/kg
n-Butylbenzene	45		<	45	µg/kg
sec-Butlybenzene	45		<	45	µg/kg
tert-Butylbenzene	45		<	45	µg/kg
Carbon tetrachloride	45		<	45	µg/kg
Chlorobenzene	45		<	45	µg/kg
Chloroethane	90		<	90	µg/kg
Chloroform	45		<	45	µg/kg
Chloromethane	45		<	45	µg/kg
o-Chlorotoluene	45		<	45	µg/kg
p-Chlorotoluene	45		<	45	µg/kg
Dibromochloromethane	45		<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45		<	45	µg/kg
1,2-Dibromoethane(EDB)	45		<	45	µg/kg
Dibromomethane	45		<	45	µg/kg
m-Dichlorobenzene	45		<	45	µg/kg
o-Dichlorobenzene	45		<	45	µg/kg
p-Dichlorobenzene	45		<	45	µg/kg
Dichlorodifluoromethane	45		<	45	µg/kg
1,1-Dichloroethane	45	√		71	µg/kg
1,2-Dichloroethane	45		<	45	µg/kg
1,1-Dichloroethylene	45		<	45	µg/kg
1,2-Dichloroethylene, cis	45	√		1300	µg/kg
1,2-Dichloroethylene, trans	45		<	45	µg/kg
1,2-Dichloropropane	45		<	45	µg/kg
1,3-Dichloropropane	45		<	45	µg/kg
2,2-Dichloropropane	45		<	45	µg/kg
1,1-Dichloropropyle	45		<	45	µg/kg
1,3-Dichloropropylene, cis	45		<	45	µg/kg
1,3-Dichloropropylene, trans	45		<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 4 A-B 0"-6"

Lab #: 23000

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	420	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	270	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	290	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	11000	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery		
Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	98	92	
1,2-Dichloroethane-d_4	70-121	93	93	
Toluene - d_8	81-117	101	95	

Analyzed: 05-13 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 4 ~~A-B 0"-6"~~

Lab #: 23000

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results		
Benzene	45		<	45	µg/kg
Bromobenzene	45		<	45	µg/kg
Bromochloromethane	45		<	45	µg/kg
Bromodichloromethane	45		<	45	µg/kg
Bromoform	45		<	45	µg/kg
Bromomethane	90		<	90	µg/kg
n-Butylbenzene	45		<	45	µg/kg
sec-Butlybenzene	45		<	45	µg/kg
tert-Butylbenzene	45		<	45	µg/kg
Carbon tetrachloride	45		<	45	µg/kg
Chlorobenzene	45		<	45	µg/kg
Chloroethane	90		<	90	µg/kg
Chloroform	45		<	45	µg/kg
Chloromethane	45		<	45	µg/kg
o-Chlorotoluene	45		<	45	µg/kg
p-Chlorotoluene	45		<	45	µg/kg
Dibromochloromethane	45		<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45		<	45	µg/kg
1,2-Dibromoethane(EDB)	45		<	45	µg/kg
Dibromomethane	45		<	45	µg/kg
m-Dichlorobenzene	45		<	45	µg/kg
o-Dichlorobenzene	45		<	45	µg/kg
p-Dichlorobenzene	45		<	45	µg/kg
Dichlorodifluoromethane	45		<	45	µg/kg
1,1-Dichloroethane	45		<	45	µg/kg
1,2-Dichloroethane	45		<	45	µg/kg
1,1-Dichloroethylene	45		<	45	µg/kg
1,2-Dichloroethylene, cis	45		<	45	µg/kg
1,2-Dichloroethylene, trans	45	√		**300**	µg/kg
1,2-Dichloropropane	45		<	45	µg/kg
1,3-Dichloropropane	45		<	45	µg/kg
2,2-Dichloropropane	45		<	45	µg/kg
1,1-Dichloropropyle	45		<	45	µg/kg
1,3-Dichloropropylene, cis	45		<	45	µg/kg
1,3-Dichloropropylene, trans	45		<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 3 ~~G-H~~ 18"-24"

Lab #: 22989

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	420	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	400	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	950	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	17000	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery		
Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	91	92	
1,2-Dichloroethane-d_4	70-121	94	97	
Toluene - d_8	81-117	103	99	

Analyzed: 05-12 to 05-22-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 3 G-H 18"-24"

Lab #: 22989

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	√	480	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 3 ~~E-E-12~~"-18"

Lab #: 22988 Lab Duplicate

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**280**	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**160**	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**220**	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**9800**	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	96	94	
1,2-Dichloroethane-d_4	70-121	97	101	
Toluene - d_8	81-117	103	96	

Analyzed: 05-13 to 05-22-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 3 E-[redacted]18"

Lab #: 22988 Lab Duplicate

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	√	**400**	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 3 [redacted] 2"-18"

Lab #: 22988

[redacted]VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	330	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	130	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	110	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	4700	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	96		
1,2-Dichloroethane-d_4	70-121	96		
Toluene - d_8	81-117	100		

Analyzed: 05-13-91 [redacted]

Analyst: BK

Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 3 E-F 12"-18"

Lab #: 22988

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	√	86	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 3 C-D [redacted] 12"

Lab #: 22987

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	320	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45		< 45	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45		< 45	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	570	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery		
Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	94		
1,2-Dichloroethane-d_4	70-121	92		
Toluene - d_8	81-117	101		

Analyzed: 05-12-91 [redacted]

Analyst: BK

Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 3 ~~C-D 6~~-12"

Lab #: 22987

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	<	45	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 3 A-B C-6"

Lab #: 22986

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	230	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45		< 45	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45		< 45	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45		< 45	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	93		
1,2-Dichloroethane-d_4	70-121	93		
Toluene - d_8	81-117	99		

Analyzed: 05-12-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 3 A-B 0-6"

Lab #: 22986

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	<	45	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 1 [redacted] 8"-24"

Lab #: 22999

[redacted]VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**300**	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**270**	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**99**	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**2700**	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery		
Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	97	96	
1,2-Dichloroethane-d_4	70-121	91	93	
Toluene - d_8	81-117	98	94	

Analyzed: 05-13 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 1 ~~G-H~~ 18"-24"

Lab #: 22999

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	√	**160**	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates | Report #: 22986-008

Site: Hole # 1 [redacted]"-18" | Lab #: 22998

[redacted]OLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**210**	µg/kg
Napthalene	45	√	**73**	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**160**	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**76**	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**1600**	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	101		
1,2-Dichloroethane-d_4	70-121	90		
Toluene - d_8	81-117	100		

Analyzed: 05-13-91 | Analyst: BK | Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 1 ~~E-E-12~~"-18"

Lab #: 22998

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results		
Benzene	45		<	45	µg/kg
Bromobenzene	45		<	45	µg/kg
Bromochloromethane	45		<	45	µg/kg
Bromodichloromethane	45		<	45	µg/kg
Bromoform	45		<	45	µg/kg
Bromomethane	90		<	90	µg/kg
n-Butylbenzene	45		<	45	µg/kg
sec-Butlybenzene	45		<	45	µg/kg
tert-Butylbenzene	45		<	45	µg/kg
Carbon tetrachloride	45		<	45	µg/kg
Chlorobenzene	45		<	45	µg/kg
Chloroethane	90		<	90	µg/kg
Chloroform	45		<	45	µg/kg
Chloromethane	45		<	45	µg/kg
o-Chlorotoluene	45		<	45	µg/kg
p-Chlorotoluene	45		<	45	µg/kg
Dibromochloromethane	45		<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45		<	45	µg/kg
1,2-Dibromoethane(EDB)	45		<	45	µg/kg
Dibromomethane	45		<	45	µg/kg
m-Dichlorobenzene	45		<	45	µg/kg
o-Dichlorobenzene	45		<	45	µg/kg
p-Dichlorobenzene	45		<	45	µg/kg
Dichlorodifluoromethane	45		<	45	µg/kg
1,1-Dichloroethane	45		<	45	µg/kg
1,2-Dichloroethane	45		<	45	µg/kg
1,1-Dichloroethylene	45		<	45	µg/kg
1,2-Dichloroethylene, cis	45	√		**67**	µg/kg
1,2-Dichloroethylene, trans	45		<	45	µg/kg
1,2-Dichloropropane	45		<	45	µg/kg
1,3-Dichloropropane	45		<	45	µg/kg
2,2-Dichloropropane	45		<	45	µg/kg
1,1-Dichloropropyle	45		<	45	µg/kg
1,3-Dichloropropylene, cis	45		<	45	µg/kg
1,3-Dichloropropylene, trans	45		<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 1 [redacted]"-12"

Lab #: 22997

[redacted]OLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**210**	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
etrachloroethylene	45		< 45	µg/kg
oluene	45		< 45	µg/kg
,2,3-Trichlorobenzene	45		< 45	µg/kg
,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1-Trichloroethane	45		< 45	µg/kg
1,2-Trichloroethane	45		< 45	µg/kg
chloroethylene	45		< 45	µg/kg
chlorofluoromethane	45		< 45	µg/kg
,3-Trichloropropane	45		< 45	µg/kg
,4-Trimethylbenzene	45		< 45	µg/kg
5-Trimethylbenzene	45		< 45	µg/kg
l chloride	45		< 45	µg/kg
l Xylenes	45		< 45	µg/kg

tions were required for quantitation of specific parameters, they are indicated by a (√) eeding the result.

gate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
ofluorobenzene	74-121	100		
chloroethane-d_4	70-121	92		
ne - d_8	81-117	100		

ed: 05-13-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 1 ~~C-Dr6~~"-12"

Lab #: 22997

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	<	45	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 1 ~~A-B-C~~-6"

Lab #: 22996

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**380**	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**130**	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**74**	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**980**	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery		
Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	95		
1,2-Dichloroethane-d_4	70-121	97		
Toluene - d_8	81-117	100		

Analyzed: 05-13-~~91~~

Analyst: BK

Method: 8260

nt: Cole Associates

Report #: 22986-008

: Hole # 1 A-B 0"-6"

Lab #: 22996

VOLATILE ORGANIC CHEMICALS--Soil

ımeter	PQL	Results		
zene	45	<	45	µg/kg
ıobenzene	45	<	45	µg/kg
ıochloromethane	45	<	45	µg/kg
ıodichloromethane	45	<	45	µg/kg
ıoform	45	<	45	µg/kg
ıomethane	90	<	90	µg/kg
tylbenzene	45	<	45	µg/kg
3utlybenzene	45	<	45	µg/kg
lutylbenzene	45	<	45	µg/kg
ɔn tetrachloride	45	<	45	µg/kg
obenzene	45	<	45	µg/kg
ɔethane	90	<	90	µg/kg
ɔform	45	<	45	µg/kg
ɔmethane	45	<	45	µg/kg
ɔrotoluene	45	<	45	µg/kg
ɔrotoluene	45	<	45	µg/kg
nochloromethane	45	<	45	µg/kg
ɔromo-3-Chloropropane	45	<	45	µg/kg
ɔromoethane(EDB)	45	<	45	µg/kg
ıomethane	45	<	45	µg/kg
ıorobenzene	45	<	45	µg/kg
lorobenzene	45	<	45	µg/kg
'orobenzene	45	<	45	µg/kg
'odifluoromethane	45	<	45	µg/kg
hloroethane	45	<	45	µg/kg
hloroethane	45	<	45	µg/kg
hloroethylene	45	<	45	µg/kg
hloroethylene, cis	45	<	45	µg/kg
hloroethylene, trans	45	<	45	µg/kg
hloropropane	45	<	45	µg/kg
ıloropropane	45	<	45	µg/kg
ıloropropane	45	<	45	µg/kg
ıloropropyle	45	<	45	µg/kg
ıloropropylene, cis	45	<	45	µg/kg
loropropylene, trans	45	<	45	µg/kg

ɜd on the following page.

Environmental Health Laboratories

110 S. Hill Street
South Bend, IN 46617
(219) 233-4777
(219) 233-3272
FAX (219) 233-8207

LABORATORY REPORT

Client: Cole Associates
Attn: Fred Rouse
2211 E. Jefferson
South Bend, IN 46615

Report#: 22986-008

Status: Final

Project/Site: Johnson Controls

Samples Submitted: Two soil samples for RCRA metals, twenty soil samples for Volatile Organics , one laboratory trip blank for Volatile Organics.

Collected: 04-26-91 By: Client Received: 04-26-91

REPORT SUMMARY

See R-SUM-22597-3552 for a report summary of each sample set for the Johnson Controls project.

Detailed quantitative results are presented on the following pages.

BORINGS 1, 3, 4, 6, AND 15

Client: Cole Associates

Report #: 22579-587

REFERENCES AND DEFINITIONS OF TERMS

Volatile Organic Chemical (VOC) Ground Water Analysis
Analytical Technique: Purge & Trap/GC/MS
Reference: EPA Test Methods for Evaluating Solid Waste
SW-846, Third Edition, November 1986

Practical Quantitation Limits (PQL's) represent the lower limit at which the compounds of interest can be accurately detected, at a 95% confidence level, and reported for a sample exhibiting minimal chemical background interference under the conditions employed in the analytical procedure. PQL's are by definition a function of the instrument performance for an ideal sample and thus are not adjusted for sample dilutions used to calculate results.

Volatile Organic Chemicals (VOC's) are a group of natural and synthetic organic chemicals characterized by their volatility (ability to evaporate). The volatile chemicals included in this report have been selected by the EPA to be monitored both because of their suspected toxicity and because of their widespread use in industry. Many are used in the production of plastics, clothing and other common items found in most industries.

(<) means "less than". The number given is the lowest reportable value by the procedure used for analysis.

1 µg/L = 1 microgram per liter = 1 part per billion (ppb).

1 µg/kg = 1 microgram per kilogram = 1 part per billion (ppb).

Client: Cole Associates

Report #: 22579-587

Site: Hole #5 ~~G-H 18~~" - 24"

Lab #: 22586

VOLATILE ORGANIC CHEMICALS--Soil, continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45		< 45	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**1300**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**1000**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**32,000**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	86-115	99	94	97
1,2-Dichloroethane-d_4	76-114	91	96	99
Toluene - d_8	88-110	99	100	96

Analyzed: 05/10-28/91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Hole #5 ~~G-II-18~~" - 24"

Lab #: 22586

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	45		< 45	µg/kg
Bromobenzene	45		< 45	µg/kg
Bromochloromethane	45		< 45	µg/kg
Bromodichloromethane	45		< 45	µg/kg
Bromoform	45		< 45	µg/kg
Bromomethane	90		< 90	µg/kg
n-Butylbenzene	45		< 45	µg/kg
sec-Butlybenzene	45		< 45	µg/kg
tert-Butylbenzene	45		< 45	µg/kg
Carbon tetrachloride	45		< 45	µg/kg
Chlorobenzene	45		< 45	µg/kg
Chloroethane	90		< 90	µg/kg
Chloroform	45		< 45	µg/kg
Chloromethane	45		< 45	µg/kg
o-Chlorotoluene	45		< 45	µg/kg
p-Chlorotoluene	45		< 45	µg/kg
Dibromochloromethane	45		< 45	µg/kg
1,2-Dibromo-3-Chloropropane	45		< 45	µg/kg
1,2-Dibromoethane(EDB)	45		< 45	µg/kg
Dibromomethane	45		< 45	µg/kg
m-Dichlorobenzene	45		< 45	µg/kg
o-Dichlorobenzene	45		< 45	µg/kg
p-Dichlorobenzene	45		< 45	µg/kg
Dichlorodifluoromethane	45		< 45	µg/kg
1,1-Dichloroethane	45	√	**69**	**µg/kg**
1,2-Dichloroethane	45		< 45	µg/kg
1,1-Dichloroethylene	45		< 45	µg/kg
1,2-Dichloroethylene, cis	45	√	**2100**	**µg/kg**
1,2-Dichloroethylene, trans	45		< 45	µg/kg
1,2-Dichloropropane	45		< 45	µg/kg
1,3-Dichloropropane	45		< 45	µg/kg
2,2-Dichloropropane	45		< 45	µg/kg
1,1-Dichloropropyle	45		< 45	µg/kg
1,3-Dichloropropylene, cis	45		< 45	µg/kg
1,3-Dichloropropylene, trans	45		< 45	µg/kg

Continued on the following page.

Client: Cole Associates | Report #: 22579-587

Site: Hole #5 ~~C-D-1~~2" - 18" | Lab #: 22585

VOLATILE ORGANIC CHEMICALS--Soil, continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45		< 45	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**4200**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**7000**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**140,000**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450	1:4500	1:8920
Bromofluorobenzene	86-115	97	95	91	94
1,2-Dichloroethane-d_4	76-114	98	98	92	100
Toluene - d_8	88-110	104	97	92	98

Analyzed: 05/10-28/91 | Analyst: BK | Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Hole #5 ~~C - D~~ 12" - 18"

Lab #: 22585

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	45		< 45	µg/kg
Bromobenzene	45		< 45	µg/kg
Bromochloromethane	45		< 45	µg/kg
Bromodichloromethane	45		< 45	µg/kg
Bromoform	45		< 45	µg/kg
Bromomethane	90		< 90	µg/kg
n-Butylbenzene	45		< 45	µg/kg
sec-Butlybenzene	45		< 45	µg/kg
tert-Butylbenzene	45		< 45	µg/kg
Carbon tetrachloride	45		< 45	µg/kg
Chlorobenzene	45		< 45	µg/kg
Chloroethane	90		< 90	µg/kg
Chloroform	45		< 45	µg/kg
Chloromethane	45		< 45	µg/kg
o-Chlorotoluene	45		< 45	µg/kg
p-Chlorotoluene	45		< 45	µg/kg
Dibromochloromethane	45		< 45	µg/kg
1,2-Dibromo-3-Chloropropane	45		< 45	µg/kg
1,2-Dibromoethane(EDB)	45		< 45	µg/kg
Dibromomethane	45		< 45	µg/kg
m-Dichlorobenzene	45	√	**52**	**µg/kg**
o-Dichlorobenzene	45		< 45	µg/kg
p-Dichlorobenzene	45		< 45	µg/kg
Dichlorodifluoromethane	45		< 45	µg/kg
1,1-Dichloroethane	45	√	**610**	**µg/kg**
1,2-Dichloroethane	45		< 45	µg/kg
1,1-Dichloroethylene	45	√	**84**	**µg/kg**
1,2-Dichloroethylene, cis	45	√	**12,000**	**µg/kg**
1,2-Dichloroethylene, trans	45	√	**200**	**µg/kg**
1,2-Dichloropropane	45		< 45	µg/kg
1,3-Dichloropropane	45		< 45	µg/kg
2,2-Dichloropropane	45		< 45	µg/kg
1,1-Dichloropropyle	45		< 45	µg/kg
1,3-Dichloropropylene, cis	45		< 45	µg/kg
1,3-Dichloropropylene, trans	45		< 45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22579-587

Site: Hole #5 A - B 0" - 6"

Lab #: 22584

VOLATILE ORGANIC CHEMICALS--Soil, continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**200**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**160**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**200**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**6700**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450
Bromofluorobenzene	86-115	95	98
1,2-Dichloroethane-d_4	76-114	95	93
Toluene - d_8	88-110	98	93

Analyzed: 05/10~~-25/9~~1 Analyst:BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Hole #5 B - C - 6" - 12"

Lab #: 22584

VOLATILE ORGANIC CHEMICALS--Soil, continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**200**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**160**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**200**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**6700**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450
Bromofluorobenzene	86-115	95	98
1,2-Dichloroethane-d_4	76-114	95	93
Toluene - d_8	88-110	98	93

Analyzed: 05/~~10-25~~/91 Analyst:BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Hole #5 ~~B - G~~ 6" - 12"

Lab #: 22584

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	√	**430**	**µg/kg**
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22579-587

Site: Hole #5 A - B 0" - 6"

Lab #: 22583 Lab Duplicate

VOLATILE ORGANIC CHEMICALS--Soil, continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**190**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**93**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**120**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**3600**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450
Bromofluorobenzene	86-115	98	96
1,2-Dichloroethane-d_4	76-114	93	97
Toluene - d_8	88-110	101	99

Analyzed: 05/10~~-24/91~~ Analyst:BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Hole #5 A - B 0" - 6"

Lab #: 22583 Lab Duplicate

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	45		< 45	µg/kg
Bromobenzene	45		< 45	µg/kg
Bromochloromethane	45		< 45	µg/kg
Bromodichloromethane	45		< 45	µg/kg
Bromoform	45		< 45	µg/kg
Bromomethane	90		< 90	µg/kg
n-Butylbenzene	45		< 45	µg/kg
sec-Butlybenzene	45		< 45	µg/kg
tert-Butylbenzene	45		< 45	µg/kg
Carbon tetrachloride	45		< 45	µg/kg
Chlorobenzene	45		< 45	µg/kg
Chloroethane	90		< 90	µg/kg
Chloroform	45		< 45	µg/kg
Chloromethane	45		< 45	µg/kg
o-Chlorotoluene	45		< 45	µg/kg
p-Chlorotoluene	45		< 45	µg/kg
Dibromochloromethane	45		< 45	µg/kg
1,2-Dibromo-3-Chloropropane	45		< 45	µg/kg
1,2-Dibromoethane(EDB)	45		< 45	µg/kg
Dibromomethane	45		< 45	µg/kg
m-Dichlorobenzene	45		< 45	µg/kg
o-Dichlorobenzene	45		< 45	µg/kg
p-Dichlorobenzene	45		< 45	µg/kg
Dichlorodifluoromethane	45		< 45	µg/kg
1,1-Dichloroethane	45		< 45	µg/kg
1,2-Dichloroethane	45		< 45	µg/kg
1,1-Dichloroethylene	45		< 45	µg/kg
1,2-Dichloroethylene, cis	45	√	**190**	**µg/kg**
1,2-Dichloroethylene, trans	45		< 45	µg/kg
1,2-Dichloropropane	45		< 45	µg/kg
1,3-Dichloropropane	45		< 45	µg/kg
2,2-Dichloropropane	45		< 45	µg/kg
1,1-Dichloropropyle	45		< 45	µg/kg
1,3-Dichloropropylene, cis	45		< 45	µg/kg
1,3-Dichloropropylene, trans	45		< 45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22579-587

Site: Hole #5 A - B 0" - 6"

Lab #: 22583

VOLATILE ORGANIC CHEMICALS--Soil, continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**49**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**190**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**280**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**8700**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450
Bromofluorobenzene	86-115	101	94
1,2-Dichloroethane-d_4	76-114	95	97
Toluene - d_8	88-110	103	96

Analyzed: 05/10-24/91 Analyst:BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Hole #2 G - H 18" - 24"

Lab #: 22582

VOLATILE ORGANIC CHEMICALS--Soil, continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**53**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**1700**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45	√	**98**	**µg/kg**
1,1,1-Trichloroethane	45	√	**980**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**160,000**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	86-115	96	93	97
1,2-Dichloroethane-d_4	76-114	100	92	99
Toluene - d_8	88-110	106	94	100

Analyzed: 05/10–24/91 Analyst:BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Hole #2 ~~G-Hk~~ 18" - 24"

Lab #: 22582

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	45		< 45	µg/kg
Bromobenzene	45		< 45	µg/kg
Bromochloromethane	45		< 45	µg/kg
Bromodichloromethane	45		< 45	µg/kg
Bromoform	45		< 45	µg/kg
Bromomethane	90		< 90	µg/kg
n-Butylbenzene	45		< 45	µg/kg
sec-Butlybenzene	45		< 45	µg/kg
tert-Butylbenzene	45		< 45	µg/kg
Carbon tetrachloride	45		< 45	µg/kg
Chlorobenzene	45		< 45	µg/kg
Chloroethane	90		< 90	µg/kg
Chloroform	45		< 45	µg/kg
Chloromethane	45		< 45	µg/kg
o-Chlorotoluene	45		< 45	µg/kg
p-Chlorotoluene	45		< 45	µg/kg
Dibromochloromethane	45		< 45	µg/kg
1,2-Dibromo-3-Chloropropane	45		< 45	µg/kg
1,2-Dibromoethane(EDB)	45		< 45	µg/kg
Dibromomethane	45		< 45	µg/kg
n-Dichlorobenzene	45		< 45	µg/kg
-Dichlorobenzene	45	√	**110**	**µg/kg**
-Dichlorobenzene	45	√	**67**	**µg/kg**
ichlorodifluoromethane	45		< 45	µg/kg
,1-Dichloroethane	45	√	**150**	µg/kg
.2-Dichloroethane	45		< 45	**µg/kg**
1-Dichloroethylene	45		< 45	µg/kg
2-Dichloroethylene, cis	45	√	**8200**	**µg/kg**
2-Dichloroethylene, trans	45	√	**150**	**µg/kg**
2-Dichloropropane	45		< 45	µg/kg
3-Dichloropropane	45		< 45	µg/kg
2-Dichloropropane	45		< 45	µg/kg
l-Dichloropropyle	45		< 45	µg/kg
l-Dichloropropylene, cis	45		< 45	µg/kg
l-Dichloropropylene, trans	45		< 45	µg/kg

ntinued on the following page.

Client: Cole Associates

Report #: 22579-587

Site: Hole #2 [redacted]2" - 18"

Lab #: 22581

[redacted]VOLATILE ORGANIC CHEMICALS--Soil, continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**120**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**190**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**130**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**4300**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450
Bromofluorobenzene	86-115	96	102
1,2-Dichloroethane-d_4	76-114	96	99
Toluene - d_8	88-110	106	98

Analyzed: 05/10-24/91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Hole #2 [illegible] 12" - 18"

Lab #: 22581

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results		
Benzene	45		<	45	µg/kg
Bromobenzene	45		<	45	µg/kg
Bromochloromethane	45		<	45	µg/kg
Bromodichloromethane	45		<	45	µg/kg
Bromoform	45		<	45	µg/kg
Bromomethane	90		<	90	µg/kg
n-Butylbenzene	45		<	45	µg/kg
sec-Butlybenzene	45		<	45	µg/kg
tert-Butylbenzene	45		<	45	µg/kg
Carbon tetrachloride	45		<	45	µg/kg
Chlorobenzene	45		<	45	µg/kg
Chloroethane	90		<	90	µg/kg
Chloroform	45		<	45	µg/kg
Chloromethane	45		<	45	µg/kg
o-Chlorotoluene	45		<	45	µg/kg
p-Chlorotoluene	45		<	45	µg/kg
Dibromochloromethane	45		<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45		<	45	µg/kg
1,2-Dibromoethane(EDB)	45		<	45	µg/kg
Dibromomethane	45		<	45	µg/kg
m-Dichlorobenzene	45		<	45	µg/kg
o-Dichlorobenzene	45		<	45	µg/kg
p-Dichlorobenzene	45		<	45	µg/kg
Dichlorodifluoromethane	45		<	45	µg/kg
1,1-Dichloroethane	45		<	45	µg/kg
1,2-Dichloroethane	45		<	45	µg/kg
1,1-Dichloroethylene	45		<	45	µg/kg
1,2-Dichloroethylene, cis	45	√		**500**	**µg/kg**
1,2-Dichloroethylene, trans	45		<	45	µg/kg
1,2-Dichloropropane	45		<	45	µg/kg
1,3-Dichloropropane	45		<	45	µg/kg
2,2-Dichloropropane	45		<	45	µg/kg
1,1-Dichloropropyle	45		<	45	µg/kg
1,3-Dichloropropylene, cis	45		<	45	µg/kg
1,3-Dichloropropylene, trans	45		<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22579-587

Site: Hole #2 C-D 6" - 12"

Lab #: 22580

VOLATILE ORGANIC CHEMICALS--Soil, continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**56**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**410**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**370**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**11000**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450
Bromofluorobenzene	86-115	98	96
1,2-Dichloroethane-d_4	76-114	99	95
Toluene - d_8	88-110	104	95

Analyzed: 05/10–24/91 Analyst:BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Hole #2 C - B 6" - 12"

Lab #: 22580

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	45		< 45	µg/kg
Bromobenzene	45		< 45	µg/kg
Bromochloromethane	45		< 45	µg/kg
Bromodichloromethane	45		< 45	µg/kg
Bromoform	45		< 45	µg/kg
Bromomethane	90		< 90	µg/kg
n-Butylbenzene	45		< 45	µg/kg
sec-Butlybenzene	45		< 45	µg/kg
tert-Butylbenzene	45		< 45	µg/kg
Carbon tetrachloride	45		< 45	µg/kg
Chlorobenzene	45		< 45	µg/kg
Chloroethane	90		< 90	µg/kg
Chloroform	45		< 45	µg/kg
Chloromethane	45		< 45	µg/kg
o-Chlorotoluene	45		< 45	µg/kg
p-Chlorotoluene	45		< 45	µg/kg
Dibromochloromethane	45		< 45	µg/kg
1,2-Dibromo-3-Chloropropane	45		< 45	µg/kg
1,2-Dibromoethane(EDB)	45		< 45	µg/kg
Dibromomethane	45		< 45	µg/kg
m-Dichlorobenzene	45		< 45	µg/kg
o-Dichlorobenzene	45		< 45	µg/kg
p-Dichlorobenzene	45		< 45	µg/kg
Dichlorodifluoromethane	45		< 45	µg/kg
1,1-Dichloroethane	45	√	**47**	**µg/kg**
1,2-Dichloroethane	45		< 45	µg/kg
1,1-Dichloroethylene	45		< 45	µg/kg
1,2-Dichloroethylene, cis	45	√	**1500**	**µg/kg**
1,2-Dichloroethylene, trans	45		< 45	µg/kg
1,2-Dichloropropane	45		< 45	µg/kg
1,3-Dichloropropane	45		< 45	µg/kg
2,2-Dichloropropane	45		< 45	µg/kg
1,1-Dichloropropyle	45		< 45	µg/kg
1,3-Dichloropropylene, cis	45		< 45	µg/kg
1,3-Dichloropropylene, trans	45		< 45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22579-587

Site: Hole #2 ~~A-B~~ 0" - 6"

Lab #: 22579

VOLATILE ORGANIC CHEMICALS--Soil, continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**290**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**160**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**200**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**8700**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450
Bromofluorobenzene	86-115	95	94
1,2-Dichloroethane-d_4	76-114	95	97
Toluene - d_8	88-110	103	100

Analyzed: 05/~~10-24~~/91 Analyst:BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Hole #2 A - B 0" - 6"

Lab #: 22579

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45√		**480**	**µg/kg**
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Environmental
Health Laboratories

110 S. Hill Street
South Bend, IN 46617
(219) 233-4777
(219) 233-3272
FAX (219) 233-87

LABORATORY REPORT

Client: Cole Associates
Attn: Fred Rouse
2211 E. Jefferson
South Bend, IN 46615

Report#: 22579-587

Status: Final

BelowProject/Site: Johnson Controls

Samples Submitted: Eight soils, one labratory trip blank for Volatile Organic Chemicals analysis.

Collected: 04-19-91 By: Client Received: 04-19-91

REPORT SUMMARY

See R-SUM-22597-3552 for a report summary of each sample set for the Johnson Controls project.

Detailed quantitative results are presented on the following pages.

CHAIN OF CUSTODY

Client: Cole Associates

Report#: 22579-587

Collected: 04-19-91

By: Client

Received: 04-19-91

REPORT SUMMARY

Volatiles	Site	Total Concentration	
	Hole #2 A - B 0" - 6"	4830	µg/kg
	Hole #2 C - D 6" - 12"	13,383	µg/kg
	Hole #2 E - F 12" - 18"	5240	µg/kg
	Hole #2 G - H 18" - 24"	171,508	µg/kg
	Hole #5 A - B 0" - 6"	9629	µg/kg
	Hole #5 B - C - 6" - 12"	7690	µg/kg
	Hole #5 C - D 12" - 18"	164,146	µg/kg
	Hole #5 G-H 18" - 24"	36,469	µg/kg

Client: Cole Associates

Report#: 22986-008

Collected: 04-26-91

By: Client

Received: 04-26-91

REPORT SUMMARY

Metal	Site	Maximum Concentration
Arsenic	ALL SITES	< 0.5 mg/kg
Barium	Hole # 11 A-B 0"-6"	190 mg/kg
Cadmium	Hole # 11 A-B 0"-6"	14 mg/kg
Chromium	Hole # 11 A-B 0"-6"	20 mg/kg
Lead	Hole # 11 A-B 0"-6"	72 mg/kg
Mercury	ALL SITES	< 0.2 mg/kg
Selenium	Hole # 11 A-B 0"-6"	1.1 mg/kg
Silver	ALL SITES	< 5.0 mg/kg

Volatiles	Site	Total Concentration
	3 A-B 0"-6"	230 µg/kg
	3 C-D 6"-12"	570 µg/kg
	3 E-F 12"-18"	5026 µg/kg
	3 G-H 18"-24"	19250 µg/kg
	6 G-H 18"-24"	4007 µg/kg
	6 E-F 12"-18"	7071 µg/kg
	6 C-D 6"-12"	1200 µg/kg
	6 A-B 0"-6"	560 µg/kg
	1 A-B 0"-6"	1564 µg/kg
	1 C-D 6"-12"	210 µg/kg
	1 E-F 12"-18"	2186 µg/kg
	1 G-H 18"-24"	3529 µg/kg
	4 A-B 0"-6"	12280 µg/kg
	4 E-F 12"-18"	3321 µg/kg
	4 G-H 18"-24"	17080 µg/kg
	4 I-J 24"-30"	261342 µg/kg
	15 A-B 0"-6"	9860 µg/kg
	15 C-D 6"-12"	7080 µg/kg
	15 E-F 12"-18"	7555 µg/kg
	15 G-H 18"-24"	1370 µg/kg

Client: Cole Associates

Report#: 23149-177

Collected: 05-03-91

By: Client

Received: 05-06-91

REPORT SUMMARY

Metal	Site	Maximum Concentration	
Arsenic	7 G-H 18"-24"	12	mg/kg
Barium	12 A-B 0"-8"	460	mg/kg
Cadmium	7 A-B 0"-6"	25	mg/kg
Chromium	7 G-H 18"-24"	170	mg/kg
Lead	12 A-B 0"-8"	930	mg/kg
Mercury	7 G-H 18"-24"	1.2	mg/kg
Selenium	7 E-F 12"-18"	1.9	mg/kg
Silver	ALL SITES	< 5.0	mg/kg

Volatiles	Site	Total Concentration	
	17 A-B 0"-6"	5277	µg/kg
	17 C-D 6"-12"	10376	µg/kg
	17 E-F 12"-18"	6374	µg/kg
	17 G-H 18"-24"	5870	µg/kg
	16 A-B 0"-6"	10632	µg/kg
	16 A-B 0"-6" Duplicate	7805	µg/kg
	16 C-D 6"-12"	11850	µg/kg
	16 E-F 12"-18"	7710	µg/kg
	16 G-H 18"-24"	12890	µg/kg

Report # 22579-587

Environmental Health Laboratories 110 S. Hill Street • South Bend, IN 46617 • Phone: 233-4777

SHADED AREA FOR LAB USE ONLY

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

CLIENT COMPANY ORDERING TEST: COLE ASSOCIATES

PROJECT/SITE NAME: Johnson Controls

SAMPLERS (Signature): Kevin M Parker

PWS ID #:

PROJECT #:

LAB #	COLLECTION DATE	COLLECTION TIME	DESCRIPTION OF COLLECTION SITE	# OF CONTAINERS	MATRIX CODE	SAMPLE DEPTH (FT)	WELL DEPTH (FT)	VOC's	OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	TURNAROUND TIME	CUSTODY SEAL
22579	4/19/91	11:05	HOLE #2 A-B 0"-6"	1	SO	0"-6"	—	✓		L	SW	
22580	4/19/91	11:35	HOLE #2 C-D 6"-12"	1	SO	6"-12"		✓		L	SW	
22581	4/19/91	11:45	HOLE #2 E-F 12"-18"	1	SO	12"-18"		✓		L	SW	
22582	4/19/91	12:08	HOLE #2 G-H 18"-24"	1	SO	18"-24"		✓		L	SW	
22583	4/19/91	1:20	HOLE #5 A-B 0"-6"	1	SO	0"-6"		✓		L	SW	
22584	4/19/91	1:35	HOLE #5 B-C 6"-12"	1	SO	6"-12"		✓		L	SW	
22585	4/19/91	1:50	HOLE #5 C-D 12"-18"	1	SO	12"-18"		✓		L	SW	
22586	4/19/91	2:05	HOLE #5 G-H 18"-24"	1	SO	18"-24"		✓		L	SW	
22587	4/19/91	2:00	LAB TRIP BLANK	2	RW	—	—	✓		L	SW	

TESTS REQUESTED (✓)

FIELD COMMENTS: CARRIER _____ AIRBILL NO _____ COOLER NO. _____ DATE SHIPPED _____

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT

RELINQUISHED BY (Signature)	RECEIVED BY (Signature)	DATE	TIME
Kevin M Parker		4/19/91	4:30
RELINQUISHED BY (Signature)	RECEIVED FOR LABORATORY BY (Signature)	DATE	TIME
	[signature]	4/19/91	4:25

LAB COMMENTS: Red - TOP, Black - Bottom

SHIPPING CONDITIONS: (Check One) ✓ Iced [ ] Ambient

TEMPERATURE: ____°C Lowest ____°C Highest ____°C Receipt

MATRIX CODES:

PW	[illegible]	SE	SEDIMENT
DW	[illegible]	SL	SLUDGE
GW	[illegible]	HW	HAZARDOUS WASTE
SW	[illegible]	WW	WASTE WATER
SO	[illegible]	PW	[illegible]

CONTAMINATION LEVEL

L	LOW (NO ODOR)	H	HIGH
M	MEDIUM	U	UNKNOWN

TURN-AROUND-TIME (TAT) – SURCHARGES

SW	[illegible]	0%	IV	IMMEDIATE [illegible]	100%
RV	[illegible]	50%	IW	[illegible]	125%
RW	[illegible]	75%	WH	[illegible]	200

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CHAIN OF CUSTODY RECORD

SHADED AREA FOR LAB USE ONLY

PAGE 1 OF 2

CLIENT COMPANY ORDERING TEST: COLE ASSOCIATES

PROJECT/SITE NAME: Johnson Controls

SAMPLERS (Signature): [illegible]

PWS ID #:

PROJECT #:

LAB #	COLLECTION DATE	COLLECTION TIME	DESCRIPTION OF COLLECTION SITE	# OF CONTAINERS	MATRIX CODE	SAMPLE DEPTH (FT)	WELL DEPTH (FT)	RCRA METALS	VOCs	OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	TURNAROUND TIME	CUSTODY SEAL
22986	4/26/91	2 40	HOLE # 03 A-B	1	SO	0-6'			✓		L	Std	
22987	4/26/91	2 40	HOLE # 03 C-D	1	SO	6"-10'			✓		L	Std	
22988	4/26/91	2 45	HOLE # 03 E-F	1	SO	12"-18'			✓		L	Std	
22989	4/26/91	2 49	HOLE # 03 G-H	1	SO	18"-24"			✓		L	Std	
22990	4/26/91	10 50	HOLE # 06 G-H	1	SO	18"-24"			✓		L	Std	
22991	4/26/91	10 30	HOLE # 06 E-F	1	SO	12"-18"			✓		L	Std	
22992	4/26/91	9 00	HOLE # 06 C-D	1	SO	6"-12"			✓		L	Std	
22993	4/26/91	8 55	HOLE # 06 A-B	1	SO	0"-6"			✓		L	Std	
22994	4/26/91	1 20	HOLE # 11 A B	1	SO	0"-6"		✓			L	Std	
22995	4/26/91	1 20	HOLE # 11 C-D	1	SO	6"-12"		✓			L	Std	
22996	4/26/91	11 00	HOLE # 01 A-B	1	SO	0"-6"			✓		L	Std	
22997	4/26/91	11 00	HOLE # 01 C-D	1	SO	6"-12"			✓		L	Std	

FIELD COMMENTS: CARRIER _____ AIRBILL NO. _____ COOLER NO. _____ DATE SHIPPED _____

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT.

RELINQUISHED BY (Signature)	RECEIVED BY (Signature)	DATE	TIME
[illegible]		4/26/91	
RELINQUISHED BY (Signature)	RECEIVED FOR LABORATORY BY (Signature)	DATE	TIME
	[illegible]	4/26/91	1700

LAB COMMENTS

SHIPPING CONDITIONS: (Check One) [✓] Iced [ ] Ambient

TEMPERATURE _____°C Lowest _____°C Highest _____°C Receipt

MATRIX CODES:

RW	[illegible]	SE	[illegible]
DW	[illegible]	SL	[illegible]
GW	[illegible]	HW	[illegible]
SW	[illegible]	DW	[illegible]
SO	[illegible]	PW	[illegible]

CONTAMINATION LEVEL

L	[illegible]	H	[illegible]
M	[illegible]	U	[illegible]

TURN-AROUND-TIME (TAT) SURCHARGES

SW	[illegible]	IV	[illegible]	[illegible]	[illegible]
WC	[illegible]	M	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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CHAIN OF CUSTODY RECORD

PAGE 2 OF 2

SHADED AREA FOR LAB USE ONLY

CLIENT/COMPANY ORDERING TEST: Golf Associates

PROJECT/SITE NAME: Johnson Controls

SAMPLERS (Signature): [signature]

PWS ID #:

PROJECT #:

LAB #	COLLECTION DATE	COLLECTION TIME	DESCRIPTION OF COLLECTION SITE	# OF CONTAINERS	MATRIX CODE	SAMPLE DEPTH (FT)	WELL DEPTH (FT)	TESTS REQUESTED (✓): RCRA Metals	VOC	OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	TURNAROUND TIME	CUSTODY SEAL
22998	4/26/91	11:15	HOLE #1 E-F	1	SO	12"-18"		✓			L	Sw	
22999	4/26/91	11:30	HOLE #1 G-H	1	SO	18"-24"		✓			L	Sw	
23000	4/26/91	11:45	HOLE #04 A-B	1	SO	0"-6"		✓			L	Sw	
23001	4/26/91	12:07	HOLE #04 E-F	1	SO	12"-18"		✓			L	Sw	
23002	4/26/91	12:15	HOLE #04 G-H	1	SO	18"-24"		✓			L	"	
23003	4/26/91	12:20	HOLE #04 I-J	1	SO	24"-30"		✓			L	"	
23004	4/26/91	2:15	HOLE #15 A-B	1	SO	0"-6"		✓			L	"	
23005	4/26/91	3:10	HOLE #15 C-D	1	SO	6"-12"		✓			L	"	
23006	4/26/91	3:15	HOLE #15 E-F	1	SO	12"-18"		✓			L	Sw	
23007	4/26/91	3:20	HOLE #15 G-H	1	SO	18"-24"		✓			L	Sw	
23008	4/26/91	3:20	LAB TRIP BLANK	1	RW	—	—	✓	✓		L	Sw	
[illegible]	4/26/91	3:20	LAB TRIP BLANK	1	RW	—	—	✓	✓		L	Sw	

FIELD COMMENTS: CARRIER _____ AIRBILL NO. _____ COOLER NO. _____ DATE SHIPPED _____

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT.

RELINQUISHED BY (Signature)	RECEIVED BY (Signature)	DATE	TIME
[signature]		4/26/91	5:00
RELINQUISHED BY (Signature)	RECEIVED FOR LABORATORY BY (Signature) [signature]	DATE 4/26/91	TIME 1700

LAB COMMENTS

SHIPPING CONDITIONS: [Check One] ☑ Iced ☐ Ambient

TEMPERATURE: ____ °C Lowest ____ °C Highest ____ °C Receipt

MATRIX CODES:

RW	REAGENT WATER	SE	SEDIMENT
DW	DRINKING WATER	SL	SLUDGE
GW	GROUND WATER	HW	HAZARDOUS WASTE
SW	SURFACE WATER	WW	WASTE WATER
SO		PW	POOL WATER

CONTAMINATION LEVEL

L	LOW (NO ODOR)	H	HIGH
M	MEDIUM	U	UNKNOWN

TURN-AROUND-TIME (TAT) – SURCHARGES

SW	STANDARD (10-15 WORKING DAYS) WRITTEN	0%	IV	IMMEDIATE (48-72 HOURS) VERBAL	100%
RV	[illegible] WORKING DAYS) VERBAL	50%	IW	IMMEDIATE (48-72 HOURS) WRITTEN	125%
RW	[illegible]	75%	WH	Weekend or Holiday	200%

Report # 23149-177

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CHAIN OF CUSTODY RECORD

SHADED AREA FOR LAB USE ONLY

CLIENT/COMPANY ORDERING TEST: COLE ASSOCIATES

PROJECT SITE: Johnson Controls

SAMPLER'S (Signature): Steven M Perkins

PROJECT #: 24

LAB #	COLLECTION DATE	COLLECTION TIME	SAMPLE SITE DESCRIPTION	# OF CONTAINERS	SAMPLE MATRIX	SAMPLE DEPTH	WELL DEPTH	METALS TOTAL	VOCs						OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	TURNAROUND TIME	CUSTODY SEAL
23149	5/3/91	9:10	HOLE #11 E-F 12"-18"	1	S	12"-18"	–	✓								L	S	NO
23150	5/3/91	9:15	HOLE #11 G-H 18"-24"	1	S	18"-24"	–	✓								L	S	
23151	5/3/91	9:35	HOLE #12 A-B 0"-8"	1	S	0"-8"	–	✓								L	S	
23152	5/3/91	9:40	HOLE #12 C-D 8"-14"	1	S	8"-14"	–	✓								L	S	
23153	5/3/91	9:50	HOLE #12 E-F 14"-20"	1	S	14"-20"		✓								L	S	
23154	5/3/91	9:55	HOLE #12 G-H 20"-26"	1	S	20"-26"		✓								L	S	
23155	5/3/91	10:05	HOLE #13 A-B 0"-6"	1	S	0"-6"		✓								L	S	
23156	5/3/91	10:10	HOLE #13 C-D 6"-12"	1	S	6"-12"		✓								L	S	
23157	5/3/91	10:20	HOLE #13 E-F 12"-18"	1	S	12"-18"		✓								L	S	
23158	5/3/91	10:25	HOLE #13 G-H 18"-24"	1	S	18"-24"		✓								L	S	
23159	5/3/91	10:35	HOLE #14 A-B 0"-6"	1	S	0"-6"		✓								L	S	
23160	5/3/91	10:40	HOLE #14 C-D 6"-12"	1	S	6"-12"		✓								L	S	
23161	5/3/91	10:50	HOLE #14 E-F 12"-18"	1	S			✓								L	S	

TEST(S) REQUESTED (X)

FIELD COMMENTS: NO WATER BOTTLES - NO FIELD TRIP BLANK SUBMITTED

LAB COMMENTS:

RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED BY (Signature)	RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED BY (Signature)
Steven M Perkins	5/6/91						

RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED FOR LABORATORY BY (Signature)	DATE	TIME
			Rose Baugh	5-6-91	8:46

SHIPPING CONDITIONS: (Check One) ☒ Iced ☐ Ambient

TEMPERATURE: ____ °C Lowest ____ °C Highest ____ °C Receipt

MATRIX:

DRINKING WATER = D, SOIL/SEDIMENT = S, GROUND WATER = G, SLUDGE/WASTE = SL, OIL = O, OTHER = O

TURN-AROUND-TIME (TAT)

RUSH = R, 5-DAY = F, 48-HOUR = T, STANDARD = S

Non-Standard TATs are Surcharged

OBSERVED CONTAMINATION LEVEL

LOW = L (NO DETECTABLE ODOR), HIGH = H, MEDIUM = M, UNKNOWN = U

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CHAIN OF CUSTODY RECORD

SHADED AREA FOR LAB USE ONLY

CLIENT/COMPANY ORDERING TEST: COLE ASSOCIATES

PROJECT SITE: Johnson Controls

SAMPLERS (Signature): [illegible]

PROJECT #:

LAB #	COLLECTION DATE	COLLECTION TIME	SAMPLE SITE DESCRIPTION	# OF CONTAINERS	SAMPLE MATRIX	SAMPLE DEPTH	WELL DEPTH	TOTAL METALS	VOC's	OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	TURNAROUND TIME	CUSTODY SEAL
23162	5/3/91	1100	HOLE #14 18"-24" G-H	1	S	18"-24"		✓			L	S	No
23163	5/3/91	1130	HOLE #7 A-B 0"-6"	1	S	0"-6"		✓			L	S	
23164	5/3/91	1145	HOLE #7 C-D 6"-12"	1	S	6"-12"		✓			L	S	
23165	5/3/91	110	HOLE #7 E-F 12"-18"	1	S	12"-18"		✓			L	S	
23166	5/3/91	120	HOLE #7 G-H 18"-24"	1	S	18"-24"		✓			L	S	
23167	5/3/91	130	HOLE #9 A-B 0"-6"	1	S	0"-6"		✓			L	S	
23168	5/3/91	140	HOLE #9 C-D 6"-12"	1	S	6"-12"		✓			L	S	
23169	5/3/91	210	HOLE #9 E-F 12"-16"	1	S	12"-16"		✓			L	S	
23170	5/3/91	230	HOLE #17 A-B 0"-6"	1	S	0"-6"			✓		L	S	
23171	5/3/91	240	HOLE #17 C-D 6"-12"	1	S	6"-12"			✓		L	S	
23172	5/3/91	245	HOLE #17 E-F 12"-18"	1	S	12"-18"			✓		L	S	
23173	5/3/91	250	HOLE #17 G-H 18"-24"	1	S	18"-24"			✓		L	S	
23174	5/3/91	255	HOLE #16 A-B 0"-6"	1	S	0"-6"			✓		L	S	

TEST(S) REQUESTED (X)

FIELD COMMENTS: NO WATER BOTTLES - NO FIELD TRIP
BLANK SUBMITTED

LAB COMMENTS:

RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)
[illegible]	5/6/91						

RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED FOR LABORATORY BY: (Signature)	DATE	TIME
			[illegible]	5-6-91	8:46

SHIPPING CONDITIONS: (Check One) ☒ Iced ☐ Ambient

TEMPERATURE: _____°C Lowest _____°C Highest _____°C Receipt

MATRIX:

DRINKING WATER - D; SOIL/SEDIMENT - S; GROUND WATER - G; SLUDGE/WASTE - W; POOL WATER - P; OTHER - O

TURN-AROUND-TIME (TAT)

RUSH - R; 5 DAY - F; 48 HOUR - T; STANDARD - S; Rush Standard TAT are Surcharged

OBSERVED CONTAMINATION LEVEL

LOW - L (NO DETECTABLE ODOR); HIGH - H; MEDIUM - M; UNKNOWN - U

Report # 23149-171

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SHADED AREA FOR LAB USE ONLY

CHAIN OF CUSTODY RECORD

CLIENT/COMPANY ORDERING TEST: COLE ASSOCIATES

PROJECT SITE: JOHNSON CONTROLS

SAMPLERS (Signature): [illegible]

PROJECT #:

LAB #	COLLECTION DATE	COLLECTION TIME	SAMPLE SITE DESCRIPTION	# OF CONTAINERS	SAMPLE MATRIX	SAMPLE DEPTH	WELL DEPTH	TOTAL METALS	VOC's						OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	TURNAROUND TIME	CUSTODY SEAL
23175	5/3/91	3:00	HOLE # 16 C-D 6"-12"	1	S	6"-12"			✓							L	S	NO
23176	5/3/91	3:10	HOLE # 16 E-F 12"-18"	1	S	12"-18"			✓							L	S	↓
23177	5/3/91	3:15	HOLE # 16 G-H 18"-24"	1	S	18"-24"			✓							L	S	↓

FIELD COMMENTS: NO WATER BOTTLES - NO FIELD TRIP BLANK SUBMITTED

LAB COMMENTS:

RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED BY (Signature)	RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED BY (Signature)
[illegible]							

RELINQUISHED BY (Signature)	DATE	TIME	RECEIVED FOR LABORATORY BY: (Signature)	DATE	TIME
			Rose Rough	5-6-91	8:46

SHIPPING CONDITIONS: (Check One) ☒ Iced ☐ Ambient

TEMPERATURE: _____ °C Lowest _____ °C Highest _____ °C Receipt

MATRIX:
DRINKING WATER = D; SOIL/SEDIMENT = S; GROUND WATER = G; SLUDGE/WASTE = SL; [illegible] = P; OTHER = [illegible]

TURN-AROUND-TIME (TAT)
RUSH = R; 5-DAY = F; 48 HOUR = T; STANDARD = S; [illegible]

OBSERVED CONTAMINATION LEVEL
LOW = L (NO DETECTABLE ODOR); HIGH = H; MEDIUM = M; UNKNOWN = U

Report # 23263-272

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CHAIN OF CUSTODY RECORD

SHADED AREA FOR LAB USE ONLY

PAGE 1 OF 1

CLIENT COMPANY ORDERING TEST: CCI Associates

SAMPLERS (Signature): [signature]

PROJECT/SITE NAME: Johnson Controls

PAYS TO #:

PROJECT #: 24272

LAB #	COLLECTION DATE	COLLECTION TIME	DESCRIPTION OF COLLECTION SITE	# OF CONTAINERS	MATRIX CODE	SAMPLE DEPTH	SAMPLE SIZE	TESTS REQUESTED (✓): Acid Metals	OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	SAMPLE TYPE	CUSTODY SEAL
23263	5/10/91	235	HOLE #10 G'-H	1	SO	18-24"		✓		U	SO	DW
23264	5/10/91	315	HOLE #8 G-H	1	SO	18"-24"		✓		U	SO	
23265	5/10/91	257	HOLE #8 C-D	1	SO	8"-12"		✓		U	SO	
23266	5/10/91	306	HOLE #8 E-F	1	SO	12"-18"		✓		U	SO	
23267	5/10/91	1208	HOLE #10 C-D	1	SO	12"-18"				U	SO	
23268	5/10/91	1145	HOLE #10 A-B	1	SO	0'-6"		✓		U	SO	
23269	5/10/91	245	HOLE #8 A-B	1	SO	0"-6"		✓		U	SO	
23270	5/10/91	1252	HOLE #10 E-F	1	SO	12"-18"		✓		U	SO	
23271	5/10/91	400	~~LAB~~ FIELD TRIP BLANK	1	AQ			✓		U	SO	✓
23272	5/10/91	400	FIELD TRIP BLANK	1	AQ			✓		U	AQ	AQ

FIELD COMMENTS: CARRIER: _____ AIRBILL NO. _____ COOLER NO. _____ DATE SHIPPED _____

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT.

RELINQUISHED BY (Signature): [signature]

RECEIVED BY (Signature): DATE 5/13/91 TIME

RELINQUISHED BY (Signature): RECEIVED FOR LABORATORY BY (Signature): [signature] DATE 5/13/91 TIME 8:55 am

LAB COMMENTS: Sample #23271 is listed as a field blank, but it was not a lab field blank, (DJ 5-13-91) — acid, & samples as client originally indicated. Submitted for [illegible]

SHIPPING CONDITIONS: (Check One) X Iced ☐ Ambient

TEMPERATURE _____ °C Lowest _____ °C Highest _____ (Receipt) [illegible] numbers

MATRIX CODES:

RW	RINSE WATER	SE	SEDIMENT
DW	DRINKING WATER	SL	SLUDGE
GW	GROUNDWATER	HW	HAZARDOUS WASTE
SW	SURFACE WATER	WW	WASTEWATER
SO	SOIL	PW	PURE WATER

CONTAMINATION LEVEL

L	LOW (BELOW)	H	HIGH
M	MEDIUM	U	UNKNOWN

TURN-AROUND-TIME (TAT) - SURCHARGES

SW	STANDARD (10 WORKING DAYS WRITTEN)	0%	IV	IMMEDIATE (48 2/3 HOURS VERBAL)	100%
RV	RUSH (5 WORKING DAYS VERBAL)	50%	IW	IMMEDIATE (48 2/3 HOURS WRITTEN)	125%
RW	RUSH (5 WORKING DAYS WRITTEN)	75%	WH	WEEKEND/HOLIDAY	200%

Report # 23548-552

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CHAIN OF CUSTODY RECORD

HADED AREA FOR LAB USE ONLY

PAGE 1 OF 1

CLIENT COMPANY ORDERING TEST: Cole Associates

SAMPLERS (Signature):

PROJECT/SITE NAME: Johnson Control

PWS ID #:

PROJECT #:

LAB #	COLLECTION DATE	COLLECTION TIME	DESCRIPTION OF COLLECTION SITE	# OF CONTAINERS	MATRIX CODE	SAMPLE DEPTH - FT	WELL DEPTH - FT	TOTAL Metals	OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	TURNAROUND TIME	CUSTODY SEAL
23548	5/17	1:20	Boring # 18 A 0-6"	1	SO	0.5	–	X		L	SW	✓
23549	5/17	1:25	18 B 6"-12"	1		1	–	X		L	SW	↓
23550	5/17	1:30	18 C 12-18"	1		1.5	–	X		L	SW	↓
23551	5/17	1:45	18 D 18"-24"	1		2	–	X		L	SW	↓
23552	Fb	Nd	Lab Water Blank (G)	1	RW	–	–	X		L	SW	✓

TESTS REQUESTED (✓)

FIELD COMMENTS: CARRIER _____ AIRBILL NO. _____ COOLER NO. _____ DATE SHIPPED _____

# of containers needed is 1 per sample. DJ 5-20-91

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT.

RELINQUISHED BY (Signature)	RECEIVED BY (Signature)	DATE	TIME
Frederick L. Longo Jr.			
RELINQUISHED BY (Signature)	RECEIVED FOR LABORATORY BY (Signature)	DATE	TIME
	[illegible]	5/17/91	1530

LAB COMMENTS: FTB Collected for metals 5/17/91 SP

SHIPPING CONDITIONS: (Check One) [✓] Iced [ ] Ambient

TEMPERATURE: _____ °C Lowest _____ °C Highest _____ °C Receipt

MATRIX CODES:

RW	REGULATED WATER	SE	SEDIMENT
DW	DRINKING WATER	SL	SLUDGE
GW	GROUND WATER	HW	HAZARDOUS WASTE
SW	SURFACE WATER	WW	WASTE WATER
SO	SOIL	PW	POOL WATER

CONTAMINATION LEVEL

L	LOW (NO ODOR)	H	HIGH
M	MEDIUM	U	UNKNOWN

TURN-AROUND-TIME (TAT) – SURCHARGES

SW	STANDARD (10-15 WORKING DAYS) WRITTEN	0%	IV	IMMEDIATE (48-72 HOURS) VERBAL	100%
RV	RUSH (3-5 WORKING DAYS) VERBAL	50%	IW	IMMEDIATE (48-72 HOURS) WRITTEN	125%
RW	RUSH (3-5 WORKING DAYS) WRITTEN	75%	WH	Weekend or Holiday	200%

REPORT SUMMARY, Continued

Detailed results are presented in the main body of the report..

Method blanks MB-8260E on analysis date 05-10-91 contained trichloroethylene at a concentration of 3.2ug/L as a result of carryover from sample # 22585 which had a very high level of trichloroethylene.

No volatile organic chemicals were detected at concentrations exceeding practical quantitation limits in any of the other the laboratory trip blanks or the method blanks.

Summary results are presented on the following pages and detailed results are presented in the main body of the report. Matrix spike and blank results are presented in the quality control section of the report.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

APPROVED BY: _____ Laboratory Director

DATE: 6-14-91

Environmental Health Laboratories

110 S. Hill Street
South Bend, IN 46617
(219) 233-4777
(219) 233-3272
FAX (219) 233-6207

LABORATORY REPORT SUMMARY

Client: Cole Associates
Attn: Fred Rouse
2211 E. Jefferson
South Bend, IN 46615

Report#: SUM-22597-3552

Status: Final

Project/Site: Johnson Controls

Total Samples Submitted: Thirty five (35) soil samples fot total RCRA metals and three (3) trip blanks.

Thirty six (36) soil samples for Volatile Organic Chemicals and two (2) trip blanks.

Collected: 04-19 to 05-17-91

By:Client

REPORT SUMMARY

A total of 71 soil samples and 5 water samples were submitted for analysis. The water samples were variably labeled as Lab Trip Blanks or Field Trip Blanks on the Chain of Custody Sheets submitted to the laboratory. This same labeling was used in the detailed reports. However, all blanks were prepared in the field from reagent grade water, thus they are technically Field Trip Blanks.

Lab duplicate VOC results are presented for three sets of soil samples. In general, duplicate results for VOCs on separate aliquots of soil even when taken from the same sample container will usually exhibit poor reproducibility since soils are generally not homogeneous. Attempts to make them homogeneous in the field or lab will cause substainale

All results for both RCRA metals and Volatile Organic Chemicals.

Metals: Results are summarized in the tables below by sample set submission date. The table list the highest concentration observed for each metal in that sample set and the site from which that sample originated. Detailed results are presented in the main body of the report..

No metals were detected at concentrations exceeding practical quantitation limits in the laboratory trip blanks or the method blanks.

Volatile Organic Chemicals: Results are summarized in the tables below by sample set submission date. The tables list the total volatiles concentration observed for each site in a sample set. For those sites where contamination was detected, one to twelve of the same set of chemicals was consistently found. cis-1,2-dichloroethylene, trichloroethylene, tetrachloroethylene, and 1,1,1-trichloroethane were generally present in high concentrations.

Environmental Health Laboratories

Cole Associates

Johnson Controls

04-19-91 thru 05-17-91

Division of IMAB Technology Corporation

12-2-91

8:00 MT on site
Rig on site
Fred Rouse Johnson Controls On-site
Tom Rutledge Enviro Corp on site

8:10 JEG on site

8:15 Tour Facility to locate guard shack
Recieve Contractors Passes
Converse with E&L about sampling protocol
Visit site

9:00 Stake borings. Norm off for decon trough

9:45 Clearance for utility lines by Johnson Controls Dave Houlan

10:00 Norm returns with decon trough

10:15 Meeting with E&L Labs
JEG, MT, Larry Vanderbyl, Fred Rouse, Jerry (E&L)

Lab samples
3-soil 2bt chamber 40 mils
1g - 2g - 5g

3 water Full regular 40 mils

Mobile Lab Sample
3-soil 1/4" 1/2" - 2"
3-H_2O 1/4" 1/2" - 2"

National® Brand

56-401	Ginger	Record
56-402	Black	2 Cols.
56-403	Red	3 Cols.
56-404	Blue	4 Cols.
56-406	Green	6 Cols.
56-408	Chestnut	8 Cols.
56-412	Maroon	12 Cols.
56-431	Black	S.E. Led.
56-441	Red	Cash

Made in U.S.A.

80 Pages

Johnson Controls, INC.

Goshen, Indiana

DATE INITIATED 12/1/92

JOP 392

Marilyn 562

Jerry G 313 981 0054

Fire 533-8644

Police 533-8644

Hospital 533-2141 (Goshen General)

Poison Controls 1-800-382-9097

(4)

12-3-91

7:55 MT on site
Tom Rutledge on site

8:05 Larry Vanderbeck on site

8:10 JEG on site

8:15 Dave Cole + Associates
Fred Rouse Cole + Associate

8:35 Rig on site
Filling w/ water

8:45 Check in with lab. Will be ready for samples by 9:00

9:00 Steam cleaner hose frozen. Thawing out in Truck

9:20 Hose thawed. Cleaning augers and split spoons

9:45 Rig in place MW #3

10:00 Sample collected at 10-12' B.G.

10:30 Installing well MW #3

Well Construction
Screened Interval 9-14' B.G.
Sand Pack 1' Above Screened Interval
2' Bentonite Plug
Grouted to 1' B.G. with Portland

(5)

12-3-91

Flush Mount finished with Concrete

12:15 Filling with H_2O

12:30 Cleaning Augers

1:00 Finished Cleaning Augers

1:15 In place for MW #4

1:30 Break for Lunch

2:00 Return from Lunch

2:10 Start MW #4

2:55 Sample Soil at 13' - 15' B.G.

3:00 Setting well screen from 11-16' B.G.

4:00 Grout Pump is not working correctly. Norm repairing

4:15 Grout Pump working again

4:40 MW #4 Finished
Screen set from 11-16' B.G.
Sand Pack to 1' above screen
1' Sodium Bentonite Seal
Grouted with Concrete to 1½' B.G.
Flush Mount finished with concrete

(2)

12-2-91

Matrix Spikes

10:45 Milan Supply arrives with well materials

11:30 Rig in Place MW #1

11:45 Milan unloaded off site
Break for Lunch

12:20 Back from Lunch

12:35 Norm Jones, Matt Heffron, Tim Rutledge
MT, JEG, Fred Rouse, Larry Vanderbosch
on site start MW #1

Gravel 0-4"
4"-2.5' Medium grained sand
2.5-4.5' Black sand w/ Plastic Debris
4.5'-7' Silty Sandy Blk Dry
7'-15' Gravel & Sand
15-16.5' Clay
Dragger tube reading at ≈ 5' BG 0 ppm
16.5-45' BG Gravel & sand
Stopped at 45' BG

Setting well screen from 8-13' BG

(3)

12-2-91

Well Construction
Screen Set from 8-13' BG
Packed with Filter Sand to 7' BG
Capped with 1-1½' of Bentonite

3:00 MW #2
Water at ≈ 13'6" bg
4" Gravel
4"-3.5 Medium Brown sand
3.5-5' BG Silty Clay loam
5'-18' BG Medium sand w/gravel

Well Construction
Screen set from 13'-18' BG
Sand pack to 12' BG
2' of Bentonite Seal

4:40 MW #2 Completed
Need H_2O for Auger cleaning
No H_2O on outside of Quality

5:00 Maintenance turns on H_2O
H_2O outside still not on
Page Maintenance again no one shows up.

5:15 Jenny looses bailer developing MW #1 fish it out

5:30 Grouting MW #1 and MW #2

5:57 MT JEG, Tom Rutledge, NJ, MH off site

(8)

9:25 begin AH 2

10:00 SS 5-7'
10:07 SS 10-12'

10:15 Burner on Steam Cleaner will not light
Take Soil Samples to lab

10:40 GW sample from 15' B.G.

10:55 GW sample from 25' B.G.

11:10 GW sample from 35' B.G.

11:35 GW sample from 45' B.G.

11:55 GW sample at 55' BG

12:20 Hit clay layer at 58' BG
Advanced ≈ 2' into layer and stopped
will consider this the confining layer. Clay
is Gray, very dense

12:30 GW sample from 60' B.G.

12:45 Samples into lab

1:30 Augers out & ground Hole plugged
with Bentonite Chips to 1' B.G.
Capped with native cuttings.
All water and soil containerized

(9)

1:35 Break for lunch

2:00 Return from lunch

2:45 All augers and sampling equipment
cleaned. Filthy rig with H_2O

2:55 Rig in place AH 2

3:10 Soil Sample 5-7'

3:18 Soil Sample 10-12' Sent to Lab for
Purge + Trap Analysis

3:30 H_2O Sample 15'

3:50 H_2O Sample 25'

4:10 H_2O Sample 35'

4:25 H_2O Sample 45'

4:35 H_2O Sample 55'

4:50 H_2O Sample 65'

5:10 H_2O Sample 75'

5:20 H_2O Sample 84' Hit Confining
layer at 84' B.G.

5:30 Cleaning up Augers
6:00 Off site up

(6)

12-3-91

4:45 Larry Vanderbosch off site will return at 8:00 am tomorrow
Cole Associates Fred and Daye off site, Provided TVI with survey data

4:55 Finishing MW #3 Flush Mount in Concrete
Construction finished

5:10 Cleaning up rinsing augers

5:15 Tom Rutledge off site

5:40 MT, NJ, MH off site

(7)

12-4-91

8:05 MT on site
Rig on site

8:10 H_2O faucet frozen, (H_2O is on)

8:15 Using butane torch to thaw faucet

8:20 Static Water Levels
MW#3 ~~[illegible]~~ 10.35' BTOC

MW#2 13.08' B.C 13.8' BTOC

MW #1 8.6' BTOC

MW#1 799.14 CE
8.6 BTOC
790.54 SWL

MW#2 803.51 CE
13.08 BTOC
790.43

MW#3 800.72 CE
10.35 BTOC
790.37

MW 1 790.54
MW 2 790.43
MW 3 790.37

(12)

12-6-91

8:00 MT, MH, NJ
Tom Rutledge and Larry Vandenbosch on site
Filling Rig w/ H_2O

8:45 Start AH #4

9:30 SS soil at 5-7 B.G.

9:50 SS soil at 10-12' B.G.

10:05 GW sample at 15' B.G.

10:20 GW sample at 25' BG

10:30 GW sample at 35' B.G.

10:40 GW sample at 45' B.G.

10:50 GW Sample at 55' BG

11:00 GW Sample at 65' BG

11:10 GW Sample at 75' B.G.

11:30 GW Sample at 85' BG

11:50 GW Sample at 95' BG

12:10 GW Sample at 97' BG
Confining layer

1:00 Pumps out of hole
Boring plugged from water table to surface with hole plug 7 bags

(13)

1:35 Back on site
Decon Augers, equipment

2:[illegible] Finished with Decon
Starting AH 5

2:20 SS soil sample 5-7' BG

2:25 H_2O at ≈ 8' B.G.

2:40 H_2O sample at 10' B.G.

2:55 GW sample at 20' BG

3:00 GW sample at 30' BG

3:13 GW sample at 40' BG

3:21 GW sample at 50' BG

3:25 GW sample at 60' BG

3:33 GW sample at 70' BG

3:40 GW sample at 80' BG

3:50 GW sample at 90' BG

4:00 GW sample at 100' BG

4:10 GW sample at 110' BG

4:20 GW Sample at 115' BG

(10)

12-5-91

8:10 MT on site
Rig filling w/ water
Tom Rutledge on site
No one from Lab on site

8:25 Call Fred Rouse discuss the Lab situation. Said will call lab and make sure tech will be here

9:00 Rig needs fuel

9:15 Return with fuel

9:25 Fred Rouse on site

9:30 Begin AH #3

9:49 SS Soil 5-7' BG

10:00 SS Soil 10-12' BG
Meeting with JOE McKorkel, Fred Rouse
MT and Terry Hannon Plant Manager
Everything went fine

11:00 Back on site
Sample GW at 15'

11:20 Sample GW at 25'

11:40 GW at 35' B.G

11:55 GW at 45' B.G

(11)

12:05 Sample GW at 55' B.G

12:15 Sample GW at 65' B.G

12:35 Sample GW at 75' BG

12:50 Sample GW at 85'

1:05 Sample GW at 95'

1:30 Sample GW at 105'

1:45 Sample GW at 110', Confining layer hit at ≈ 109'

2:45 All augers out of ground

2:55 Grouted bore hole

3:00 Break for Lunch!
Tom Rutledge Home

3:35 Back from lunch
Begin Decon

4:55 Finished Decon Augers and Equipment

5:10 Off site

(14)

Confining layer at 114' BG

5:15 MT offsite

(15)

12-9-91

8:00 MT onsite
Rig refueling
Matt setting up

8:20 Rig returns
Filling w/ H_2O

8:40 Begin #6

8:47 SS soil at 5-7' B.G

8:55 SS soil at 10-12 B.G

9:00 GW sample at 18' B.G

9:09 GW sample at 28' BG

9:16 GW Sample at 35' BG

9:26 GW Sample at 45' BG

9:35 GW Sample at 51' BG

9:50 Begin Decon

10:15 Finish Decon

10:20 Move to #7
Need utility clearance
Joe McCartel says all is clear but
will check drawings

10:50 All clear from Joe McCartel

(16)

10:52 Begin AH7

11:07 SS sample at 5-7' BG

11:12 SS sample at 10-12' BG

11:18 GW sample at 15' BG

11:23 GW sample at 25' BG

11:32 GW Sample at 35' BG

11:42 GW sample at 45' BG

11:49 GW Sample at 55' BG

11:58 GW Sample at 61' BG

12:30 Break for Lunch All augers out of ground

1:00 Back from Lunch
Decon Augers

1:30 Out of H_2O
refilling Tank

1:45 Finish Decon Augers
Trying to get Clearance for next auger hole. Joe McCartel gives ok for drilling location

(17)

2:50 Begin AH8

3:10 SS soil sample at 5-7' BG

3:25 SS soil sample at 10-12' BG

3:32 GW sample at 15' BG

3:41 GW sample at 25' BG

3:53 GW sample at 35' B.G.

4:05 GW sample at 43' B.G. 2 feet into the confining layer

4:25 All Augers out of ground

4:50 Finish Decon Augers
Begin Filling Ring for tomorrow

5:00 MT, NJ, MH, TR off site

(18)

12-10-91

8:00	MT, MA, NT on site
8:05	Larry Vanderbosch Tom Rutledge already here
8:10	Call Joe McCorkel to give clearance for boring
9:20	All clear by Joe M.
9:40	Begin AH9
9:50	SS sample 5-7' BG
10:02	SS sample 10-12' BG
10:15	GW sample at 15' BG
10:23	GW sample at 25' BG
10:36	GW sample at 35' BG
10:51	GW sample at 45' BG
11:02	GW sample at 55' BG
11:14	GW sample at 65' BG
11:25	GW sample at 75' BG
11:37	GW sample at 80' BG Confining layer at 79' BG

(19)

11:40	Steam Cleaning Augers + equipment
12:30	Finish with Cleanup moving rig
12:40	Check with Lab no results yet
12:45	Break for Lunch
1:15	Back from Lunch Check with Lab Results indicate hits at 5-7, 10-12, 15, 25 ft below grade
1:45	Setting up to begin AH10
2:20	SS soil at 5-7' BG
2:30	SS soil at 10-12' BG
2:40	GW sample at 15' BG
2:50	GW sample at 25' BG Dup's taken for lab analyses
3:00	GW sample at 35' BG
3:10	GW sample at 45' BG
3:20	GW sample at 55' BG
3:32	GW sample at 65' BG
3:42	GW sample at 75' BG Clay encountered at 74' BG

(20)

3:45 Removing Augers
Sampling MW3

4:00 Removing Augers
Sampling MW 4

4:25 Cleaning Augers
Sampling MW2

4:45 Finished with Decon

5:00 Check w/ Lab about samples
completed

5:10 Call into AEG. NJ, MT, TR off site

6:00 Back to Lab

6:15 MT off site

12-11-91

(21)

8:00 MT on site
MH, NJ, TR on site

8:20 Call TC to get at the heavier
duty grout pump

9:00 Get Grout pump from Gaston Farm + Lawn
Mat H goes to Wabash, Ind to
pick up pump

10:00 Back on site begin MW5

11:00 Call to JEG
Take split spoons at 5-7 and at
GW table for conformation sampling
to be sent to lab in South Bend
for analyses. Tell Norm to
bring chain wrenches and rotating
head for 4" wells to christmas
party

11:10 well in place conformation samples
not collected as phone at AEG was
tied up for ≈1 hr and couldn't
communicate on sampling procedures

11:30 Developing well

12:45 Finished Developing well
Cleaning up work area

1:00 MT, NJ off to Lunch
MH not back from Wabash, Ind.

(22)

1:40 MT, NJ, MH back on site
MH not up at lunch about
5 minutes after arrival

1:50 Decon Augers
Fred Rasse on site.
We have verbal approval to auger
on property west of Monroe Street
and North of Tracks at Day Machinery
Inc. Also have clearance for right
of way work

2:20 Finish Decon on Augers

2:25 In place for MW #6

2:30 SS sample at 5-7' BG

2:40 SS sample at 10-12' BG.

3:05 Setting well

3:45 Well in place
Grouting annular space

4:15 Well Grouted Pro Cover in place

4:25 Begin well development

5:05 Finished with development
Cleaning up

5:30 MT, NJ, MH, TR off site

12-12-91

(23)

8:00 MT, NJ, MH, TR on site

8:15 Filling w/ H_2O

8:30 MT MH off to get
Portland Cement
NJ, TR off to get black
plastic pipe to pump grout

9:00 MT, MH back with 20 bags of
Portland Cement
NJ, TR already back

9:05 MT to meeting w/ Terry Hammon
Pouring rain

10:30 MT back from meeting w/ TH
Hole finished at 18' BG
Placing well

11:00 Well in place Prepping for
grouting

12:00 Begin grouting well

12:10 Augers stuck, Pull down chain
on mast head breaks. Tool Crib
at Johnson Controls Repairs broken
chain.

12:20 Augers still stuck, using head and
spud winch. Spud winch chain
breaks

(24)

12:30 Rigs moving begin removing flights

12:40 Begin grouting again

1:30 Finished grouting to 35' BG

1:45 Break for Lunch

2:20 Back from Lunch

2:30 Grouting remaining annular space

3:15 Finished grouting and cleaning up augers. Rig parked in parking area.

3:20 MT off site
MH, NJ off site
TR off site

(25)

12-16-91
8:30 MT on site
NJ, MH, TR on site rig filled with H_2O and Diesel.

9:10 Clearance given from utilities
Faint checking markings
Begin MH111

9:30 SS soil sample 5-7' BG

9:40 SS soil sample 10-12' BG

9:50 GW sample 15' BG

10:00 GW sample 25' BG

10:20 GW sample at 35' BG

10:40 GW sample at 45' BG

10:50 GW sample at 55' BG

11:05 GW sample at 65' BG
Confining layer at 63' BG

12:00 Rigs moved from ground
However pull down sprocket has only 2 teeth remaining

2:45 Removal motor Taking it to Luse IH dealer

1:00 Luse does not have sprocket we need Going to TSC

(26)

1:15 TSC has parts but no machine shop

1:40 Back to Case, I.H. Machine shop will weld pieces and pass onto shaft

2:00 Break for lunch

2:30 Back from lunch pick up motor from Case I.H.

2:40 Back on site Johnson Controls will weld brake adjustment block on Mast head

3:15 welding complete replacing motor back on rig TR (offsite)

4:15 Motor in place adjusting chain tension

4:30 Chain Tension adjusted

4:45 Drain water clean up site

5:00 MT, NJ, MH off site

12-17-91 Cold (27)

7:45 MT, NJ, MH on site TR here filling rig w/ H_2O

8:10 Larry Ulm Here

8:25 Rig in place for AH12

8:35 SS sample 5-7' BG

8:45 SS sample 10-12' BG

8:50 GW sample at 15' BG Confirmation sample and duplicate collected

9:15 GW sample at 25' BG

9:25 GW sample at 35' BG

9:38 GW sample at 45' BG

9:50 GW sample at 58' BG Confining layer at 48' BG

10:20 All augers out of ground

10:40 Decon completed

10:50 Rig in place AH13

11:05 SS soil sample at 5-7' BG

(28)

11:15 SS soil sample at 10-12' BG

11:27 GW sample at 15' BG

11:37 GW sample at 25' BG
Information samples collected

11:50 GW sample at 35' BG

11:55 GW sample at 45' BG

12:05 GW sample at 55' BG

12:15 GW sample at 65' BG

12:30 GW sample at 75' BG

1:00 Rygers out Begin decon

1:30 Finish Decon Compressor Broke at Finish

1:40 Stop at TSC to get new compressor None in stock

1:55 Stop at Ingersoll Rand None in stock

2:00 Back to Hotel to call Granger will bring one out at ≈ 5:00pm

2:30 Break for Lunch

(29)

3:00 Back from Lunch

3:45 Begin AH 19

4:00 SS sample at 5-7' BG

4:10 SS sample at 10-12' BG

4:20 GW sample at 15' BG

4:35 GW sample at 25' BG

4:45 GW sample at 35' BG

4:55 GW sample at 45' BG

5:05 GW sample at 55' BG

5:15 GW sample at 65' BG

5:25 GW sample at 75' BG

5:35 GW sample at 85' BG

5:45 GW sample at 91' BG
continuing layer at 90' BG

6:15 Rygers out
Begin Decon

7:15 IT off site

(30)

12-19-91 Cold Clear
8:00 MT on site
TR, LVan on site

8:15 NJ, MH on site

8:30 Rig off site to refuel

9:00 Back and filling w/ H_2O

10:00 Begin AH 15

10:15 SS soil sample at 5-7' BG

10:20 SS soil at 10-12' BG

10:30 GW sample at 15' BG

10:40 GW sample at 25' BG

10:50 GW sample at 35' BG

11:00 GW sample at 45' BG

11:15 GW sample at 55' BG
confining layer at 54' BG

11:25 All augers out

11:30 Begin Decon

12:00 Lunch

(31)

12:40 Back from lunch
Filling w/ H_2O

1:30 Meeting w/ Johnson Controls

2:30 Back from meeting
AH 16 down to 55' BG

3:05 Sample from 75' BG
Confining layer at ≈ 73' BG

3:30 Augers out

4:15 Decon complete. Cleaned up
NJ, MH, TR off site

4:20 Helping JC people move dirt
from Day Manufacturing Facility

4:45 Soil removed from Day's

5:30 MT off site

(32)

12-20-91 Clear, Cold

8:00 MT on site
TR on site

8:15 NJ, MH on site

8:40 AH 17

8:50 SS sample at 5-7 BG

9:00 SS at 10-12 BG

9:10 GW sample at 15' BG

9:20 GW sample at 25' BG
Contamination samples also collected

9:30 GW sample 35' BG

9:40 GW sample at 45' BG

9:50 GW sample at 47' BG
Confining layer ≈46.5' BG

10:10 Augers out Begin Decon

11:15 NJ, MH, TR offsite

(33)

1-6-91

8:10 MT on site
NJ, M Staver, Larry U, Tom R on site

8:30 Rig filled with water

8:50 Begin AH 18

9:05 SS at 5-7' BG

9:15 SS at 10-12' BG

9:30 GW sample at 15' BG

9:45 GW sample at 25' BG

10:00 GW sample at 35' BG

10:20 GW sample at 45' BG

10:40 GW sample at 55' BG

10:50 GW sample at 62' BG
Confining layer at 60' BG

11:30 Augers out Begin Decon

12:15 Augers Deconed Filling Rig w/ H_2O

12:30 Break for Lunch

1:00 Back from Lunch

(34)

1:15 Begin AH 19
SS at 5-7' BG empty clogged
with a stone

1:55 SS soil sample at 10-12' BG

2:05 GW sample at 15' BG

2:15 GW sample at 25' BG

2:30 GW sample at 35' BG

2:40 GW sample at 45' BG

2:55 GW sample at 55' BG

3:05 GW sample at 65' BG

3:20 GW sample at 75' BG

3:35 GW sample at 78' BG
confining layer at 77' BG

4:10 All augers out
Begin Decon

4:40 Decon Completed
Knocking down for day

5:00 MT, TR, NJ, MS off site

(35)

1-7-92

7:50 MT, NJ, MS, TR on site

8:05 Filling Rig w/H_2O

8:20 Rig in Place for AH 20

8:55 SS sample at 5-7' BG

9:05 SS sample at 10-12' BG

9:15 GW sample at 15' BG

9:25 GW sample at 25' BG

9:35 GW sample at 35' BG

9:50 GW sample at 45' BG

10:05 GW sample at 50' BG

10:30 Augers out
Begin Decon

11:45 Begin MW 8

12:45 Bore hole complete

1:00 Break for Lunch

1:35 Back from Lunch
Begin setting well

(38)

1:30 Back from Fuel Rig
Break for Lunch

2:05 Back from Lunch
Filling Rig w/ H_2O

2:30 Rig in place for MW 9

3:30 Bore Completed Well set
Grout Pump not working

4:15 Grout Pump working

5:00 Grouting completed Augers
removed, Begin Decon
TR off site

5:30 Decon complete
Knocking down

5:45 MT, NJ, MS, LV off site

(39)

1-9-91 35° rain
8:15 MT, NJ, MS on site
Filling rig with H_2O

8:35 In place for MW #10
Behind Roots Trucking

9:30 Bore hole complete
mixing grout

10:30 Well grout complete

11:00 Finish placing Flush Mount
Begin Decon

11:40 Decon complete

11:50 Filling Rig w/ H_2O

12:15 Moving to MW #11
Need to have cars moved

12:30 Break for Lunch

1:10 Back from Lunch

1:25 Begin MW #11

1:45 Bore hole complete

2:00 Well in place
Mixing grout

(40)

2:30 Grouting finished
Pouring Flush Mount

2:45 Flush Mount Complete
Begin Decon

3:30 Decon complete
Begin Developing MW #17

3:50 Finished with well development

4:10 Begin Developing MW # 10

4:25 Development of MW # 10 complete

4:30 Begin developing MW #9

4:45 Finished Developing MW #9

4:50 Begin Developing MW # 8

5:10 Finished with Development of MW #8
TR, LV off site

5:15 MT, NJ, MS off site

(41)

1-10-92

8:30 MT, NJ, MS on site

8:45 In place for MW 12

9:45 Bore Hole complete to 60 ft bgs

10:15 Well in place
Ready to Grout

10:45 Grout pump breaks

12:00 Pump on rig is working

1:15 Grouting complete
Clean up and decon

1:30 Begin well development

1:50 Finish decon and well development

2:15 Pro Cover Flush Mount in place

2:30 Loaded up all extra materials

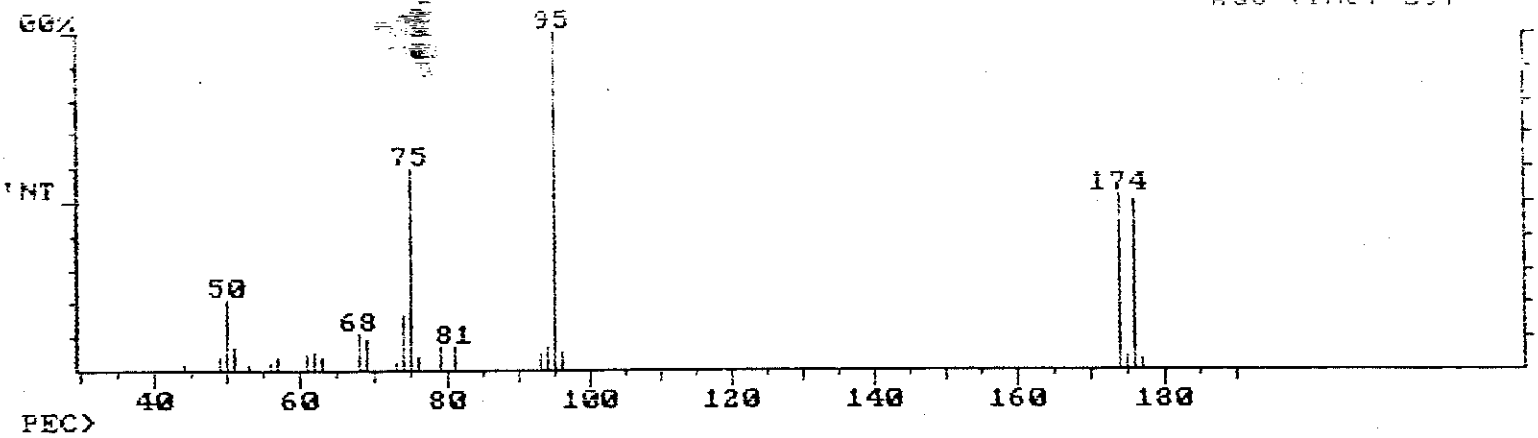
2:45 MT, NJ, MS, LV, TR off site

APPENDIX D

First and Second Round Laboratory Reports

CFB Tuning Report

Spectrum # 1011 Filename: DI0703-1 Acquired: Jul-03-1991 10:06:29 + 33:44
Comment: 5ml DI WATER METHOD BLANK
Base Pk: 95 Int: 51941 Range: 44-177 RIC: 212330 100.00% = 51941
AGC time: 297



Mass List # 1011 Filename: DI0703-1 Acquired: Jul-03-1991 10:06:29 + 33:44
Comment: 5ml DI WATER METHOD BLANK
Base Pk: 95 Int: 51940 #Pks: 26 Range: 44-177 Thrsh: 0% RIC: 212330

Mass	Intensity	% Base	Mass	Intensity	% Base	Mass	Intensity	% Base
44	1,099	2.12	79	4,398	8.47			
49	2,199	4.23	81	3,975	7.65			
50	11,166	21.50	93	2,622	5.05			
51	3,891	7.49	94	3,891	7.49			
53	1,015	1.95	95	51,940	100.00			
56	1,268	2.44	96	3,129	6.03			
57	2,368	4.56	174	26,900	51.79			
61	2,791	5.37	175	2,114	4.07 — 7.9			
62	3,045	5.86	176	26,224	50.49 — 97			
63	2,284	4.40	177	1,776	3.42 — 6.8			
68	5,921	11.40						
69	5,075	9.77						
73	1,438	2.77						
74	8,628	16.61						
75	31,130	59.93						
76	2,030	3.91						

MLST>

QUALITY ASSURANCE DATA SHEET
DUPLICATE MATRIX SPIKE ANALYSIS
USEPA SW-846 METHOD 8260

MATRIX: #4 DATE ANALYZED: 7-3-91 UNITS: mg/kg

Parameter	Spike Level	Back-ground	Matrix Spike Amount	Matrix Spike % R	Duplicate Spike Amount	Duplicate Spike % R	RPD
Benzene	12.9	--	13.9	108	13.0	101	6.7
Chlorobenzene	13.4	--	16.0	119	15.7	117	1.7
1-Dichloroethene	11.6	--	10.5	91	10.9	94	-3.7
Toluene	13.4	--	14.3	107	13.8	103	3.6
ichloroethene	12.2	12.	23.8	97	23.2	92	2.6

QUALITY ASSURANCE DATA SHEET
DUPLICATE MATRIX SPIKE ANALYSIS
USEPA SW-846 METHOD 8260

MATRIX: #4 DATE ANALYZED: 7-3-91 UNITS: mg/kg

Parameter	Spike Level	Back-ground	Matrix Spike Amount	Matrix Spike % R	Duplicate Spike Amount	Duplicate Spike % R	RPD
Benzene	12.9	--	13.9	108	13.0	101	6.7
Chlorobenzene	13.4	--	16.0	119	15.7	117	1.7
1,1-Dichloroethene	11.6	--	10.5	91	10.9	94	-3.7
Toluene	13.4	--	14.3	107	13.8	103	3.6
Trichloroethene	12.2	12.	23.8	97	23.2	92	2.6

ANALYTICAL RESULTS -TARGET LIST
VOLATILE ORGANIC COMPOUNDS

SAMPLE ID: #5

EIS LAB NO.: 18873

PQL shown must be multiplied by 8

Compound Name	- - ppm - - - Result	PQL
Acetone	N.D.	0.5
Acrolein	N.D.	1.0
Acrylonitrile	N.D.	1.0
Benzene	N.D.	0.05
Bromobenzene	N.D.	0.05
Bromochloromethane	N.D.	0.05
Bromoethane	N.D.	0.05
Bromodichloromethane	N.D.	0.05
Bromoform	N.D.	0.10
Bromomethane	N.D.	0.10
n-Butyl Benzene	N.D.	0.10
sec-Butyl Benzene	N.D.	0.10
tert-Butyl Benzene	N.D.	0.10
Carbon Disulfide	N.D.	0.10
Carbon Tetrachloride	N.D.	0.10
Chlorobenzene	N.D.	0.05
Chlorodibromomethane	N.D.	0.05
Chloroethane	N.D.	0.10
2-Chloroethylvinyl Ether	N.D.	0.50
Chloroform	N.D.	0.05
1-Chlorohexane	N.D.	0.10
Chloromethane	N.D.	0.50
2-Chlorotoluene	N.D.	0.05
4-Chlorotoluene	N.D.	0.05
Cyclohexanone	N.D.	5.0
1,2-Dibromo-3-chloropropane	N.D.	1.5
1,2-Dibromoethane	N.D.	0.05
c-1,2-Dibromoethylene	N.D.	0.10
t-1,2-Dibromoethylene	N.D.	0.10
Dibromomethane	N.D.	0.10
1,2-Dichlorobenzene	N.D.	0.10
1,3-Dichlorobenzene	N.D.	0.10
1,4-Dichlorobenzene	N.D.	0.10
1,4-Dichloro-2-butene	N.D.	1.5
Dichlorodifluoromethane	N.D.	0.10
1,1-Dichloroethane	N.D.	0.05
1,2-Dichloroethane	N.D.	0.05
1,1-Dichloroethene	N.D.	0.10
c-1,2-Dichloroethene	1.7	0.05
t-1,2-Dichloroethene	N.D.	0.05
Dichlorofluoromethane	N.D.	0.10
1,2-Dichloropropane	N.D.	0.05
1,3-Dichloropropane	N.D.	0.10

Compound Name	- - ppm - - - Result	PQL
2,2-Dichloropropane	N.D.	0.25
1,1-Dichloropropene	N.D.	0.10
c-1,3-Dichloropropene	N.D.	0.10
t-1,3-Dichloropropene	N.D.	0.10
Diethyl Ether	N.D.	0.50
Ethylbenzene	N.D.	0.05
Ethyl Methacrylate	N.D.	0.25
n-Heptane	N.D.	0.25
Hexachlorobutadiene	N.D.	0.10
2-Hexanone	N.D.	0.50
Iodomethane	N.D.	0.05
Isopropyl Benzene	N.D.	0.10
p-Isopropyltoluene	N.D.	0.10
Methylene Chloride	N.D.	0.10
Methyl Ethyl Ketone	N.D.	0.50
Methyl Isobutyl Ketone	N.D.	0.50
Methyl Methacrylate	N.D.	0.25
Naphthalene	N.D.	0.10
Nitrobenzene	N.D.	2.5
Paraldehyde	N.D.	50
n-Propyl Benzene	N.D.	0.05
Styrene	N.D.	0.05
tert-Butyl Methyl Ether	N.D.	0.10
1,1,1,2-Tetrachloroethane	N.D.	0.10
1,1,2,2-Tetrachloroethane	N.D.	0.05
Tetrachloroethene	0.47	0.05
Tetrahydrofuran	N.D.	0.50
Toluene	N.D.	0.05
1,2,3-Trichlorobenzene	N.D.	0.05
1,2,4-Trichlorobenzene	N.D.	0.05
1,1,1-Trichloroethane	0.47	0.05
1,1,2-Trichloroethane	N.D.	0.05
Trichloroethene	19.2	0.05
Trichlorofluoromethane	N.D.	0.10
1,2,3-Trichloropropane	N.D.	0.25
1,1,2-TCTFE*	N.D.	0.10
1,2,4-Trimethylbenzene	N.D.	0.10
1,3,5-Trimethylbenzene	N.D.	0.10
Vinyl Acetate	N.D.	0.50
Vinyl Chloride	N.D.	0.10
m + p-Xylenes	N.D.	0.05
o-Xylene	N.D.	0.05

COMMENTS

- o N.D. = Not Detected at the indicated PQL including applicable PQL Multiplier above.
- o PQL = Practical Quantitation Limit based on a 5 ml undiluted sample size. Samples requiring dilutions increase the PQL by the value shown at the top.
- o N.R. = Not required for analysis.
- o N.A. = Not analyzeable by the test method employed.
- o [ ] = Detected but below PQL.
- o The * compound (1,1,2-TCTFE) is 1,1,2-Trichlorotrifluoroethane
- o Results are on As Received basis. Moisture content for this sample = 13.0

ANALYTICAL RESULTS -TARGET LIST
VOLATILE ORGANIC COMPOUNDS

SAMPLE ID: #2

EIS LAB NO.: 18872

PQL shown must be multiplied by 2

Compound Name	- - ppm - - - Result	PQL
Acetone	N.D.	0.5
Acrolein	N.D.	1.0
Acrylonitrile	N.D.	1.0
Benzene	N.D.	0.05
Bromobenzene	N.D.	0.05
Bromochloromethane	N.D.	0.05
Bromoethane	N.D.	0.05
Bromodichloromethane	N.D.	0.05
Bromoform	N.D.	0.10
Bromomethane	N.D.	0.10
n-Butyl Benzene	N.D.	0.10
sec-Butyl Benzene	N.D.	0.10
tert-Butyl Benzene	N.D.	0.10
Carbon Disulfide	N.D.	0.10
Carbon Tetrachloride	N.D.	0.10
Chlorobenzene	N.D.	0.05
Chlorodibromomethane	N.D.	0.05
Chloroethane	N.D.	0.10
2-Chloroethylvinyl Ether	N.D.	0.50
Chloroform	N.D.	0.05
1-Chlorohexane	N.D.	0.10
Chloromethane	N.D.	0.50
2-Chlorotoluene	N.D.	0.05
4-Chlorotoluene	N.D.	0.05
Cyclohexanone	N.D.	5.0
1,2-Dibromo-3-chloropropane	N.D.	1.5
1,2-Dibromoethane	N.D.	0.05
c-1,2-Dibromoethylene	N.D.	0.10
t-1,2-Dibromoethylene	N.D.	0.10
Dibromomethane	N.D.	0.10
1,2-Dichlorobenzene	N.D.	0.10
1,3-Dichlorobenzene	N.D.	0.10
1,4-Dichlorobenzene	N.D.	0.10
1,4-Dichloro-2-butene	N.D.	1.5
Dichlorodifluoromethane	N.D.	0.10
1,1-Dichloroethane	N.D.	0.05
1,2-Dichloroethane	N.D.	0.05
1,1-Dichloroethene	N.D.	0.10
c-1,2-Dichloroethene	0.48	0.05
t-1,2-Dichloroethene	N.D.	0.05
Dichlorofluoromethane	N.D.	0.10
1,2-Dichloropropane	N.D.	0.05
1,3-Dichloropropane	N.D.	0.10

Compound Name	- - ppm - - - Result	PQL
2,2-Dichloropropane	N.D.	0.25
1,1-Dichloropropene	N.D.	0.10
c-1,3-Dichloropropene	N.D.	0.10
t-1,3-Dichloropropene	N.D.	0.10
Diethyl Ether	N.D.	0.50
Ethylbenzene	N.D.	0.05
Ethyl Methacrylate	N.D.	0.25
n-Heptane	N.D.	0.25
Hexachlorobutadiene	N.D.	0.10
2-Hexanone	N.D.	0.50
Iodomethane	N.D.	0.05
Isopropyl Benzene	N.D.	0.10
p-Isopropyltoluene	N.D.	0.10
Methylene Chloride	N.D.	0.10
Methyl Ethyl Ketone	N.D.	0.50
Methyl Isobutyl Ketone	N.D.	0.50
Methyl Methacrylate	N.D.	0.25
Naphthalene	N.D.	0.10
Nitrobenzene	N.D.	2.5
Paraldehyde	N.D.	50
n-Propyl Benzene	N.D.	0.05
Styrene	N.D.	0.05
tert-Butyl Methyl Ether	N.D.	0.10
1,1,1,2-Tetrachloroethane	N.D.	0.10
1,1,2,2-Tetrachloroethane	N.D.	0.05
Tetrachloroethene	0.26	0.05
Tetrahydrofuran	N.D.	0.50
Toluene	N.D.	0.05
1,2,3-Trichlorobenzene	N.D.	0.05
1,2,4-Trichlorobenzene	N.D.	0.05
1,1,1-Trichloroethane	0.14	0.05
1,1,2-Trichloroethane	N.D.	0.05
Trichloroethene	4.3	0.05
Trichlorofluoromethane	N.D.	0.10
1,2,3-Trichloropropane	N.D.	0.25
1,1,2-TCTFE*	N.D.	0.10
1,2,4-Trimethylbenzene	N.D.	0.10
1,3,5-Trimethylbenzene	N.D.	0.10
Vinyl Acetate	N.D.	0.50
Vinyl Chloride	N.D.	0.10
m + p-Xylenes	N.D.	0.05
o-Xylene	N.D.	0.05

COMMENTS

- o N.D. = Not Detected at the indicated PQL including applicable PQL Multiplier above.
- o PQL = Practical Quantitation Limit based on a 5 ml undiluted sample size. Samples requiring dilutions increase the PQL by the value shown at the top.
- o N.R. = Not required for analysis.
- o N.A. = Not analyzeable by the test method employed.
- o [ ] = Detected but below PQL.
- o The * compound (1,1,2-TCTFE) is 1,1,2-Trichlorotrifluoroethane
- o Results are on As Received basis. Moisture content for this sample = 8.5

ANALYTICAL RESULTS -TARGET LIST
VOLATILE ORGANIC COMPOUNDS

SAMPLE ID: #4 Lab Duplicate

EIS LAB NO.: 18871

PQL shown must be multiplied by 5

Compound Name	- - ppm - - - Result	PQL
Acetone	N.D.	0.5
Acrolein	N.D.	1.0
Acrylonitrile	N.D.	1.0
Benzene	N.D.	0.05
Bromobenzene	N.D.	0.05
Bromochloromethane	N.D.	0.05
Bromoethane	N.D.	0.05
Bromodichloromethane	N.D.	0.05
Bromoform	N.D.	0.10
Bromomethane	N.D.	0.10
n-Butyl Benzene	N.D.	0.10
sec-Butyl Benzene	N.D.	0.10
tert-Butyl Benzene	N.D.	0.10
Carbon Disulfide	N.D.	0.10
Carbon Tetrachloride	N.D.	0.10
Chlorobenzene	N.D.	0.05
Chlorodibromomethane	N.D.	0.05
Chloroethane	N.D.	0.10
2-Chloroethylvinyl Ether	N.D.	0.50
Chloroform	N.D.	0.05
1-Chlorohexane	N.D.	0.10
Chloromethane	N.D.	0.50
2-Chlorotoluene	N.D.	0.05
4-Chlorotoluene	N.D.	0.05
Cyclohexanone	N.D.	5.0
1,2-Dibromo-3-chloropropane	N.D.	1.5
1,2-Dibromoethane	N.D.	0.05
c-1,2-Dibromoethylene	N.D.	0.10
t-1,2-Dibromoethylene	N.D.	0.10
Dibromomethane	N.D.	0.10
1,2-Dichlorobenzene	N.D.	0.10
1,3-Dichlorobenzene	N.D.	0.10
1,4-Dichlorobenzene	N.D.	0.10
1,4-Dichloro-2-butene	N.D.	1.5
Dichlorodifluoromethane	N.D.	0.10
1,1-Dichloroethane	N.D.	0.05
1,2-Dichloroethane	N.D.	0.05
1,1-Dichloroethene	N.D.	0.10
c-1,2-Dichloroethene	5.4	0.05
t-1,2-Dichloroethene	N.D.	0.05
Dichlorofluoromethane	N.D.	0.10
1,2-Dichloropropane	N.D.	0.05
1,3-Dichloropropane	N.D.	0.10

Compound Name	- - ppm - - - Result	PQL
2,2-Dichloropropane	N.D.	0.25
1,1-Dichloropropene	N.D.	0.10
c-1,3-Dichloropropene	N.D.	0.10
t-1,3-Dichloropropene	N.D.	0.10
Diethyl Ether	N.D.	0.50
Ethylbenzene	N.D.	0.05
Ethyl Methacrylate	N.D.	0.25
n-Heptane	N.D.	0.25
Hexachlorobutadiene	N.D.	0.10
2-Hexanone	N.D.	0.50
Iodomethane	N.D.	0.05
Isopropyl Benzene	N.D.	0.10
p-Isopropyltoluene	N.D.	0.10
Methylene Chloride	N.D.	0.10
Methyl Ethyl Ketone	N.D.	0.50
Methyl Isobutyl Ketone	N.D.	0.50
Methyl Methacrylate	N.D.	0.25
Naphthalene	N.D.	0.10
Nitrobenzene	N.D.	2.5
Paraldehyde	N.D.	50
n-Propyl Benzene	N.D.	0.05
Styrene	N.D.	0.05
tert-Butyl Methyl Ether	N.D.	0.10
1,1,1,2-Tetrachloroethane	N.D.	0.10
1,1,2,2-Tetrachloroethane	N.D.	0.05
Tetrachloroethene	1.0	0.05
Tetrahydrofuran	N.D.	0.50
Toluene	N.D.	0.05
1,2,3-Trichlorobenzene	N.D.	0.05
1,2,4-Trichlorobenzene	N.D.	0.05
1,1,1-Trichloroethane	1.0	0.05
1,1,2-Trichloroethane	N.D.	0.05
Trichloroethene	30.	0.05
Trichlorofluoromethane	N.D.	0.10
1,2,3-Trichloropropane	N.D.	0.25
1,1,2-TCTFE*	N.D.	0.10
1,2,4-Trimethylbenzene	N.D.	0.10
1,3,5-Trimethylbenzene	N.D.	0.10
Vinyl Acetate	N.D.	0.50
Vinyl Chloride	N.D.	0.10
m + p-Xylenes	N.D.	0.05
o-Xylene	N.D.	0.05

COMMENTS

- o N.D. = Not Detected at the indicated PQL including applicable PQL Multiplier above.
- o PQL = Practical Quantitation Limit based on a 5 ml undiluted sample size. Samples requiring dilutions increase the PQL by the value shown at the top.
- o N.R. = Not required for analysis.
- o N.A. = Not analyzeable by the test method employed.
- o [ ] = Detected but below PQL.
- o The * compound (1,1,2-TCTFE) is 1,1,2-Trichlorotrifluoroethane
- o Results are on As Received basis. Moisture content for this sample =

ANALYTICAL RESULTS -TARGET LIST
VOLATILE ORGANIC COMPOUNDS

SAMPLE ID: #4

EIS LAB NO.: 18871

PQL shown must be multiplied by 10

Compound Name	- - ppm - - - Result	PQL
Acetone	N.D.	0.5
Acrolein	N.D.	1.0
Acrylonitrile	N.D.	1.0
Benzene	N.D.	0.05
Bromobenzene	N.D.	0.05
Bromochloromethane	N.D.	0.05
Bromoethane	N.D.	0.05
Bromodichloromethane	N.D.	0.05
Bromoform	N.D.	0.10
Bromomethane	N.D.	0.10
n-Butyl Benzene	N.D.	0.10
sec-Butyl Benzene	N.D.	0.10
tert-Butyl Benzene	N.D.	0.10
Carbon Disulfide	N.D.	0.10
Carbon Tetrachloride	N.D.	0.10
Chlorobenzene	N.D.	0.05
Chlorodibromomethane	N.D.	0.05
Chloroethane	N.D.	0.10
2-Chloroethylvinyl Ether	N.D.	0.50
Chloroform	N.D.	0.05
1-Chlorohexane	N.D.	0.10
Chloromethane	N.D.	0.50
2-Chlorotoluene	N.D.	0.05
4-Chlorotoluene	N.D.	0.05
Cyclohexanone	N.D.	5.0
1,2-Dibromo-3-chloropropane	N.D.	1.5
1,2-Dibromoethane	N.D.	0.05
c-1,2-Dibromoethylene	N.D.	0.10
t-1,2-Dibromoethylene	N.D.	0.10
Dibromomethane	N.D.	0.10
1,2-Dichlorobenzene	N.D.	0.10
1,3-Dichlorobenzene	N.D.	0.10
1,4-Dichlorobenzene	N.D.	0.10
1,4-Dichloro-2-butene	N.D.	1.5
Dichlorodifluoromethane	N.D.	0.10
1,1-Dichloroethane	N.D.	0.05
1,2-Dichloroethane	N.D.	0.05
1,1-Dichloroethene	N.D.	0.10
c-1,2-Dichloroethene	0.83	0.05
t-1,2-Dichloroethene	N.D.	0.05
Dichlorofluoromethane	N.D.	0.10
1,2-Dichloropropane	N.D.	0.05
1,3-Dichloropropane	N.D.	0.10

Compound Name	- - ppm - - - Result	PQL
2,2-Dichloropropane	N.D.	0.25
1,1-Dichloropropene	N.D.	0.10
c-1,3-Dichloropropene	N.D.	0.10
t-1,3-Dichloropropene	N.D.	0.10
Diethyl Ether	N.D.	0.50
Ethylbenzene	N.D.	0.05
Ethyl Methacrylate	N.D.	0.25
n-Heptane	N.D.	0.25
Hexachlorobutadiene	N.D.	0.10
2-Hexanone	N.D.	0.50
Iodomethane	N.D.	0.05
Isopropyl Benzene	N.D.	0.10
p-Isopropyltoluene	N.D.	0.10
Methylene Chloride	N.D.	0.10
Methyl Ethyl Ketone	N.D.	0.50
Methyl Isobutyl Ketone	N.D.	0.50
Methyl Methacrylate	N.D.	0.25
Naphthalene	N.D.	0.10
Nitrobenzene	N.D.	2.5
Paraldehyde	N.D.	50
n-Propyl Benzene	N.D.	0.05
Styrene	N.D.	0.05
tert-Butyl Methyl Ether	N.D.	0.10
1,1,1,2-Tetrachloroethane	N.D.	0.10
1,1,2,2-Tetrachloroethane	N.D.	0.05
Tetrachloroethene	[0.40]	0.05
Tetrahydrofuran	N.D.	0.50
Toluene	N.D.	0.05
1,2,3-Trichlorobenzene	N.D.	0.05
1,2,4-Trichlorobenzene	N.D.	0.05
1,1,1-Trichloroethane	[0.40]	0.05
1,1,2-Trichloroethane	N.D.	0.05
Trichloroethene	12.	0.05
Trichlorofluoromethane	N.D.	0.10
1,2,3-Trichloropropane	N.D.	0.25
1,1,2-TCTFE*	N.D.	0.10
1,2,4-Trimethylbenzene	N.D.	0.10
1,3,5-Trimethylbenzene	N.D.	0.10
Vinyl Acetate	N.D.	0.50
Vinyl Chloride	N.D.	0.10
m + p-Xylenes	N.D.	0.05
o-Xylene	N.D.	0.05

COMMENTS

- o N.D. = Not Detected at the indicated PQL including applicable PQL Multiplier above.
- o PQL = Practical Quantitation Limit based on a 5 ml undiluted sample size. Samples requiring dilutions increase the PQL by the value shown at the top.
- o N.R. = Not required for analysis.
- o N.A. = Not analyzeable by the test method employed.
- o [ ] = Detected but below PQL.
- o The * compound (1,1,2-TCTFE) is 1,1,2-Trichlorotrifluoroethane
- o Results are on As Received basis. Moisture content for this sample = 14.3

VOC SAMPLE ANALYSIS INFORMATION

EIS Lab Number	Client Description	Date Extracted (1991)	Date Analyzed (1991)	QA/QC Surrogate Recovery * Hall/PID #1	Hall/PID #2	Hall/PID #3	Hall/PID #4	GC/MS #1	GC/MS #2	GC/MS #3
18871	#4	7-1-91	7-3-91					100	99	103
18871	Lab Duplicate	7-1-91	7-3-91					102	98	98
18872	#2	7-1-91	7-3-91					98	99	103
18873	#5	7-1-91	7-3-91					99	98	104

* SURROGATE INFORMATION

HALL/PID	GC/MS	QA/QC Limit (% R) For All Compounds
#1 1-Bromo-2-Chloroethane	#1 1,2-Dichloroethane	70 - 130
#2 1,4-Dichlorobutane	#2 Toluene, d6	
#3 Toluene, d6	#3 Bromofluorobenzene	
#4 1,9-Decadiene		

REFERENCE METHODS/ANALYTICAL PROCEDURES
VOLATILE ORGANIC COMPOUNDS

REFERENCES

1. "Test Methods: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", USEPA-600/4-82-057, July 1982, Methods 601, 602, 624

2. "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, Third Edition, November 1986, 1st Update, Methods 8010, 8020, 8021, 8260

3. "Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry" Method 524.2, Revision 3.0, 1989

ANALYTICAL PROCEDURES

VOC of interest are liberated from the matrix by use of Purge and Trap procedures. Surrogate compounds are employed for each Purge and Trap run. The effluent from the gas chromatograph is monitored by either Hall Electrolytic Conductivity and Photoionization detectors operating in series or by a Mass Spectrometer.

Method blanks and analytical check standards are analyzed with each days run for Volatile Organic Compounds. In addition, if analysis is by Mass Spectrometry, the tuning compound BFB must meet abundance criteria prior to proceeding with analysis.

Water samples are analyzed by direct Purge & Trap procedures. Soil samples are initially extracted with methanol prior to purge & trap unless **Low Level Analysis** is required. For Low Level Analysis, the soil is extracted with water and then purged with no dilutions involved.

Water samples utilize 500 and 600 series method numbers (References 1 & 3) while soil/solid waste samples are analyzed by 8000 series method numbers (Reference 2). The following is applicable.

Sample Type	Hall Conductivity Photoionization (GC/Hall/PID)	Mass Spectrometry (GC/MS)
Water/Drinking Water	601 - 602 / 502.2	624 / 524.2
Solid Waste	8021	8260

SUPPORTING DATA

If GC tracings or GC/MS data is supplied with this report, surrogate/internal standards are identified by the letters (S) and (IS).

VOLATILE ORGANIC COMPOUNDS
DEFINITIONS

This group test is capable of determining the presence of many organic compounds. The following summarizes the types of information which this test can provide.

TARGET LIST VOLATILE ORGANIC COMPOUNDS (VOC)

A total of 84 different organic compounds are listed in the EIS Analytical Results - Target List - Volatile Organic Compounds report sheets. Most of these compounds are taken from Target Analyte Lists prepared by Regulatory Agencies, such as USEPA. These lists cover areas as broad as Drinking Water, Groundwater, Industrial Effluents, Soils and Wastes, Total Toxic Organics (TTO).

ADDITIONAL COMPOUNDS (NON-TARGET LIST VOC)

Many compounds not on any Regulatory Agencies listings may be present in environmental samples. If these types of compounds appear in the test, they are addressed in the EIS Analytical Results SUMMARY sheet.

These Additional Compounds can consist of the following:

- Fuel Hydrocarbons from products such as gasoline or fuel oil
- Naphthas from industrial use
- Individual volatile organics

COMPOUND DETECTION AND QUANTITATION

- The ability to both detect and quantitate compounds in any analysis is dependent upon the sample matrix and not, in general, on instrumentation used. Samples which exhibit large quantities of compounds need to be diluted in order to quantitate these compounds and to prevent the analysis equipment from degrading. This dilution may then completely dilute out those compounds which may have been present at low levels.
- The lower limit at which detected compounds can be confidently quantitated and reported is termed the **PRACTICAL QUANTITATION LIMIT (PQL).** In any given sample, different compounds may have different PQL values depending upon compound chemical structure, and the method of analysis. PQL values appropriate for one sample may not be appropriate for another due to sample dilutions used.
- Compounds can be detected below the applicable PQL but not confidently quantitated. In this situation, results are presented by enclosing them in brackets [ ]. These brackets therefore signify that the compound was detected but the result is an estimate.

SUMMARY

Samples: #4, #2, #5 from Johnson Controls, Goshen, IN

TARGET LIST VOLATILE ORGANIC COMPOUNDS (VOC)

The following Target List VOC were detected as shown. Additional information, including compound names and Practical Quantitation Limits (PQL), can be found in the sample Analytical Results sheet.

Compound Name	Result (ppm)			
	#4	#4-Duplicate*	#2	#5
Cis-1,2-Dichloroethene	0.83	5.4	0.48	1.7
Tetrachloroethene	0.40	1.0	0.26	0.47
1,1,1-Trichloroethane	0.40	1.0	0.14	0.47
Trichloroethene	12.	30.	4.3	19.2

* Taken from the #4 tube and is not a Field Duplicate. The Duplicate analysis was repeated with almost identical results to the original duplicate. The disperity in values is not typical of a same sample duplicate.

RECEIVED

eis

ANALYTICAL REPORT VOLATILE ORGANIC COMPOUNDS

REPORT TO: Mr. Fred Rouse, Cole Associates
2211 E. Jefferson Avenue, South Bend, IN 46615

BILL TO: Cole Associates

EIS LAB NUMBER: 18871-18873

EIS PROJECT NO:

CLIENT P.O. NO:

DATE SAMPLED: 6-27-91

DATE RECEIVED: 6-27-91

REPORT FORWARDED: 7-16-91

SAMPLE IDENTIFICATION:

Johnson Controls, Goshen, IN

- o #4
- o #2
- o #5

The following information is enclosed in this report:

- o Summary
- o Definitions
- o Reference Methods/Analytical Procedures
- o Sample Analysis Information
- o Analytical Results - Volatile Organic Compounds
- o Quality Assurance/Quality Control Data as listed below

- Surrogate Recovery Data	Yes ✓	No
- Daily Check Standard	Yes ✓	No
- Duplicate Matrix Spike	Yes ✓	No
- BFB Tuning Report	Yes ✓	No
- Chromatograms of Analysis	Yes ✓	No
- Mass Spectral Data	Yes ✓	No
- Applicable Regulatory Limits	Yes	No ✓
- Chain-of-Custody	Yes ✓	No

Note: Samples were received in plastic tubes with plastic end caps. Results telephonically reported to Kevin Perkins by Nancy Myers, EIS Environmental Engineers on 7/16/91.

Andrea Pozzetti

LABORATORY DIRECTOR

2018 Rev (12-31-90)

CONFIRMATION DUPLICATE SAMPLES

Client: Cole Associates

Report#: 23149-177

Site: Lab Method Blank

Lab #: MB 8260D

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	96.3			
1,2-Dichloroethane-d4	76-114	93.8			
Toluene - d8	88-110	91.2			

Analyzed: 05/23/91 Analyst: BK Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Lab Method Blank

Lab #: MB 8260D

VOLATILE ORGANIC CHEMICALS--Groundwater

Parameter	PQL	Results
Benzene	0.5	< 0.5 µg/L
Bromobenzene	1.0	< 1.0 µg/L
Bromochloromethane	1.0	< 1.0 µg/L
Bromodichloromethane	0.5	< 0.5 µg/L
Bromoform	0.5	< 0.5 µg/L
Bromomethane	2.0	< 2.0 µg/L
n-Butylbenzene	1.0	< 1.0 µg/L
sec-Butylbenzene	1.0	< 1.0 µg/L
tert-Butylbenzene	1.0	< 1.0 µg/L
Carbon tetrachloride	0.5	< 0.5 µg/L
Chlorobenzene	1.0	< 1.0 µg/L
Chloroethane	2.0	< 2.0 µg/L
Chloroform	0.5	< 0.5 µg/L
Chloromethane	1.0	< 1.0 µg/L
o-Chlorotoluene	1.0	< 1.0 µg/L
p-Chlorotoluene	1.0	< 1.0 µg/L
Dibromochloromethane	0.5	< 0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	< 1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	< 1.0 µg/L
Dibromomethane	1.0	< 1.0 µg/L
m-Dichlorobenzene	1.0	< 1.0 µg/L
o-Dichlorobenzene	1.0	< 1.0 µg/L
p-Dichlorobenzene	0.5	< 0.5 µg/L
Dichlorodifluoromethane	1.0	< 1.0 µg/L
1,1-Dichloroethane	1.0	< 1.0 µg/L
1,2-Dichloroethane	0.5	< 0.5 µg/L
1,1-Dichloroethylene	0.5	< 0.5 µg/L
1,2-Dichloroethylene, cis	1.0	< 1.0 µg/L
1,2-Dichloroethylene, trans	1.0	< 1.0 µg/L
1,2-Dichloropropane	1.0	< 1.0 µg/L
1,3-Dichloropropane	1.0	< 1.0 µg/L
2,2-Dichloropropane	1.0	< 1.0 µg/L
1,1-Dichloropropylene	1.0	< 1.0 µg/L
1,3-Dichloropropylene, cis	1.0	< 1.0 µg/L
1,3-Dichloropropylene,trans	1.0	< 1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report#: 23149-177

Site: Lab Method Blank

Lab #: MB 8260C

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL	Results
Ethylbenzene	1.0	< 1.0 µg/L
Hexachlorobutadiene	1.0	< 1.0 µg/L
Isopropylbenzene	1.0	< 1.0 µg/L
p-Isopropyltoluene	1.0	< 1.0 µg/L
Methylene chloride	1.0	< 1.0 µg/L
Napthalene	1.0	< 1.0 µg/L
n-Propylbenzene	1.0	< 1.0 µg/L
Styrene	1.0	< 1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0 µg/L
Tetrachloroethylene	1.0	< 1.0 µg/L
Toluene	1.0	< 1.0 µg/L
1,2,3-Trichlorobenzene	1.0	< 1.0 µg/L
1,2,4-Trichlorobenzene	1.0	< 1.0 µg/L
1,1,1-Trichloroethane	0.5	< 0.5 µg/L
1,1,2-Trichloroethane	1.0	< 1.0 µg/L
Trichloroethylene	0.5	< 0.5 µg/L
Trichlorofluoromethane	1.0	< 1.0 µg/L
1,2,3-Trichloropropane	1.0	< 1.0 µg/L
1,2,4-Trimethylbenzene	1.0	< 1.0 µg/L
1,3,5-Trimethylbenzene	1.0	< 1.0 µg/L
Vinyl chloride	0.5	< 0.5 µg/L
Total Xylenes	1.0	< 1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	92.3			
1,2-Dichloroethane-d4	76-114	101.4			
Toluene - d8	88-110	95.4			

Analyzed: 05/24/91 Analyst: BK Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Lab Method Blank

Lab #: MB 8260C

VOLATILE ORGANIC CHEMICALS--Groundwater

Parameter	PQL		Results
Benzene	0.5	<	0.5 µg/L
Bromobenzene	1.0	<	1.0 µg/L
Bromochloromethane	1.0	<	1.0 µg/L
Bromodichloromethane	0.5	<	0.5 µg/L
Bromoform	0.5	<	0.5 µg/L
Bromomethane	2.0	<	2.0 µg/L
n-Butylbenzene	1.0	<	1.0 µg/L
sec-Butylbenzene	1.0	<	1.0 µg/L
tert-Butylbenzene	1.0	<	1.0 µg/L
Carbon tetrachloride	0.5	<	0.5 µg/L
Chlorobenzene	1.0	<	1.0 µg/L
Chloroethane	2.0	<	2.0 µg/L
Chloroform	0.5	<	0.5 µg/L
Chloromethane	1.0	<	1.0 µg/L
o-Chlorotoluene	1.0	<	1.0 µg/L
p-Chlorotoluene	1.0	<	1.0 µg/L
Dibromochloromethane	0.5	<	0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	<	1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	<	1.0 µg/L
Dibromomethane	1.0	<	1.0 µg/L
m-Dichlorobenzene	1.0	<	1.0 µg/L
o-Dichlorobenzene	1.0	<	1.0 µg/L
p-Dichlorobenzene	0.5	<	0.5 µg/L
Dichlorodifluoromethane	1.0	<	1.0 µg/L
1,1-Dichloroethane	1.0	<	1.0 µg/L
1,2-Dichloroethane	0.5	<	0.5 µg/L
1,1-Dichloroethylene	0.5	<	0.5 µg/L
1,2-Dichloroethylene, cis	1.0	<	1.0 µg/L
1,2-Dichloroethylene, trans	1.0	<	1.0 µg/L
1,2-Dichloropropane	1.0	<	1.0 µg/L
1,3-Dichloropropane	1.0	<	1.0 µg/L
2,2-Dichloropropane	1.0	<	1.0 µg/L
1,1-Dichloropropylene	1.0	<	1.0 µg/L
1,3-Dichloropropylene, cis	1.0	<	1.0 µg/L
1,3-Dichloropropylene,trans	1.0	<	1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report#: 23149-177

Site: Lab Method Blank

Lab #: MB 8260D

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	99.5			
1,2-Dichloroethane-d4	76-114	102.3			
Toluene - d8	88-110	93.6			

Analyzed: 05/21/91 Analyst: BK Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Lab Method Blank

Lab #: MB 8260D

VOLATILE ORGANIC CHEMICALS--Groundwater

Parameter	PQL	Results
Benzene	0.5	< 0.5 µg/L
Bromobenzene	1.0	< 1.0 µg/L
Bromochloromethane	1.0	< 1.0 µg/L
Bromodichloromethane	0.5	< 0.5 µg/L
Bromoform	0.5	< 0.5 µg/L
Bromomethane	2.0	< 2.0 µg/L
n-Butylbenzene	1.0	< 1.0 µg/L
sec-Butylbenzene	1.0	< 1.0 µg/L
tert-Butylbenzene	1.0	< 1.0 µg/L
Carbon tetrachloride	0.5	< 0.5 µg/L
Chlorobenzene	1.0	< 1.0 µg/L
Chloroethane	2.0	< 2.0 µg/L
Chloroform	0.5	< 0.5 µg/L
Chloromethane	1.0	< 1.0 µg/L
o-Chlorotoluene	1.0	< 1.0 µg/L
p-Chlorotoluene	1.0	< 1.0 µg/L
Dibromochloromethane	0.5	< 0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	< 1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	< 1.0 µg/L
Dibromomethane	1.0	< 1.0 µg/L
m-Dichlorobenzene	1.0	< 1.0 µg/L
o-Dichlorobenzene	1.0	< 1.0 µg/L
p-Dichlorobenzene	0.5	< 0.5 µg/L
Dichlorodifluoromethane	1.0	< 1.0 µg/L
1,1-Dichloroethane	1.0	< 1.0 µg/L
1,2-Dichloroethane	0.5	< 0.5 µg/L
1,1-Dichloroethylene	0.5	< 0.5 µg/L
1,2-Dichloroethylene, cis	1.0	< 1.0 µg/L
1,2-Dichloroethylene, trans	1.0	< 1.0 µg/L
1,2-Dichloropropane	1.0	< 1.0 µg/L
1,3-Dichloropropane	1.0	< 1.0 µg/L
2,2-Dichloropropane	1.0	< 1.0 µg/L
1,1-Dichloropropylene	1.0	< 1.0 µg/L
1,3-Dichloropropylene, cis	1.0	< 1.0 µg/L
1,3-Dichloropropylene,trans	1.0	< 1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report#: 23149-177

Site: Lab Method Blank

Lab #: MB 8260C

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL	Results
Ethylbenzene	1.0	< 1.0 µg/L
Hexachlorobutadiene	1.0	< 1.0 µg/L
Isopropylbenzene	1.0	< 1.0 µg/L
p-Isopropyltoluene	1.0	< 1.0 µg/L
Methylene chloride	1.0	< 1.0 µg/L
Napthalene	1.0	< 1.0 µg/L
n-Propylbenzene	1.0	< 1.0 µg/L
Styrene	1.0	< 1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0 µg/L
Tetrachloroethylene	1.0	< 1.0 µg/L
Toluene	1.0	< 1.0 µg/L
1,2,3-Trichlorobenzene	1.0	< 1.0 µg/L
1,2,4-Trichlorobenzene	1.0	< 1.0 µg/L
1,1,1-Trichloroethane	0.5	< 0.5 µg/L
1,1,2-Trichloroethane	1.0	< 1.0 µg/L
Trichloroethylene	0.5	< 0.5 µg/L
Trichlorofluoromethane	1.0	< 1.0 µg/L
1,2,3-Trichloropropane	1.0	< 1.0 µg/L
1,2,4-Trimethylbenzene	1.0	< 1.0 µg/L
1,3,5-Trimethylbenzene	1.0	< 1.0 µg/L
Vinyl chloride	0.5	< 0.5 µg/L
Total Xylenes	1.0	< 1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	97.1			
1,2-Dichloroethane-d4	76-114	97.6			
Toluene - d8	88-110	96.3			

Analyzed: 05/20/91 Analyst: BK Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Lab Method Blank

Lab #: MB 8260C

VOLATILE ORGANIC CHEMICALS--Groundwater

Parameter	PQL		Results
Benzene	0.5	<	0.5 µg/L
Bromobenzene	1.0	<	1.0 µg/L
Bromochloromethane	1.0	<	1.0 µg/L
Bromodichloromethane	0.5	<	0.5 µg/L
Bromoform	0.5	<	0.5 µg/L
Bromomethane	2.0	<	2.0 µg/L
n-Butylbenzene	1.0	<	1.0 µg/L
sec-Butylbenzene	1.0	<	1.0 µg/L
tert-Butylbenzene	1.0	<	1.0 µg/L
Carbon tetrachloride	0.5	<	0.5 µg/L
Chlorobenzene	1.0	<	1.0 µg/L
Chloroethane	2.0	<	2.0 µg/L
Chloroform	0.5	<	0.5 µg/L
Chloromethane	1.0	<	1.0 µg/L
o-Chlorotoluene	1.0	<	1.0 µg/L
p-Chlorotoluene	1.0	<	1.0 µg/L
Dibromochloromethane	0.5	<	0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	<	1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	<	1.0 µg/L
Dibromomethane	1.0	<	1.0 µg/L
m-Dichlorobenzene	1.0	<	1.0 µg/L
o-Dichlorobenzene	1.0	<	1.0 µg/L
p-Dichlorobenzene	0.5	<	0.5 µg/L
Dichlorodifluoromethane	1.0	<	1.0 µg/L
1,1-Dichloroethane	1.0	<	1.0 µg/L
1,2-Dichloroethane	0.5	<	0.5 µg/L
1,1-Dichloroethylene	0.5	<	0.5 µg/L
1,2-Dichloroethylene, cis	1.0	<	1.0 µg/L
1,2-Dichloroethylene, trans	1.0	<	1.0 µg/L
1,2-Dichloropropane	1.0	<	1.0 µg/L
1,3-Dichloropropane	1.0	<	1.0 µg/L
2,2-Dichloropropane	1.0	<	1.0 µg/L
1,1-Dichloropropylene	1.0	<	1.0 µg/L
1,3-Dichloropropylene, cis	1.0	<	1.0 µg/L
1,3-Dichloropropylene,trans	1.0	<	1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 6 A-B

Lab #: 22993-MS-MSD

VOLATILE ORGANIC CHEMICALS - Matrix Spike Results - Soil

Matrix Spike - (ug/kg)

Parameter	Spike Added	Sample Conc	MS Conc	MS %Rec	%Rec Limit
1,1-Dichloroethylene	500	< 50	308	62	59–172
Trichloroethylene	500	< 50	484	97	62–137
Benzene	500	< 50	438	88	66–142
Toluene	500	< 50	506	101	59–139
Chlorobenzene	500	< 50	492	99	60–133

Matrix Spike Duplicate -(ug/kg)

Parameter	Spike Added	MSD Conc	MSD %Rec	%Rec Limit		% RPD	%RPD Limit
1,1-Dichloroethylene	500	425	73	59–172	√	32	22
Trichloroethylene	500	567	105	62–137		16	24
Benzene	500	493	93	66–142		12	21
Toluene	500	504	101	59–139		0	21
Chlorobenzene	500	478	97	60–133		3	21

√ Exceeds established limits however recoveries for both the MS and MSD are within limits.

Surrogate Standards	%Rec MS	%Rec MSD	%Rec Limit
4-Bromofluorobenzene	97	92	74-121
1,2-Dichloroethane-d4	94	93	70-121
Toluene-d_8	98	98	81-117

Analyzed: 05-13-91 Analyst: BK Method: 8260

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Differnece
Rec = Recovery

Client: Cole Associates

Report #: 22986-008

Site: Lab Trip Blank

Lab #:23008

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	93			
1,2-Dichloroethane-d4	76-114	98			
Toluene - d8	88-110	93			

Analyzed: 05-13 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Lab Trip Blank

Lab #:23008

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results
Benzene	0.5	<	0.5 µg/L
Bromobenzene	1.0	<	1.0 µg/L
Bromochloromethane	1.0	<	1.0 µg/L
Bromodichloromethane	0.5	<	0.5 µg/L
Bromoform	0.5	<	0.5 µg/L
Bromomethane	2.0	<	2.0 µg/L
n-Butylbenzene	1.0	<	1.0 µg/L
sec-Butylbenzene	1.0	<	1.0 µg/L
tert-Butylbenzene	1.0	<	1.0 µg/L
Carbon tetrachloride	0.5	<	0.5 µg/L
Chlorobenzene	1.0	<	1.0 µg/L
Chloroethane	2.0	<	2.0 µg/L
Chloroform	0.5	<	0.5 µg/L
Chloromethane	1.0	<	1.0 µg/L
o-Chlorotoluene	1.0	<	1.0 µg/L
p-Chlorotoluene	1.0	<	1.0 µg/L
Dibromochloromethane	0.5	<	0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	<	1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	<	1.0 µg/L
Dibromomethane	1.0	<	1.0 µg/L
m-Dichlorobenzene	1.0	<	1.0 µg/L
o-Dichlorobenzene	1.0	<	1.0 µg/L
p-Dichlorobenzene	0.5	<	0.5 µg/L
Dichlorodifluoromethane	1.0	<	1.0 µg/L
1,1-Dichloroethane	1.0	<	1.0 µg/L
1,2-Dichloroethane	0.5	<	0.5 µg/L
1,1-Dichloroethylene	0.5	<	0.5 µg/L
1,2-Dichloroethylene, cis	1.0	<	1.0 µg/L
1,2-Dichloroethylene, trans	1.0	<	1.0 µg/L
1,2-Dichloropropane	1.0	<	1.0 µg/L
1,3-Dichloropropane	1.0	<	1.0 µg/L
2,2-Dichloropropane	1.0	<	1.0 µg/L
1,1-Dichloropropylene	1.0	<	1.0 µg/L
1,3-Dichloropropylene, cis	1.0	<	1.0 µg/L
1,3-Dichloropropylene,trans	1.0	<	1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260C2

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	98			
1,2-Dichloroethane-d4	76-114	99			
Toluene - d8	88-110	99			

Analyzed: 05-13 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260C2

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results
Benzene	0.5	<	0.5 µg/L
Bromobenzene	1.0	<	1.0 µg/L
Bromochloromethane	1.0	<	1.0 µg/L
Bromodichloromethane	0.5	<	0.5 µg/L
Bromoform	0.5	<	0.5 µg/L
Bromomethane	2.0	<	2.0 µg/L
n-Butylbenzene	1.0	<	1.0 µg/L
sec-Butylbenzene	1.0	<	1.0 µg/L
tert-Butylbenzene	1.0	<	1.0 µg/L
Carbon tetrachloride	0.5	<	0.5 µg/L
Chlorobenzene	1.0	<	1.0 µg/L
Chloroethane	2.0	<	2.0 µg/L
Chloroform	0.5	<	0.5 µg/L
Chloromethane	1.0	<	1.0 µg/L
o-Chlorotoluene	1.0	<	1.0 µg/L
p-Chlorotoluene	1.0	<	1.0 µg/L
Dibromochloromethane	0.5	<	0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	<	1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	<	1.0 µg/L
Dibromomethane	1.0	<	1.0 µg/L
m-Dichlorobenzene	1.0	<	1.0 µg/L
o-Dichlorobenzene	1.0	<	1.0 µg/L
p-Dichlorobenzene	0.5	<	0.5 µg/L
Dichlorodifluoromethane	1.0	<	1.0 µg/L
1,1-Dichloroethane	1.0	<	1.0 µg/L
1,2-Dichloroethane	0.5	<	0.5 µg/L
1,1-Dichloroethylene	0.5	<	0.5 µg/L
1,2-Dichloroethylene, cis	1.0	<	1.0 µg/L
1,2-Dichloroethylene, trans	1.0	<	1.0 µg/L
1,2-Dichloropropane	1.0	<	1.0 µg/L
1,3-Dichloropropane	1.0	<	1.0 µg/L
2,2-Dichloropropane	1.0	<	1.0 µg/L
1,1-Dichloropropylene	1.0	<	1.0 µg/L
1,3-Dichloropropylene, cis	1.0	<	1.0 µg/L
1,3-Dichloropropylene,trans	1.0	<	1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260B2

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	94			
1,2-Dichloroethane-d4	76-114	99			
Toluene - d8	88-110	98			

Analyzed: 05-13 ~~to 05~~-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260B2

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results
Benzene	0.5	< 0.5 µg/L
Bromobenzene	1.0	< 1.0 µg/L
Bromochloromethane	1.0	< 1.0 µg/L
Bromodichloromethane	0.5	< 0.5 µg/L
Bromoform	0.5	< 0.5 µg/L
Bromomethane	2.0	< 2.0 µg/L
n-Butylbenzene	1.0	< 1.0 µg/L
sec-Butylbenzene	1.0	< 1.0 µg/L
tert-Butylbenzene	1.0	< 1.0 µg/L
Carbon tetrachloride	0.5	< 0.5 µg/L
Chlorobenzene	1.0	< 1.0 µg/L
Chloroethane	2.0	< 2.0 µg/L
Chloroform	0.5	< 0.5 µg/L
Chloromethane	1.0	< 1.0 µg/L
o-Chlorotoluene	1.0	< 1.0 µg/L
p-Chlorotoluene	1.0	< 1.0 µg/L
Dibromochloromethane	0.5	< 0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	< 1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	< 1.0 µg/L
Dibromomethane	1.0	< 1.0 µg/L
m-Dichlorobenzene	1.0	< 1.0 µg/L
o-Dichlorobenzene	1.0	< 1.0 µg/L
p-Dichlorobenzene	0.5	< 0.5 µg/L
Dichlorodifluoromethane	1.0	< 1.0 µg/L
1,1-Dichloroethane	1.0	< 1.0 µg/L
1,2-Dichloroethane	0.5	< 0.5 µg/L
1,1-Dichloroethylene	0.5	< 0.5 µg/L
1,2-Dichloroethylene, cis	1.0	< 1.0 µg/L
1,2-Dichloroethylene, trans	1.0	< 1.0 µg/L
1,2-Dichloropropane	1.0	< 1.0 µg/L
1,3-Dichloropropane	1.0	< 1.0 µg/L
2,2-Dichloropropane	1.0	< 1.0 µg/L
1,1-Dichloropropylene	1.0	< 1.0 µg/L
1,3-Dichloropropylene, cis	1.0	< 1.0 µg/L
1,3-Dichloropropylene,trans	1.0	< 1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260F

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL	Results
Ethylbenzene	1.0	< 1.0 µg/L
Hexachlorobutadiene	1.0	< 1.0 µg/L
Isopropylbenzene	1.0	< 1.0 µg/L
p-Isopropyltoluene	1.0	< 1.0 µg/L
Methylene chloride	1.0	< 1.0 µg/L
Napthalene	1.0	< 1.0 µg/L
n-Propylbenzene	1.0	< 1.0 µg/L
Styrene	1.0	< 1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0 µg/L
Tetrachloroethylene	1.0	< 1.0 µg/L
Toluene	1.0	< 1.0 µg/L
1,2,3-Trichlorobenzene	1.0	< 1.0 µg/L
1,2,4-Trichlorobenzene	1.0	< 1.0 µg/L
1,1,1-Trichloroethane	0.5	< 0.5 µg/L
1,1,2-Trichloroethane	1.0	< 1.0 µg/L
Trichloroethylene	0.5	< 0.5 µg/L
Trichlorofluoromethane	1.0	< 1.0 µg/L
1,2,3-Trichloropropane	1.0	< 1.0 µg/L
1,2,4-Trimethylbenzene	1.0	< 1.0 µg/L
1,3,5-Trimethylbenzene	1.0	< 1.0 µg/L
Vinyl chloride	0.5	< 0.5 µg/L
Total Xylenes	1.0	< 1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	95			
1,2-Dichloroethane-d4	76-114	91			
Toluene - d8	88-110	97			

Analyzed: 05-13 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260E

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results
Benzene	0.5	<	0.5 µg/L
Bromobenzene	1.0	<	1.0 µg/L
Bromochloromethane	1.0	<	1.0 µg/L
Bromodichloromethane	0.5	<	0.5 µg/L
Bromoform	0.5	<	0.5 µg/L
Bromomethane	2.0	<	2.0 µg/L
n-Butylbenzene	1.0	<	1.0 µg/L
sec-Butylbenzene	1.0	<	1.0 µg/L
tert-Butylbenzene	1.0	<	1.0 µg/L
Carbon tetrachloride	0.5	<	0.5 µg/L
Chlorobenzene	1.0	<	1.0 µg/L
Chloroethane	2.0	<	2.0 µg/L
Chloroform	0.5	<	0.5 µg/L
Chloromethane	1.0	<	1.0 µg/L
o-Chlorotoluene	1.0	<	1.0 µg/L
p-Chlorotoluene	1.0	<	1.0 µg/L
Dibromochloromethane	0.5	<	0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	<	1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	<	1.0 µg/L
Dibromomethane	1.0	<	1.0 µg/L
m-Dichlorobenzene	1.0	<	1.0 µg/L
o-Dichlorobenzene	1.0	<	1.0 µg/L
p-Dichlorobenzene	0.5	<	0.5 µg/L
Dichlorodifluoromethane	1.0	<	1.0 µg/L
1,1-Dichloroethane	1.0	<	1.0 µg/L
1,2-Dichloroethane	0.5	<	0.5 µg/L
1,1-Dichloroethylene	0.5	<	0.5 µg/L
1,2-Dichloroethylene, cis	1.0	<	1.0 µg/L
1,2-Dichloroethylene, trans	1.0	<	1.0 µg/L
1,2-Dichloropropane	1.0	<	1.0 µg/L
1,3-Dichloropropane	1.0	<	1.0 µg/L
2,2-Dichloropropane	1.0	<	1.0 µg/L
1,1-Dichloropropylene	1.0	<	1.0 µg/L
1,3-Dichloropropylene, cis	1.0	<	1.0 µg/L
1,3-Dichloropropylene,trans	1.0	<	1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260F

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results
Benzene	0.5	< 0.5 µg/L
Bromobenzene	1.0	< 1.0 µg/L
Bromochloromethane	1.0	< 1.0 µg/L
Bromodichloromethane	0.5	< 0.5 µg/L
Bromoform	0.5	< 0.5 µg/L
Bromomethane	2.0	< 2.0 µg/L
n-Butylbenzene	1.0	< 1.0 µg/L
sec-Butylbenzene	1.0	< 1.0 µg/L
tert-Butylbenzene	1.0	< 1.0 µg/L
Carbon tetrachloride	0.5	< 0.5 µg/L
Chlorobenzene	1.0	< 1.0 µg/L
Chloroethane	2.0	< 2.0 µg/L
Chloroform	0.5	< 0.5 µg/L
Chloromethane	1.0	< 1.0 µg/L
o-Chlorotoluene	1.0	< 1.0 µg/L
p-Chlorotoluene	1.0	< 1.0 µg/L
Dibromochloromethane	0.5	< 0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	< 1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	< 1.0 µg/L
Dibromomethane	1.0	< 1.0 µg/L
m-Dichlorobenzene	1.0	< 1.0 µg/L
o-Dichlorobenzene	1.0	< 1.0 µg/L
p-Dichlorobenzene	0.5	< 0.5 µg/L
Dichlorodifluoromethane	1.0	< 1.0 µg/L
1,1-Dichloroethane	1.0	< 1.0 µg/L
1,2-Dichloroethane	0.5	< 0.5 µg/L
1,1-Dichloroethylene	0.5	< 0.5 µg/L
1,2-Dichloroethylene, cis	1.0	< 1.0 µg/L
1,2-Dichloroethylene, trans	1.0	< 1.0 µg/L
1,2-Dichloropropane	1.0	< 1.0 µg/L
1,3-Dichloropropane	1.0	< 1.0 µg/L
2,2-Dichloropropane	1.0	< 1.0 µg/L
1,1-Dichloropropylene	1.0	< 1.0 µg/L
1,3-Dichloropropylene, cis	1.0	< 1.0 µg/L
1,3-Dichloropropylene,trans	1.0	< 1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260E

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL	Results
Ethylbenzene	1.0	< 1.0 µg/L
Hexachlorobutadiene	1.0	< 1.0 µg/L
Isopropylbenzene	1.0	< 1.0 µg/L
p-Isopropyltoluene	1.0	< 1.0 µg/L
Methylene chloride	1.0	< 1.0 µg/L
Napthalene	1.0	< 1.0 µg/L
n-Propylbenzene	1.0	< 1.0 µg/L
Styrene	1.0	< 1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0 µg/L
Tetrachloroethylene	1.0	< 1.0 µg/L
Toluene	1.0	< 1.0 µg/L
1,2,3-Trichlorobenzene	1.0	< 1.0 µg/L
1,2,4-Trichlorobenzene	1.0	< 1.0 µg/L
1,1,1-Trichloroethane	0.5	< 0.5 µg/L
1,1,2-Trichloroethane	1.0	< 1.0 µg/L
Trichloroethylene	0.5	< 0.5 µg/L
Trichlorofluoromethane	1.0	< 1.0 µg/L
1,2,3-Trichloropropane	1.0	< 1.0 µg/L
1,2,4-Trimethylbenzene	1.0	< 1.0 µg/L
1,3,5-Trimethylbenzene	1.0	< 1.0 µg/L
Vinyl chloride	0.5	< 0.5 µg/L
Total Xylenes	1.0	< 1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	98			
1,2-Dichloroethane-d4	76-114	97			
Toluene - d8	88-110	104			

Analyzed: 05-13 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260D

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	96			
1,2-Dichloroethane-d4	76-114	99			
Toluene - d8	88-110	100			

Analyzed: 05-13 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260D

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results
Benzene	0.5	<	0.5 µg/L
Bromobenzene	1.0	<	1.0 µg/L
Bromochloromethane	1.0	<	1.0 µg/L
Bromodichloromethane	0.5	<	0.5 µg/L
Bromoform	0.5	<	0.5 µg/L
Bromomethane	2.0	<	2.0 µg/L
n-Butylbenzene	1.0	<	1.0 µg/L
sec-Butylbenzene	1.0	<	1.0 µg/L
tert-Butylbenzene	1.0	<	1.0 µg/L
Carbon tetrachloride	0.5	<	0.5 µg/L
Chlorobenzene	1.0	<	1.0 µg/L
Chloroethane	2.0	<	2.0 µg/L
Chloroform	0.5	<	0.5 µg/L
Chloromethane	1.0	<	1.0 µg/L
o-Chlorotoluene	1.0	<	1.0 µg/L
p-Chlorotoluene	1.0	<	1.0 µg/L
Dibromochloromethane	0.5	<	0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	<	1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	<	1.0 µg/L
Dibromomethane	1.0	<	1.0 µg/L
m-Dichlorobenzene	1.0	<	1.0 µg/L
o-Dichlorobenzene	1.0	<	1.0 µg/L
p-Dichlorobenzene	0.5	<	0.5 µg/L
Dichlorodifluoromethane	1.0	<	1.0 µg/L
1,1-Dichloroethane	1.0	<	1.0 µg/L
1,2-Dichloroethane	0.5	<	0.5 µg/L
1,1-Dichloroethylene	0.5	<	0.5 µg/L
1,2-Dichloroethylene, cis	1.0	<	1.0 µg/L
1,2-Dichloroethylene, trans	1.0	<	1.0 µg/L
1,2-Dichloropropane	1.0	<	1.0 µg/L
1,3-Dichloropropane	1.0	<	1.0 µg/L
2,2-Dichloropropane	1.0	<	1.0 µg/L
1,1-Dichloropropylene	1.0	<	1.0 µg/L
1,3-Dichloropropylene, cis	1.0	<	1.0 µg/L
1,3-Dichloropropylene,trans	1.0	<	1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260C

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL	Results
Ethylbenzene	1.0	< 1.0 µg/L
Hexachlorobutadiene	1.0	< 1.0 µg/L
Isopropylbenzene	1.0	< 1.0 µg/L
p-Isopropyltoluene	1.0	< 1.0 µg/L
Methylene chloride	1.0	< 1.0 µg/L
Napthalene	1.0	< 1.0 µg/L
n-Propylbenzene	1.0	< 1.0 µg/L
Styrene	1.0	< 1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0 µg/L
Tetrachloroethylene	1.0	< 1.0 µg/L
Toluene	1.0	< 1.0 µg/L
1,2,3-Trichlorobenzene	1.0	< 1.0 µg/L
1,2,4-Trichlorobenzene	1.0	< 1.0 µg/L
1,1,1-Trichloroethane	0.5	< 0.5 µg/L
1,1,2-Trichloroethane	1.0	< 1.0 µg/L
Trichloroethylene	0.5	< 0.5 µg/L
Trichlorofluoromethane	1.0	< 1.0 µg/L
1,2,3-Trichloropropane	1.0	< 1.0 µg/L
1,2,4-Trimethylbenzene	1.0	< 1.0 µg/L
1,3,5-Trimethylbenzene	1.0	< 1.0 µg/L
Vinyl chloride	0.5	< 0.5 µg/L
Total Xylenes	1.0	< 1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	101			
1,2-Dichloroethane-d4	76-114	93			
Toluene - d8	88-110	100			

Analyzed: 05-13 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260C

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results
Benzene	0.5	<	0.5 µg/L
Bromobenzene	1.0	<	1.0 µg/L
Bromochloromethane	1.0	<	1.0 µg/L
Bromodichloromethane	0.5	<	0.5 µg/L
Bromoform	0.5	<	0.5 µg/L
Bromomethane	2.0	<	2.0 µg/L
n-Butylbenzene	1.0	<	1.0 µg/L
sec-Butylbenzene	1.0	<	1.0 µg/L
tert-Butylbenzene	1.0	<	1.0 µg/L
Carbon tetrachloride	0.5	<	0.5 µg/L
Chlorobenzene	1.0	<	1.0 µg/L
Chloroethane	2.0	<	2.0 µg/L
Chloroform	0.5	<	0.5 µg/L
Chloromethane	1.0	<	1.0 µg/L
o-Chlorotoluene	1.0	<	1.0 µg/L
p-Chlorotoluene	1.0	<	1.0 µg/L
Dibromochloromethane	0.5	<	0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	<	1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	<	1.0 µg/L
Dibromomethane	1.0	<	1.0 µg/L
m-Dichlorobenzene	1.0	<	1.0 µg/L
o-Dichlorobenzene	1.0	<	1.0 µg/L
p-Dichlorobenzene	0.5	<	0.5 µg/L
Dichlorodifluoromethane	1.0	<	1.0 µg/L
1,1-Dichloroethane	1.0	<	1.0 µg/L
1,2-Dichloroethane	0.5	<	0.5 µg/L
1,1-Dichloroethylene	0.5	<	0.5 µg/L
1,2-Dichloroethylene, cis	1.0	<	1.0 µg/L
1,2-Dichloroethylene, trans	1.0	<	1.0 µg/L
1,2-Dichloropropane	1.0	<	1.0 µg/L
1,3-Dichloropropane	1.0	<	1.0 µg/L
2,2-Dichloropropane	1.0	<	1.0 µg/L
1,1-Dichloropropylene	1.0	<	1.0 µg/L
1,3-Dichloropropylene, cis	1.0	<	1.0 µg/L
1,3-Dichloropropylene,trans	1.0	<	1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260B

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL	Results
Ethylbenzene	1.0	< 1.0 µg/L
Hexachlorobutadiene	1.0	< 1.0 µg/L
Isopropylbenzene	1.0	< 1.0 µg/L
p-Isopropyltoluene	1.0	< 1.0 µg/L
Methylene chloride	1.0	< 1.0 µg/L
Napthalene	1.0	< 1.0 µg/L
n-Propylbenzene	1.0	< 1.0 µg/L
Styrene	1.0	< 1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0 µg/L
Tetrachloroethylene	1.0	< 1.0 µg/L
Toluene	1.0	< 1.0 µg/L
1,2,3-Trichlorobenzene	1.0	< 1.0 µg/L
1,2,4-Trichlorobenzene	1.0	< 1.0 µg/L
1,1,1-Trichloroethane	0.5	< 0.5 µg/L
1,1,2-Trichloroethane	1.0	< 1.0 µg/L
Trichloroethylene	0.5	< 0.5 µg/L
Trichlorofluoromethane	1.0	< 1.0 µg/L
1,2,3-Trichloropropane	1.0	< 1.0 µg/L
1,2,4-Trimethylbenzene	1.0	< 1.0 µg/L
1,3,5-Trimethylbenzene	1.0	< 1.0 µg/L
Vinyl chloride	0.5	< 0.5 µg/L
Total Xylenes	1.0	< 1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	100			
1,2-Dichloroethane-d4	76-114	98			
Toluene - d8	88-110	99			

Analyzed: 05-12 to 05-23-91 Analyst BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260B

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results
Benzene	0.5	<	0.5 µg/L
Bromobenzene	1.0	<	1.0 µg/L
Bromochloromethane	1.0	<	1.0 µg/L
Bromodichloromethane	0.5	<	0.5 µg/L
Bromoform	0.5	<	0.5 µg/L
Bromomethane	2.0	<	2.0 µg/L
n-Butylbenzene	1.0	<	1.0 µg/L
sec-Butylbenzene	1.0	<	1.0 µg/L
tert-Butylbenzene	1.0	<	1.0 µg/L
Carbon tetrachloride	0.5	<	0.5 µg/L
Chlorobenzene	1.0	<	1.0 µg/L
Chloroethane	2.0	<	2.0 µg/L
Chloroform	0.5	<	0.5 µg/L
Chloromethane	1.0	<	1.0 µg/L
o-Chlorotoluene	1.0	<	1.0 µg/L
p-Chlorotoluene	1.0	<	1.0 µg/L
Dibromochloromethane	0.5	<	0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	<	1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	<	1.0 µg/L
Dibromomethane	1.0	<	1.0 µg/L
m-Dichlorobenzene	1.0	<	1.0 µg/L
o-Dichlorobenzene	1.0	<	1.0 µg/L
p-Dichlorobenzene	0.5	<	0.5 µg/L
Dichlorodifluoromethane	1.0	<	1.0 µg/L
1,1-Dichloroethane	1.0	<	1.0 µg/L
1,2-Dichloroethane	0.5	<	0.5 µg/L
1,1-Dichloroethylene	0.5	<	0.5 µg/L
1,2-Dichloroethylene, cis	1.0	<	1.0 µg/L
1,2-Dichloroethylene, trans	1.0	<	1.0 µg/L
1,2-Dichloropropane	1.0	<	1.0 µg/L
1,3-Dichloropropane	1.0	<	1.0 µg/L
2,2-Dichloropropane	1.0	<	1.0 µg/L
1,1-Dichloropropylene	1.0	<	1.0 µg/L
1,3-Dichloropropylene, cis	1.0	<	1.0 µg/L
1,3-Dichloropropylene,trans	1.0	<	1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260A

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL	Results
Ethylbenzene	1.0	< 1.0 µg/L
Hexachlorobutadiene	1.0	< 1.0 µg/L
Isopropylbenzene	1.0	< 1.0 µg/L
p-Isopropyltoluene	1.0	< 1.0 µg/L
Methylene chloride	45	**2.7 µg/L**
Napthalene	1.0	< 1.0 µg/L
n-Propylbenzene	1.0	< 1.0 µg/L
Styrene	1.0	< 1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0 µg/L
Tetrachloroethylene	1.0	< 1.0 µg/L
Toluene	1.0	< 1.0 µg/L
1,2,3-Trichlorobenzene	1.0	< 1.0 µg/L
1,2,4-Trichlorobenzene	1.0	< 1.0 µg/L
1,1,1-Trichloroethane	0.5	< 0.5 µg/L
1,1,2-Trichloroethane	1.0	< 1.0 µg/L
Trichloroethylene	0.5	< 0.5 µg/L
Trichlorofluoromethane	45	**1.3 µg/L**
1,2,3-Trichloropropane	45	< 45 µg/kg
1,2,4-Trimethylbenzene	45	< 45 µg/kg
1,3,5-Trimethylbenzene	45	< 45 µg/kg
Vinyl chloride	45	< 45 µg/kg
Total Xylenes	45	< 45 µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	96			
1,2-Dichloroethane-d4	76-114	93			
Toluene - d8	88-110	99			

Analyzed: 05-12 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Lab Method Blank

Lab #:MB 8260A

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results
Parameter	PQL		Results
Benzene	0.5	<	0.5 µg/L
Bromobenzene	1.0	<	1.0 µg/L
Bromochloromethane	1.0	<	1.0 µg/L
Bromodichloromethane	0.5	<	0.5 µg/L
Bromoform	0.5	<	0.5 µg/L
Bromomethane	2.0	<	2.0 µg/L
n-Butylbenzene	1.0	<	1.0 µg/L
sec-Butylbenzene	1.0	<	1.0 µg/L
tert-Butylbenzene	1.0	<	1.0 µg/L
Carbon tetrachloride	0.5	<	0.5 µg/L
Chlorobenzene	1.0	<	1.0 µg/L
Chloroethane	2.0	<	2.0 µg/L
Chloroform	0.5	<	0.5 µg/L
Chloromethane	1.0	<	1.0 µg/L
o-Chlorotoluene	1.0	<	1.0 µg/L
p-Chlorotoluene	1.0	<	1.0 µg/L
Dibromochloromethane	0.5	<	0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	<	1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	<	1.0 µg/L
Dibromomethane	1.0	<	1.0 µg/L
m-Dichlorobenzene	1.0	<	1.0 µg/L
o-Dichlorobenzene	1.0	<	1.0 µg/L
p-Dichlorobenzene	0.5	<	0.5 µg/L
Dichlorodifluoromethane	1.0	<	1.0 µg/L
1,1-Dichloroethane	1.0	<	1.0 µg/L
1,2-Dichloroethane	0.5	<	0.5 µg/L
1,1-Dichloroethylene	0.5	<	0.5 µg/L
1,2-Dichloroethylene, cis	1.0	<	1.0 µg/L
1,2-Dichloroethylene, trans	1.0	<	1.0 µg/L
1,2-Dichloropropane	1.0	<	1.0 µg/L
1,3-Dichloropropane	1.0	<	1.0 µg/L
2,2-Dichloropropane	1.0	<	1.0 µg/L
1,1-Dichloropropylene	1.0	<	1.0 µg/L
1,3-Dichloropropylene, cis	1.0	<	1.0 µg/L
1,3-Dichloropropylene,trans	1.0	<	1.0 µg/L

Continued on the following page.

Client: Cole Associates

Report #: 22579-587

Site: Lab Trip Blank

Lab #: MB 22587

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL	Results
Ethylbenzene	1.0	< 1.0 µg/L
Hexachlorobutadiene	1.0	< 1.0 µg/L
Isopropylbenzene	1.0	< 1.0 µg/L
p-Isopropyltoluene	1.0	< 1.0 µg/L
Methylene chloride	1.0	< 1.0 µg/L
Napthalene	1.0	< 1.0 µg/L
n-Propylbenzene	1.0	< 1.0 µg/L
Styrene	1.0	< 1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	< 1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0 µg/L
Tetrachloroethylene	1.0	< 1.0 µg/L
Toluene	1.0	< 1.0 µg/L
1,2,3-Trichlorobenzene	1.0	< 1.0 µg/L
1,2,4-Trichlorobenzene	1.0	< 1.0 µg/L
1,1,1-Trichloroethane	0.5	< 0.5 µg/L
1,1,2-Trichloroethane	1.0	< 1.0 µg/L
Trichloroethylene	0.5	< 0.5 µg/L
Trichlorofluoromethane	1.0	< 1.0 µg/L
1,2,3-Trichloropropane	1.0	< 1.0 µg/L
1,2,4-Trimethylbenzene	1.0	< 1.0 µg/L
1,3,5-Trimethylbenzene	1.0	< 1.0 µg/L
Vinyl chloride	0.5	< 0.5 µg/L
Total Xylenes	1.0	< 1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery Undil	1:10	1:100	1:1000
Bromofluorobenzene	74-121	95			
1,2-Dichloroethane-d4	70-121	98			
Toluene - d8	81-117	100			

Analyzed: 05/10/91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Lab Trip Blank

Lab #: MB 22587

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	74-121	95			
1,2-Dichloroethane-d4	70-121	98			
Toluene - d8	81-117	100			

Analyzed: 05/10/91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Lab Trip Blank

Lab #: MB-22587

VOLATILE ORGANIC CHEMICALS--Groundwater

Parameter	PQL		Results
Benzene	0.5	<	0.5 µg/L
Bromobenzene	1.0	<	1.0 µg/L
Bromochloromethane	1.0	<	1.0 µg/L
Bromodichloromethane	0.5	<	0.5 µg/L
Bromoform	0.5	<	0.5 µg/L
Bromomethane	2.0	<	2.0 µg/L
n-Butylbenzene	1.0	<	1.0 µg/L
sec-Butylbenzene	1.0	<	1.0 µg/L
tert-Butylbenzene	1.0	<	1.0 µg/L
Carbon tetrachloride	0.5	<	0.5 µg/L
Chlorobenzene	1.0	<	1.0 µg/L
Chloroethane	2.0	<	2.0 µg/L
Chloroform	0.5	<	0.5 µg/L
Chloromethane	1.0	<	1.0 µg/L
o-Chlorotoluene	1.0	<	1.0 µg/L
p-Chlorotoluene	1.0	<	1.0 µg/L
Dibromochloromethane	0.5	<	0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	<	1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	<	1.0 µg/L
Dibromomethane	1.0	<	1.0 µg/L
m-Dichlorobenzene	1.0	<	1.0 µg/L
o-Dichlorobenzene	1.0	<	1.0 µg/L
p-Dichlorobenzene	0.5	<	0.5 µg/L
Dichlorodifluoromethane	1.0	<	1.0 µg/L
1,1-Dichloroethane	1.0	<	1.0 µg/L
1,2-Dichloroethane	0.5	<	0.5 µg/L
1,1-Dichloroethylene	0.5	<	0.5 µg/L
1,2-Dichloroethylene, cis	1.0	<	1.0 µg/L
1,2-Dichloroethylene, trans	1.0	<	1.0 µg/L
1,2-Dichloropropane	1.0	<	1.0 µg/L
1,3-Dichloropropane	1.0	<	1.0 µg/L
2,2-Dichloropropane	1.0	<	1.0 µg/L
1,1-Dichloropropylene	1.0	<	1.0 µg/L
1,3-Dichloropropylene, cis	1.0	<	1.0 µg/L
1,3-Dichloropropylene,trans	1.0	<	1.0 µg/L

Continued on the following page

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260F

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	74-121	95			
1,2-Dichloroethane-d4	70-121	97			
Toluene - d8	81-117	95			

Analyzed: 05/28/91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260F

VOLATILE ORGANIC CHEMICALS--Groundwater

Parameter	PQL		Results
Benzene	0.5	<	0.5 µg/L
Bromobenzene	1.0	<	1.0 µg/L
Bromochloromethane	1.0	<	1.0 µg/L
Bromodichloromethane	0.5	<	0.5 µg/L
Bromoform	0.5	<	0.5 µg/L
Bromomethane	2.0	<	2.0 µg/L
n-Butylbenzene	1.0	<	1.0 µg/L
sec-Butylbenzene	1.0	<	1.0 µg/L
tert-Butylbenzene	1.0	<	1.0 µg/L
Carbon tetrachloride	0.5	<	0.5 µg/L
Chlorobenzene	1.0	<	1.0 µg/L
Chloroethane	2.0	<	2.0 µg/L
Chloroform	0.5	<	0.5 µg/L
Chloromethane	1.0	<	1.0 µg/L
o-Chlorotoluene	1.0	<	1.0 µg/L
p-Chlorotoluene	1.0	<	1.0 µg/L
Dibromochloromethane	0.5	<	0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	<	1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	<	1.0 µg/L
Dibromomethane	1.0	<	1.0 µg/L
m-Dichlorobenzene	1.0	<	1.0 µg/L
o-Dichlorobenzene	1.0	<	1.0 µg/L
p-Dichlorobenzene	0.5	<	0.5 µg/L
Dichlorodifluoromethane	1.0	<	1.0 µg/L
1,1-Dichloroethane	1.0	<	1.0 µg/L
1,2-Dichloroethane	0.5	<	0.5 µg/L
1,1-Dichloroethylene	0.5	<	0.5 µg/L
1,2-Dichloroethylene, cis	1.0	<	1.0 µg/L
1,2-Dichloroethylene, trans	1.0	<	1.0 µg/L
1,2-Dichloropropane	1.0	<	1.0 µg/L
1,3-Dichloropropane	1.0	<	1.0 µg/L
2,2-Dichloropropane	1.0	<	1.0 µg/L
1,1-Dichloropropylene	1.0	<	1.0 µg/L
1,3-Dichloropropylene, cis	1.0	<	1.0 µg/L
1,3-Dichloropropylene,trans	1.0	<	1.0 µg/L

Continued on the following page

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260E

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery Undil	1:10	1:100	1:1000
Bromofluorobenzene	47-121	97			
1,2-Dichloroethane-d4	70-121	95			
Toluene - d8	81-117	96			

Analyzed: 05/28/91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260E

VOLATILE ORGANIC CHEMICALS--Groundwater

Parameter	PQL	Results
Benzene	0.5	< 0.5 µg/L
Bromobenzene	1.0	< 1.0 µg/L
Bromochloromethane	1.0	< 1.0 µg/L
Bromodichloromethane	0.5	< 0.5 µg/L
Bromoform	0.5	< 0.5 µg/L
Bromomethane	2.0	< 2.0 µg/L
n-Butylbenzene	1.0	< 1.0 µg/L
sec-Butylbenzene	1.0	< 1.0 µg/L
tert-Butylbenzene	1.0	< 1.0 µg/L
Carbon tetrachloride	0.5	< 0.5 µg/L
Chlorobenzene	1.0	< 1.0 µg/L
Chloroethane	2.0	< 2.0 µg/L
Chloroform	0.5	< 0.5 µg/L
Chloromethane	1.0	< 1.0 µg/L
o-Chlorotoluene	1.0	< 1.0 µg/L
p-Chlorotoluene	1.0	< 1.0 µg/L
Dibromochloromethane	0.5	< 0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	< 1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	< 1.0 µg/L
Dibromomethane	1.0	< 1.0 µg/L
m-Dichlorobenzene	1.0	< 1.0 µg/L
o-Dichlorobenzene	1.0	< 1.0 µg/L
p-Dichlorobenzene	0.5	< 0.5 µg/L
Dichlorodifluoromethane	1.0	< 1.0 µg/L
1,1-Dichloroethane	1.0	< 1.0 µg/L
1,2-Dichloroethane	0.5	< 0.5 µg/L
1,1-Dichloroethylene	0.5	< 0.5 µg/L
1,2-Dichloroethylene, cis	1.0	< 1.0 µg/L
1,2-Dichloroethylene, trans	1.0	< 1.0 µg/L
1,2-Dichloropropane	1.0	< 1.0 µg/L
1,3-Dichloropropane	1.0	< 1.0 µg/L
2,2-Dichloropropane	1.0	< 1.0 µg/L
1,1-Dichloropropylene	1.0	< 1.0 µg/L
1,3-Dichloropropylene, cis	1.0	< 1.0 µg/L
1,3-Dichloropropylene,trans	1.0	< 1.0 µg/L

Continued on the following page

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260B

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	100			
1,2-Dichloroethane-d4	76-114	102			
Toluene - d8	88-110	99			

Analyzed: 05/24/91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260B

VOLATILE ORGANIC CHEMICALS--Groundwater

Parameter	PQL	Results
Benzene	0.5	< 0.5 µg/L
Bromobenzene	1.0	< 1.0 µg/L
Bromochloromethane	1.0	< 1.0 µg/L
Bromodichloromethane	0.5	< 0.5 µg/L
Bromoform	0.5	< 0.5 µg/L
Bromomethane	2.0	< 2.0 µg/L
n-Butylbenzene	1.0	< 1.0 µg/L
sec-Butylbenzene	1.0	< 1.0 µg/L
tert-Butylbenzene	1.0	< 1.0 µg/L
Carbon tetrachloride	0.5	< 0.5 µg/L
Chlorobenzene	1.0	< 1.0 µg/L
Chloroethane	2.0	< 2.0 µg/L
Chloroform	0.5	< 0.5 µg/L
Chloromethane	1.0	< 1.0 µg/L
o-Chlorotoluene	1.0	< 1.0 µg/L
p-Chlorotoluene	1.0	< 1.0 µg/L
Dibromochloromethane	0.5	< 0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	< 1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	< 1.0 µg/L
Dibromomethane	1.0	< 1.0 µg/L
m-Dichlorobenzene	1.0	< 1.0 µg/L
o-Dichlorobenzene	1.0	< 1.0 µg/L
p-Dichlorobenzene	0.5	< 0.5 µg/L
Dichlorodifluoromethane	1.0	< 1.0 µg/L
1,1-Dichloroethane	1.0	< 1.0 µg/L
1,2-Dichloroethane	0.5	< 0.5 µg/L
1,1-Dichloroethylene	0.5	< 0.5 µg/L
1,2-Dichloroethylene, cis	1.0	< 1.0 µg/L
1,2-Dichloroethylene, trans	1.0	< 1.0 µg/L
1,2-Dichloropropane	1.0	< 1.0 µg/L
1,3-Dichloropropane	1.0	< 1.0 µg/L
2,2-Dichloropropane	1.0	< 1.0 µg/L
1,1-Dichloropropylene	1.0	< 1.0 µg/L
1,3-Dichloropropylene, cis	1.0	< 1.0 µg/L
1,3-Dichloropropylene,trans	1.0	< 1.0 µg/L

Continued on the following page

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260D

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	95			
1,2-Dichloroethane-d4	76-114	95			
Toluene - d8	88-110	98			

Analyzed: 05/24/91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260D

VOLATILE ORGANIC CHEMICALS--Groundwater

Parameter	PQL	Results
Benzene	0.5	< 0.5 µg/L
Bromobenzene	1.0	< 1.0 µg/L
Bromochloromethane	1.0	< 1.0 µg/L
Bromodichloromethane	0.5	< 0.5 µg/L
Bromoform	0.5	< 0.5 µg/L
Bromomethane	2.0	< 2.0 µg/L
n-Butylbenzene	1.0	< 1.0 µg/L
sec-Butylbenzene	1.0	< 1.0 µg/L
tert-Butylbenzene	1.0	< 1.0 µg/L
Carbon tetrachloride	0.5	< 0.5 µg/L
Chlorobenzene	1.0	< 1.0 µg/L
Chloroethane	2.0	< 2.0 µg/L
Chloroform	0.5	< 0.5 µg/L
Chloromethane	1.0	< 1.0 µg/L
o-Chlorotoluene	1.0	< 1.0 µg/L
p-Chlorotoluene	1.0	< 1.0 µg/L
Dibromochloromethane	0.5	< 0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	< 1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	< 1.0 µg/L
Dibromomethane	1.0	< 1.0 µg/L
m-Dichlorobenzene	1.0	< 1.0 µg/L
o-Dichlorobenzene	1.0	< 1.0 µg/L
p-Dichlorobenzene	0.5	< 0.5 µg/L
Dichlorodifluoromethane	1.0	< 1.0 µg/L
1,1-Dichloroethane	1.0	< 1.0 µg/L
1,2-Dichloroethane	0.5	< 0.5 µg/L
1,1-Dichloroethylene	0.5	< 0.5 µg/L
1,2-Dichloroethylene, cis	1.0	< 1.0 µg/L
1,2-Dichloroethylene, trans	1.0	< 1.0 µg/L
1,2-Dichloropropane	1.0	< 1.0 µg/L
1,3-Dichloropropane	1.0	< 1.0 µg/L
2,2-Dichloropropane	1.0	< 1.0 µg/L
1,1-Dichloropropylene	1.0	< 1.0 µg/L
1,3-Dichloropropylene, cis	1.0	< 1.0 µg/L
1,3-Dichloropropylene,trans	1.0	< 1.0 µg/L

Continued on the following page

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260E

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
*Trichloroethylene	0.5	<	**3.2 µg/L**
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

***Carryover from prior sample (Lab #22585) which had a very high level of TCE**

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	94			
1,2-Dichloroethane-d4	76-114	97			
Toluene - d8	88-110	103			

Analyzed: 05/10/91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260E

VOLATILE ORGANIC CHEMICALS--Groundwater

Parameter	PQL		Results
Benzene	0.5	<	0.5 µg/L
Bromobenzene	1.0	<	1.0 µg/L
Bromochloromethane	1.0	<	1.0 µg/L
Bromodichloromethane	0.5	<	0.5 µg/L
Bromoform	0.5	<	0.5 µg/L
Bromomethane	2.0	<	2.0 µg/L
n-Butylbenzene	1.0	<	1.0 µg/L
sec-Butylbenzene	1.0	<	1.0 µg/L
tert-Butylbenzene	1.0	<	1.0 µg/L
Carbon tetrachloride	0.5	<	0.5 µg/L
Chlorobenzene	1.0	<	1.0 µg/L
Chloroethane	2.0	<	2.0 µg/L
Chloroform	0.5	<	0.5 µg/L
Chloromethane	1.0	<	1.0 µg/L
o-Chlorotoluene	1.0	<	1.0 µg/L
p-Chlorotoluene	1.0	<	1.0 µg/L
Dibromochloromethane	0.5	<	0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	<	1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	<	1.0 µg/L
Dibromomethane	1.0	<	1.0 µg/L
m-Dichlorobenzene	1.0	<	1.0 µg/L
o-Dichlorobenzene	1.0	<	1.0 µg/L
p-Dichlorobenzene	0.5	<	0.5 µg/L
Dichlorodifluoromethane	1.0	<	1.0 µg/L
1,1-Dichloroethane	1.0	<	1.0 µg/L
1,2-Dichloroethane	0.5	<	0.5 µg/L
1,1-Dichloroethylene	0.5	<	0.5 µg/L
1,2-Dichloroethylene, cis	1.0	<	1.0 µg/L
1,2-Dichloroethylene, trans	1.0	<	1.0 µg/L
1,2-Dichloropropane	1.0	<	1.0 µg/L
1,3-Dichloropropane	1.0	<	1.0 µg/L
2,2-Dichloropropane	1.0	<	1.0 µg/L
1,1-Dichloropropylene	1.0	<	1.0 µg/L
1,3-Dichloropropylene, cis	1.0	<	1.0 µg/L
1,3-Dichloropropylene,trans	1.0	<	1.0 µg/L

Continued on the following page

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260D

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	95			
1,2-Dichloroethane-d4	76-114	91			
Toluene - d8	88-110	99			

Analyzed: 05/10/91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260D

VOLATILE ORGANIC CHEMICALS--Groundwater

Parameter	PQL	Results
Benzene	0.5	< 0.5 µg/L
Bromobenzene	1.0	< 1.0 µg/L
Bromochloromethane	1.0	< 1.0 µg/L
Bromodichloromethane	0.5	< 0.5 µg/L
Bromoform	0.5	< 0.5 µg/L
Bromomethane	2.0	< 2.0 µg/L
n-Butylbenzene	1.0	< 1.0 µg/L
sec-Butylbenzene	1.0	< 1.0 µg/L
tert-Butylbenzene	1.0	< 1.0 µg/L
Carbon tetrachloride	0.5	< 0.5 µg/L
Chlorobenzene	1.0	< 1.0 µg/L
Chloroethane	2.0	< 2.0 µg/L
Chloroform	0.5	< 0.5 µg/L
Chloromethane	1.0	< 1.0 µg/L
o-Chlorotoluene	1.0	< 1.0 µg/L
p-Chlorotoluene	1.0	< 1.0 µg/L
Dibromochloromethane	0.5	< 0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	< 1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	< 1.0 µg/L
Dibromomethane	1.0	< 1.0 µg/L
m-Dichlorobenzene	1.0	< 1.0 µg/L
o-Dichlorobenzene	1.0	< 1.0 µg/L
p-Dichlorobenzene	0.5	< 0.5 µg/L
Dichlorodifluoromethane	1.0	< 1.0 µg/L
1,1-Dichloroethane	1.0	< 1.0 µg/L
1,2-Dichloroethane	0.5	< 0.5 µg/L
1,1-Dichloroethylene	0.5	< 0.5 µg/L
1,2-Dichloroethylene, cis	1.0	< 1.0 µg/L
1,2-Dichloroethylene, trans	1.0	< 1.0 µg/L
1,2-Dichloropropane	1.0	< 1.0 µg/L
1,3-Dichloropropane	1.0	< 1.0 µg/L
2,2-Dichloropropane	1.0	< 1.0 µg/L
1,1-Dichloropropylene	1.0	< 1.0 µg/L
1,3-Dichloropropylene, cis	1.0	< 1.0 µg/L
1,3-Dichloropropylene,trans	1.0	< 1.0 µg/L

Continued on the following page

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260C

VOLATILE ORGANIC CHEMICALS--Groundwater, Cont.

Parameter	PQL		Results
Ethylbenzene	1.0	<	1.0 µg/L
Hexachlorobutadiene	1.0	<	1.0 µg/L
Isopropylbenzene	1.0	<	1.0 µg/L
p-Isopropyltoluene	1.0	<	1.0 µg/L
Methylene chloride	1.0	<	1.0 µg/L
Napthalene	1.0	<	1.0 µg/L
n-Propylbenzene	1.0	<	1.0 µg/L
Styrene	1.0	<	1.0 µg/L
1,1,1,2-Tetrachloroethane	1.0	<	1.0 µg/L
1,1,2,2-Tetrachloroethane	1.0	<	1.0 µg/L
Tetrachloroethylene	1.0	<	1.0 µg/L
Toluene	1.0	<	1.0 µg/L
1,2,3-Trichlorobenzene	1.0	<	1.0 µg/L
1,2,4-Trichlorobenzene	1.0	<	1.0 µg/L
1,1,1-Trichloroethane	0.5	<	0.5 µg/L
1,1,2-Trichloroethane	1.0	<	1.0 µg/L
Trichloroethylene	0.5	<	0.5 µg/L
Trichlorofluoromethane	1.0	<	1.0 µg/L
1,2,3-Trichloropropane	1.0	<	1.0 µg/L
1,2,4-Trimethylbenzene	1.0	<	1.0 µg/L
1,3,5-Trimethylbenzene	1.0	<	1.0 µg/L
Vinyl chloride	0.5	<	0.5 µg/L
Total Xylenes	1.0	<	1.0 µg/L

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

		% Recovery			
Surrogate Standards	Limits (%)	Undil	1:10	1:100	1:1000
Bromofluorobenzene	86-115	95			
1.2-Dichloroethane-d4	76-114	93			
Toluene - d8	88-110	99			

Analyzed: 05/09/91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22579-587

Site: Lab Method Blank

Lab #: MB-8260C

VOLATILE ORGANIC CHEMICALS--Groundwater

Parameter	PQL	Results
Benzene	0.5	< 0.5 µg/L
Bromobenzene	1.0	< 1.0 µg/L
Bromochloromethane	1.0	< 1.0 µg/L
Bromodichloromethane	0.5	< 0.5 µg/L
Bromoform	0.5	< 0.5 µg/L
Bromomethane	2.0	< 2.0 µg/L
n-Butylbenzene	1.0	< 1.0 µg/L
sec-Butylbenzene	1.0	< 1.0 µg/L
tert-Butylbenzene	1.0	< 1.0 µg/L
Carbon tetrachloride	0.5	< 0.5 µg/L
Chlorobenzene	1.0	< 1.0 µg/L
Chloroethane	2.0	< 2.0 µg/L
Chloroform	0.5	< 0.5 µg/L
Chloromethane	1.0	< 1.0 µg/L
o-Chlorotoluene	1.0	< 1.0 µg/L
p-Chlorotoluene	1.0	< 1.0 µg/L
Dibromochloromethane	0.5	< 0.5 µg/L
1,2-Dibromo-3-Chloropropane	1.0	< 1.0 µg/L
1,2-Dibromoethane(EDB)	1.0	< 1.0 µg/L
Dibromomethane	1.0	< 1.0 µg/L
m-Dichlorobenzene	1.0	< 1.0 µg/L
o-Dichlorobenzene	1.0	< 1.0 µg/L
p-Dichlorobenzene	0.5	< 0.5 µg/L
Dichlorodifluoromethane	1.0	< 1.0 µg/L
1,1-Dichloroethane	1.0	< 1.0 µg/L
1,2-Dichloroethane	0.5	< 0.5 µg/L
1,1-Dichloroethylene	0.5	< 0.5 µg/L
1,2-Dichloroethylene, cis	1.0	< 1.0 µg/L
1,2-Dichloroethylene, trans	1.0	< 1.0 µg/L
1,2-Dichloropropane	1.0	< 1.0 µg/L
1,3-Dichloropropane	1.0	< 1.0 µg/L
2,2-Dichloropropane	1.0	< 1.0 µg/L
1,1-Dichloropropylene	1.0	< 1.0 µg/L
1,3-Dichloropropylene, cis	1.0	< 1.0 µg/L
1,3-Dichloropropylene,trans	1.0	< 1.0 µg/L

Continued on the following page

Client: Cole Associates

Report#: 23149-177

Site: Hole # 16 E-F 12"-18"

Lab #:23176-MS & MSD

VOLATILE ORGANIC CHEMICALS - Matrix Spike Results - Soil

Matrix Spike - (ug/kg)

Parameter	Spike Added	Sample Conc	MS Conc	MS %Rec	%Rec Limit
1,1-Dichloroethylene	500	< 50	117	23.*	59–172
Trichloroethylene	500	EQR	NA	NA	62–137
Benzene	500	< 50	402	80	66–142
Toluene	500	240	519	70	59–139
Chlorobenzene	500	< 50	497	99	60–133

Matrix Spike Duplicate -(ug/kg)

Parameter	Spike Added	MSD Conc	MSD %Rec	%Rec Limit	% RPD	%RPD Limit
1,1-Dichloroethylene	500	157	32.*	59–172	29*	22
Trichloroethylene	500	EQR	NA	62–137	NA	24
Benzene	500	399	80	66–142	1	21
Toluene	500	450	90	59–139	14	21
Chlorobenzene	500	493	89	60–133	12	21

Surrogate Standards	%Rec MS	%Rec MSD	%Rec Limit
4-Bromofluorobenzene			74-121
1,2-Dichloroethane-d4			70-121
Toluene-d_8			81-117

Analyzed: 05/21/91 Analyst: BK Method: 8260

* Methanol used in extraction procedure interferes with the quantitation of this compound.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Differnece
Rec = Recovery
EQR = Exceeded Quantitation Range

QUALITY CONTROL DATA

Client: Cole Associates

Report#: 23149-177

REFERENCES AND DEFINITIONS OF TERMS

RCRA Metals

Analytical Technique: Atomic Absorption As

FL =	Flame
GF =	Graphite Furnace
CV =	Cold Vapor
HD =	Hydride

Reference: EPA Test Methods for Evaluating Solid Waste SW-846, Third Edition, November 1986

Volatile Organic Chemical (VOC) Ground Water Analysis

Analytical Technique: Purge & Trap/GC/MS

Reference: EPA Test Methods for Evaluating Solid Waste SW-846, Third Edition, November 1986

Practical Quantitation Limits (PQL's) represent the lower limit at which the compounds of interest can be accurately detected, at a 95% confidence level, and reported for a sample exhibiting minimal chemical background interference under the conditions employed in the analytical procedure. PQL's are by definition a function of the instrument performance for an ideal sample and thus are not adjusted for sample dilutions used to calculate results.

Volatile Organic Chemicals (VOC's) are a group of natural and synthetic organic chemicals characterized by their volatility (ability to evaporate). The volatile chemicals included in this report have been selected by the EPA to be monitored both because of their suspected toxicity and because of their widespread use in industry. Many are used in the production of plastics, clothing and other common items found in most industries.

(<) means "less than". The number given is the lowest reportable value by the procedure used for analysis.

1 µg/L = 1 microgram per liter = 1 part per billion (ppb).

1 µg/kg = 1 microgram per kilogram = 1 part per billion (ppb).

1 mg/kg = 1 milligram per kilogram = 1 part per million (ppm).

Client: Cole Associates

Report#: 23149-177

Site: Hole # 17 G-H 18"-24"

Lab #: 23173

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	260	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45		< 45	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	110	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	4400	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	96	95	
1,2-Dichloroethane-d_4	70-121	94	96	
Toluene - d_8	81-117	95	97	

Analyzed: 05-21 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Hole # 17 G-H 18"-24"

Lab #: 23173

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results		
Benzene	45		<	45	µg/kg
Bromobenzene	45		<	45	µg/kg
Bromochloromethane	45		<	45	µg/kg
Bromodichloromethane	45		<	45	µg/kg
Bromoform	45		<	45	µg/kg
Bromomethane	90		<	90	µg/kg
n-Butylbenzene	45		<	45	µg/kg
sec-Butlybenzene	45		<	45	µg/kg
tert-Butylbenzene	45		<	45	µg/kg
Carbon tetrachloride	45		<	45	µg/kg
Chlorobenzene	45		<	45	µg/kg
Chloroethane	90		<	90	µg/kg
Chloroform	45		<	45	µg/kg
Chloromethane	45		<	45	µg/kg
o-Chlorotoluene	45		<	45	µg/kg
p-Chlorotoluene	45		<	45	µg/kg
Dibromochloromethane	45		<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45		<	45	µg/kg
1,2-Dibromoethane(EDB)	45		<	45	µg/kg
Dibromomethane	45		<	45	µg/kg
m-Dichlorobenzene	45		<	45	µg/kg
o-Dichlorobenzene	45		<	45	µg/kg
p-Dichlorobenzene	45		<	45	µg/kg
Dichlorodifluoromethane	45		<	45	µg/kg
1,1-Dichloroethane	45		<	45	µg/kg
1,2-Dichloroethane	45		<	45	µg/kg
1,1-Dichloroethylene	45		<	45	µg/kg
1,2-Dichloroethylene, cis	45	√		1100	µg/kg
1,2-Dichloroethylene, trans	45		<	45	µg/kg
1,2-Dichloropropane	45		<	45	µg/kg
1,3-Dichloropropane	45		<	45	µg/kg
2,2-Dichloropropane	45		<	45	µg/kg
1,1-Dichloropropyle	45		<	45	µg/kg
1,3-Dichloropropylene, cis	45		<	45	µg/kg
1,3-Dichloropropylene, trans	45		<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 23149-177

Site: Hole # 17 E.E. 12"-18"

Lab #: 23172

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	240	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	55	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	130	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	3900	µg/kg *
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	96		
1,2-Dichloroethane-d_4	70-121	98		
Toluene - d_8	81-117	95		

* Estimated from over-range result. No further dilution run.

Analyzed: 05-21-91 Analyst: BK Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Hole # 17 E-F 12"-18"

Lab #: 23172

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results		
Benzene	45		<	45	µg/kg
Bromobenzene	45		<	45	µg/kg
Bromochloromethane	45		<	45	µg/kg
Bromodichloromethane	45		<	45	µg/kg
Bromoform	45		<	45	µg/kg
Bromomethane	90		<	90	µg/kg
n-Butylbenzene	45		<	45	µg/kg
sec-Butlybenzene	45		<	45	µg/kg
tert-Butylbenzene	45		<	45	µg/kg
Carbon tetrachloride	45		<	45	µg/kg
Chlorobenzene	45		<	45	µg/kg
Chloroethane	90		<	90	µg/kg
Chloroform	45		<	45	µg/kg
Chloromethane	45		<	45	µg/kg
o-Chlorotoluene	45		<	45	µg/kg
p-Chlorotoluene	45		<	45	µg/kg
Dibromochloromethane	45		<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45		<	45	µg/kg
1,2-Dibromoethane(EDB)	45		<	45	µg/kg
Dibromomethane	45		<	45	µg/kg
m-Dichlorobenzene	45		<	45	µg/kg
o-Dichlorobenzene	45		<	45	µg/kg
p-Dichlorobenzene	45		<	45	µg/kg
Dichlorodifluoromethane	45		<	45	µg/kg
1,1-Dichloroethane	45		<	45	µg/kg
1,2-Dichloroethane	45		<	45	µg/kg
1,1-Dichloroethylene	45		<	45	µg/kg
1,2-Dichloroethylene, cis	45	√		**2000**	µg/kg
1,2-Dichloroethylene, trans	45	√		**49**	µg/kg
1,2-Dichloropropane	45		<	45	µg/kg
1,3-Dichloropropane	45		<	45	µg/kg
2,2-Dichloropropane	45		<	45	µg/kg
1,1-Dichloropropyle	45		<	45	µg/kg
1,3-Dichloropropylene, cis	45		<	45	µg/kg
1,3-Dichloropropylene, trans	45		<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 23149-177

Site: Hole # 17 C-D 6"-12"

Lab #: 23171

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45		< 45	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45		< 45	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	180	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	6600	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	104	93	
1,2-Dichloroethane-d_4	70-121	102	100	
Toluene - d_8	81-117	98	97	

Analyzed: 05-21 to 5-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Hole # 17 C-D 6"-12"

Lab #: 23171

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results		
Benzene	45		<	45	µg/kg
Bromobenzene	45		<	45	µg/kg
Bromochloromethane	45		<	45	µg/kg
Bromodichloromethane	45		<	45	µg/kg
Bromoform	45		<	45	µg/kg
Bromomethane	90		<	90	µg/kg
n-Butylbenzene	45		<	45	µg/kg
sec-Butlybenzene	45		<	45	µg/kg
tert-Butylbenzene	45		<	45	µg/kg
Carbon tetrachloride	45		<	45	µg/kg
Chlorobenzene	45		<	45	µg/kg
Chloroethane	90		<	90	µg/kg
Chloroform	45		<	45	µg/kg
Chloromethane	45		<	45	µg/kg
o-Chlorotoluene	45		<	45	µg/kg
p-Chlorotoluene	45		<	45	µg/kg
Dibromochloromethane	45		<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45		<	45	µg/kg
1,2-Dibromoethane(EDB)	45		<	45	µg/kg
Dibromomethane	45		<	45	µg/kg
m-Dichlorobenzene	45		<	45	µg/kg
o-Dichlorobenzene	45		<	45	µg/kg
p-Dichlorobenzene	45		<	45	µg/kg
Dichlorodifluoromethane	45		<	45	µg/kg
1,1-Dichloroethane	45		<	45	µg/kg
1,2-Dichloroethane	45		<	45	µg/kg
1,1-Dichloroethylene	45		<	45	µg/kg
1,2-Dichloroethylene, cis	45	√		3500	µg/kg
1,2-Dichloroethylene, trans	45	√		96	µg/kg
1,2-Dichloropropane	45		<	45	µg/kg
1,3-Dichloropropane	45		<	45	µg/kg
2,2-Dichloropropane	45		<	45	µg/kg
1,1-Dichloropropyle	45		<	45	µg/kg
1,3-Dichloropropylene, cis	45		<	45	µg/kg
1,3-Dichloropropylene, trans	45		<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 23149-177

Site: Hole # 17 [redacted]0"-6"

Lab #: 23170

[redacted]OLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	140	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45		< 45	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	77	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	3900	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	91	95	
1,2-Dichloroethane-d_4	70-121	95	97	
Toluene - d_8	81-117	96	95	

Analyzed: 05-21-[redacted]

Analyst: BK

Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Hole # 17 A-B 0"-6"

Lab #: 23170

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	√	1100	µg/kg
1,2-Dichloroethylene, trans	45	√	60	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 23149-177

Site: Hole # 16 G-H 18"-24"

Lab #: 23177

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	410	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	140	µg/kg
Toluene	45	√	230	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	280	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	11000	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	98	94	
1,2-Dichloroethane-d_4	70-121	97	95	
Toluene - d_8	81-117	97	94	

Analyzed: 05-~~24-94~~ Analyst: BK Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Hole # 16 G-H 18"-24"

Lab #: 23177

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	√	830	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 23149-177

Site: Hole # 16 E-F 12"-18"

Lab #: 23176

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	520	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	120	µg/kg
Toluene	45	√	240	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	240	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	6200	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	93	98	
1,2-Dichloroethane-d_4	70-121	96	100	
Toluene - d_8	81-117	95	98	

Analyzed: 05-24-94 Analyst: BK Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Hole # 16 E-F 12"-18"

Lab #: 23176

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	√	**390**	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 23149-177

Site: Hole # 16 C-D 6"-12"

Lab #: 23175

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	680	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	270	µg/kg
Toluene	45	√	220	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	460	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	9600	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45	√	100	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	94	97	
1,2-Dichloroethane-d_4	70-121	100	97	
Toluene - d_8	81-117	99	94	

Analyzed: 05-24-91 Analyst: BK Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Hole # 16 C-D 6"-12"

Lab #: 23175

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	√	**520**	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 23149-177

Site: Hole # 16 A-B 0"-6"

Lab #: 23174 Lab Duplicate

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	65	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	840	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	1200	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	5500	µg/kg *
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	99		
1,2-Dichloroethane-d_4	70-121	99		
Toluene - d_8	81-117	96		

* Estimated from over-range result. No further dilution run.

Analyzed: 05-21 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Hole # 16 ~~A-B~~ 0"-6"

Lab #: 23174 Lab Duplicate

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45		200	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 23149-177

Site: Hole # 16 A-B 0"-6"

Lab #: 23174

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	153	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	820	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	1300	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	8100	µg/kg
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45	√	59	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	1:45	1:450	1:4500
Bromofluorobenzene	74-121	95	92	
1,2-Dichloroethane-d_4	70-121	96	95	
Toluene - d_8	81-117	96	92	

Analyzed: 05-21 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report#: 23149-177

Site: Hole # 16 A-B 0"-6"

Lab #: 23174

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	45		< 45	µg/kg
Bromobenzene	45		< 45	µg/kg
Bromochloromethane	45		< 45	µg/kg
Bromodichloromethane	45		< 45	µg/kg
Bromoform	45		< 45	µg/kg
Bromomethane	90		< 90	µg/kg
n-Butylbenzene	45		< 45	µg/kg
sec-Butlybenzene	45		< 45	µg/kg
tert-Butylbenzene	45		< 45	µg/kg
Carbon tetrachloride	45		< 45	µg/kg
Chlorobenzene	45		< 45	µg/kg
Chloroethane	90		< 90	µg/kg
Chloroform	45		< 45	µg/kg
Chloromethane	45		< 45	µg/kg
o-Chlorotoluene	45		< 45	µg/kg
p-Chlorotoluene	45		< 45	µg/kg
Dibromochloromethane	45		< 45	µg/kg
1,2-Dibromo-3-Chloropropane	45		< 45	µg/kg
1,2-Dibromoethane(EDB)	45		< 45	µg/kg
Dibromomethane	45		< 45	µg/kg
m-Dichlorobenzene	45		< 45	µg/kg
o-Dichlorobenzene	45		< 45	µg/kg
p-Dichlorobenzene	45		< 45	µg/kg
Dichlorodifluoromethane	45		< 45	µg/kg
1,1-Dichloroethane	45		< 45	µg/kg
1,2-Dichloroethane	45		< 45	µg/kg
1,1-Dichloroethylene	45		< 45	µg/kg
1,2-Dichloroethylene, cis	45	√	200	µg/kg
1,2-Dichloroethylene, trans	45		< 45	µg/kg
1,2-Dichloropropane	45		< 45	µg/kg
1,3-Dichloropropane	45		< 45	µg/kg
2,2-Dichloropropane	45		< 45	µg/kg
1,1-Dichloropropyle	45		< 45	µg/kg
1,3-Dichloropropylene, cis	45		< 45	µg/kg
1,3-Dichloropropylene, trans	45		< 45	µg/kg

Continued on the following page.

Environmental
Health Laboratories

1105 [illegible] Street
South Bend, IN 46617
(219) 233-4777
(219) 233-3272
FAX (219) 233-[illegible]

LABORATORY REPORT

Client: Cole Associates
Attn: Fred Rouse
2211 E. Jefferson
South Bend, IN 46615

Report#: 23149-177

Status: Final

Project/Site: Johnson Controls

Samples Submitted: Twenty nine soil samples

Collected: 05-03-91 By: Client Received: 05-06-91

REPORT SUMMARY

See R-SUM-22597-3552 for a report summary of each sample set for the Johnson Controls project.

Detailed quantitative results are presented in the main body of the report.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 6 C-D 6"-12"

Lab #: 22992

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**390**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45		< 45	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**700**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**110**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	93		
1,2-Dichloroethane-d_4	70-121	95		
Toluene - d_8	81-117	101		

Analyzed: 05-12 ~~to 05~~-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 6 E-F 12"-18"

Lab #: 22991

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results		
Benzene	45		<	45	µg/kg
Bromobenzene	45		<	45	µg/kg
Bromochloromethane	45		<	45	µg/kg
Bromodichloromethane	45		<	45	µg/kg
Bromoform	45		<	45	µg/kg
Bromomethane	90		<	90	µg/kg
n-Butylbenzene	45		<	45	µg/kg
sec-Butlybenzene	45		<	45	µg/kg
tert-Butylbenzene	45		<	45	µg/kg
Carbon tetrachloride	45		<	45	µg/kg
Chlorobenzene	45		<	45	µg/kg
Chloroethane	90		<	90	µg/kg
Chloroform	45		<	45	µg/kg
Chloromethane	45		<	45	µg/kg
o-Chlorotoluene	45		<	45	µg/kg
p-Chlorotoluene	45		<	45	µg/kg
Dibromochloromethane	45		<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45		<	45	µg/kg
1,2-Dibromoethane(EDB)	45		<	45	µg/kg
Dibromomethane	45		<	45	µg/kg
m-Dichlorobenzene	45		<	45	µg/kg
o-Dichlorobenzene	45		<	45	µg/kg
p-Dichlorobenzene	45		<	45	µg/kg
Dichlorodifluoromethane	45		<	45	µg/kg
1,1-Dichloroethane	45	√		**71**	**µg/kg**
1,2-Dichloroethane	45		<	45	µg/kg
1,1-Dichloroethylene	45		<	45	µg/kg
1,2-Dichloroethylene, cis	45	√		**260**	**µg/kg**
1,2-Dichloroethylene, trans	45	√		**46**	**µg/kg**
1,2-Dichloropropane	45		<	45	µg/kg
1,3-Dichloropropane	45		<	45	µg/kg
2,2-Dichloropropane	45		<	45	µg/kg
1,1-Dichloropropyle	45		<	45	µg/kg
1,3-Dichloropropylene, cis	45		<	45	µg/kg
1,3-Dichloropropylene, trans	45		<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 6 ~~E-F 12~~"-18"

Lab #: 22991

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45		310	µg/kg
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**310**	**µg/kg**
Toluene	45	√	**74**	**µg/kg**
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**4,800**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**1,200**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	97	97	
1,2-Dichloroethane-d_4	70-121	94	97	
Toluene - d_8	81-117	101	93	

Analyzed: 05-13 ~~to 05~~-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 6 ~~G-H-18~~"-24"

Lab #: 22990

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	45		< 45	µg/kg
Bromobenzene	45		< 45	µg/kg
Bromochloromethane	45		< 45	µg/kg
Bromodichloromethane	45		< 45	µg/kg
Bromoform	45		< 45	µg/kg
Bromomethane	90		< 90	µg/kg
n-Butylbenzene	45		< 45	µg/kg
sec-Butlybenzene	45		< 45	µg/kg
tert-Butylbenzene	45		< 45	µg/kg
Carbon tetrachloride	45		< 45	µg/kg
Chlorobenzene	45		< 45	µg/kg
Chloroethane	90		< 90	µg/kg
Chloroform	45		< 45	µg/kg
Chloromethane	45		< 45	µg/kg
o-Chlorotoluene	45		< 45	µg/kg
p-Chlorotoluene	45		< 45	µg/kg
Dibromochloromethane	45		< 45	µg/kg
1,2-Dibromo-3-Chloropropane	45		< 45	µg/kg
1,2-Dibromoethane(EDB)	45		< 45	µg/kg
Dibromomethane	45		< 45	µg/kg
m-Dichlorobenzene	45		< 45	µg/kg
o-Dichlorobenzene	45		< 45	µg/kg
p-Dichlorobenzene	45		< 45	µg/kg
Dichlorodifluoromethane	45		< 45	µg/kg
1,1-Dichloroethane	45	√	**77**	**µg/kg**
1,2-Dichloroethane	45		< 45	µg/kg
1,1-Dichloroethylene	45		< 45	µg/kg
1,2-Dichloroethylene, cis	45	√	**150**	**µg/kg**
1,2-Dichloroethylene, trans	45		< 45	µg/kg
1,2-Dichloropropane	45		< 45	µg/kg
1,3-Dichloropropane	45		< 45	µg/kg
2,2-Dichloropropane	45		< 45	µg/kg
1,1-Dichloropropyle	45		< 45	µg/kg
1,3-Dichloropropylene, cis	45		< 45	µg/kg
1,3-Dichloropropylene, trans	45		< 45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 6 G-H-18"-24"

Lab #: 22990

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**350**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**430**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**1,500**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**1,500**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	96		
1,2-Dichloroethane-d_4	70-121	92		
Toluene - d_8	81-117	102		

Analyzed: 05-12 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 15 A-B 0"-6"

Lab #: 23004

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	45		< 45	µg/kg
Bromobenzene	45		< 45	µg/kg
Bromochloromethane	45		< 45	µg/kg
Bromodichloromethane	45		< 45	µg/kg
Bromoform	45		< 45	µg/kg
Bromomethane	90		< 90	µg/kg
n-Butylbenzene	45		< 45	µg/kg
sec-Butlybenzene	45		< 45	µg/kg
tert-Butylbenzene	45		< 45	µg/kg
Carbon tetrachloride	45		< 45	µg/kg
Chlorobenzene	45		< 45	µg/kg
Chloroethane	90		< 90	µg/kg
Chloroform	45		< 45	µg/kg
Chloromethane	45		< 45	µg/kg
o-Chlorotoluene	45		< 45	µg/kg
p-Chlorotoluene	45		< 45	µg/kg
Dibromochloromethane	45		< 45	µg/kg
1,2-Dibromo-3-Chloropropane	45		< 45	µg/kg
1,2-Dibromoethane(EDB)	45		< 45	µg/kg
Dibromomethane	45		< 45	µg/kg
m-Dichlorobenzene	45		< 45	µg/kg
o-Dichlorobenzene	45		< 45	µg/kg
p-Dichlorobenzene	45		< 45	µg/kg
Dichlorodifluoromethane	45		< 45	µg/kg
1,1-Dichloroethane	45		< 45	µg/kg
1,2-Dichloroethane	45		< 45	µg/kg
1,1-Dichloroethylene	45		< 45	µg/kg
1,2-Dichloroethylene, cis	45	√	**60**	**µg/kg**
1,2-Dichloroethylene, trans	45		< 45	µg/kg
1,2-Dichloropropane	45		< 45	µg/kg
1,3-Dichloropropane	45		< 45	µg/kg
2,2-Dichloropropane	45		< 45	µg/kg
1,1-Dichloropropyle	45		< 45	µg/kg
1,3-Dichloropropylene, cis	45		< 45	µg/kg
1,3-Dichloropropylene, trans	45		< 45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 15 A-B 0"-6"

Lab #: 23004

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**460**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**330**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**110**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**8,900**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	97	92	
1,2-Dichloroethane-d_4	70-121	96	100	
Toluene - d_8	81-117	103	97	

Analyzed: 05-13-to-05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 15 C-D 6"-12"

Lab #: 23005

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	√	**88**	**µg/kg**
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 15 C-D 6"-12"

Lab #: 23005

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**260**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**140**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45	√	**92**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**6,500**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	98	97	
1,2-Dichloroethane-d_4	70-121	94	101	
Toluene - d_8	81-117	98	97	

Analyzed: 05-13 ~~to 05~~-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 15 E-F 12"-18"

Lab #: 23006

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	45		< 45	µg/kg
Bromobenzene	45		< 45	µg/kg
Bromochloromethane	45		< 45	µg/kg
Bromodichloromethane	45		< 45	µg/kg
Bromoform	45		< 45	µg/kg
Bromomethane	90		< 90	µg/kg
n-Butylbenzene	45		< 45	µg/kg
sec-Butlybenzene	45		< 45	µg/kg
tert-Butylbenzene	45		< 45	µg/kg
Carbon tetrachloride	45		< 45	µg/kg
Chlorobenzene	45		< 45	µg/kg
Chloroethane	90		< 90	µg/kg
Chloroform	45		< 45	µg/kg
Chloromethane	45		< 45	µg/kg
o-Chlorotoluene	45		< 45	µg/kg
p-Chlorotoluene	45		< 45	µg/kg
Dibromochloromethane	45		< 45	µg/kg
1,2-Dibromo-3-Chloropropane	45		< 45	µg/kg
1,2-Dibromoethane(EDB)	45		< 45	µg/kg
Dibromomethane	45		< 45	µg/kg
m-Dichlorobenzene	45		< 45	µg/kg
o-Dichlorobenzene	45		< 45	µg/kg
p-Dichlorobenzene	45		< 45	µg/kg
Dichlorodifluoromethane	45		< 45	µg/kg
1,1-Dichloroethane	45		< 45	µg/kg
1,2-Dichloroethane	45		< 45	µg/kg
1,1-Dichloroethylene	45		< 45	µg/kg
1,2-Dichloroethylene, cis	45	√	**120**	**µg/kg**
1,2-Dichloroethylene, trans	45		< 45	µg/kg
1,2-Dichloropropane	45		< 45	µg/kg
1,3-Dichloropropane	45		< 45	µg/kg
2,2-Dichloropropane	45		< 45	µg/kg
1,1-Dichloropropyle	45		< 45	µg/kg
1,3-Dichloropropylene, cis	45		< 45	µg/kg
1,3-Dichloropropylene, trans	45		< 45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 15 E-F 12"-18"

Lab #: 23006

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**410**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45	√	**130**	**µg/kg**
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45		**95**	**µg/kg**
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**6,800**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	99	94	
1,2-Dichloroethane-d_4	70-121	96	96	
Toluene - d_8	81-117	100	94	

Analyzed: 05-13 to 05-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

Site: Hole # 15 ~~C-U~~ 18"-24"

Lab #: 23007

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	45	<	45	µg/kg
Bromobenzene	45	<	45	µg/kg
Bromochloromethane	45	<	45	µg/kg
Bromodichloromethane	45	<	45	µg/kg
Bromoform	45	<	45	µg/kg
Bromomethane	90	<	90	µg/kg
n-Butylbenzene	45	<	45	µg/kg
sec-Butlybenzene	45	<	45	µg/kg
tert-Butylbenzene	45	<	45	µg/kg
Carbon tetrachloride	45	<	45	µg/kg
Chlorobenzene	45	<	45	µg/kg
Chloroethane	90	<	90	µg/kg
Chloroform	45	<	45	µg/kg
Chloromethane	45	<	45	µg/kg
o-Chlorotoluene	45	<	45	µg/kg
p-Chlorotoluene	45	<	45	µg/kg
Dibromochloromethane	45	<	45	µg/kg
1,2-Dibromo-3-Chloropropane	45	<	45	µg/kg
1,2-Dibromoethane(EDB)	45	<	45	µg/kg
Dibromomethane	45	<	45	µg/kg
m-Dichlorobenzene	45	<	45	µg/kg
o-Dichlorobenzene	45	<	45	µg/kg
p-Dichlorobenzene	45	<	45	µg/kg
Dichlorodifluoromethane	45	<	45	µg/kg
1,1-Dichloroethane	45	<	45	µg/kg
1,2-Dichloroethane	45	<	45	µg/kg
1,1-Dichloroethylene	45	<	45	µg/kg
1,2-Dichloroethylene, cis	45	<	45	µg/kg
1,2-Dichloroethylene, trans	45	<	45	µg/kg
1,2-Dichloropropane	45	<	45	µg/kg
1,3-Dichloropropane	45	<	45	µg/kg
2,2-Dichloropropane	45	<	45	µg/kg
1,1-Dichloropropyle	45	<	45	µg/kg
1,3-Dichloropropylene, cis	45	<	45	µg/kg
1,3-Dichloropropylene, trans	45	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report #: 22986-008

Site: Hole # 15 G-H 18"-24"

Lab #: 23007

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	45		< 45	µg/kg
Hexachlorobutadiene	45		< 45	µg/kg
Isopropylbenzene	45		< 45	µg/kg
p-Isopropyltoluene	45		< 45	µg/kg
Methylene chloride	45	√	**420**	**µg/kg**
Napthalene	45		< 45	µg/kg
n-Propylbenzene	45		< 45	µg/kg
Styrene	45		< 45	µg/kg
1,1,1,2-Tetrachloroethane	45		< 45	µg/kg
1,1,2,2-Tetrachloroethane	45		< 45	µg/kg
Tetrachloroethylene	45		< 45	µg/kg
Toluene	45		< 45	µg/kg
1,2,3-Trichlorobenzene	45		< 45	µg/kg
1,2,4-Trichlorobenzene	45		< 45	µg/kg
1,1,1-Trichloroethane	45		< 45	µg/kg
1,1,2-Trichloroethane	45		< 45	µg/kg
Trichloroethylene	45	√	**950**	**µg/kg**
Trichlorofluoromethane	45		< 45	µg/kg
1,2,3-Trichloropropane	45		< 45	µg/kg
1,2,4-Trimethylbenzene	45		< 45	µg/kg
1,3,5-Trimethylbenzene	45		< 45	µg/kg
Vinyl chloride	45		< 45	µg/kg
Total Xylenes	45		< 45	µg/kg

If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450	1:4500
Bromofluorobenzene	74-121	95		
1,2-Dichloroethane-d_4	70-121	95		
Toluene - d_8	81-117	102		

Analyzed: 05-13 ~~to 05~~-23-91 Analyst: BK Method: 8260

Client: Cole Associates

Report #: 22986-008

REFERENCES AND DEFINITIONS OF TERMS

RCRA Metals

Analytical Technique: Atomic Absorption As

FL =	Flame
GF =	Graphite Furnace
CV =	Cold Vapor
HD =	Hydride

Reference: EPA Test Methods for Evaluating Solid Waste SW-846, Third Edition, November 1986

Volatile Organic Chemical (VOC) Ground Water Analysis

Analytical Technique: Purge & Trap/GC/MS

Reference: EPA Test Methods for Evaluating Solid Waste SW-846, Third Edition, November 1986

Practical Quantitation Limits (PQL's) represent the lower limit at which the compounds of interest can be accurately detected, at a 95% confidence level, and reported for a sample exhibiting minimal chemical background interference under the conditions employed in the analytical procedure. PQL's are by definition a function of the instrument performance for an ideal sample and thus are not adjusted for sample dilutions used to calculate results.

Volatile Organic Chemicals (VOC's) are a group of natural and synthetic organic chemicals characterized by their volatility (ability to evaporate). The volatile chemicals included in this report have been selected by the EPA to be monitored both because of their suspected toxicity and because of their widespread use in industry. Many are used in the production of plastics, clothing and other common items found in most industries.

(<) means "less than". The number given is the lowest reportable value by the procedure used for analysis.

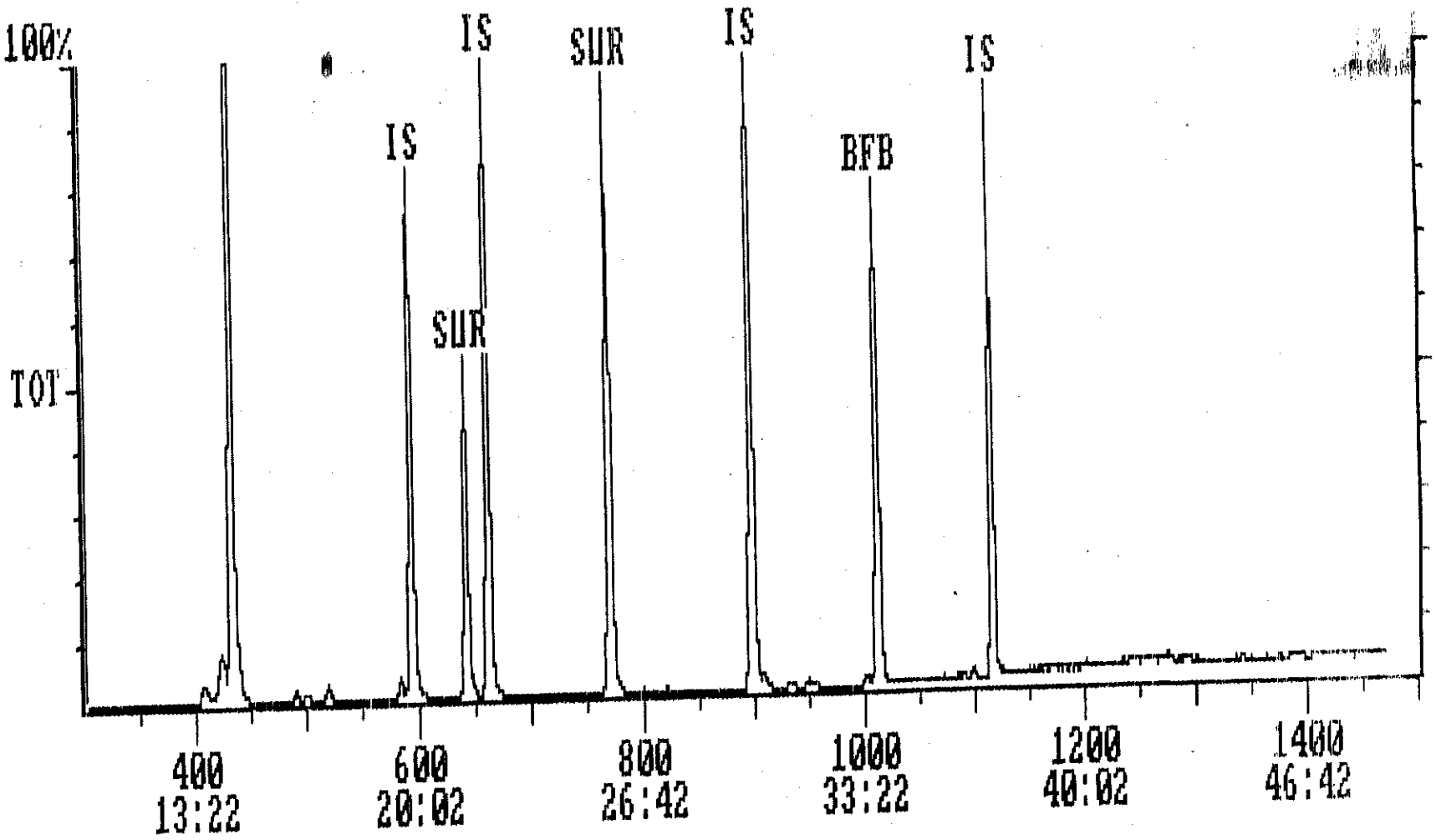
1 µg/L = 1 microgram per liter = 1 part per billion (ppb).

1 µg/kg = 1 microgram per kilogram = 1 part per billion (ppb).

1 mg/kg = 1 milligram per kilogram = 1 part per million (ppm).

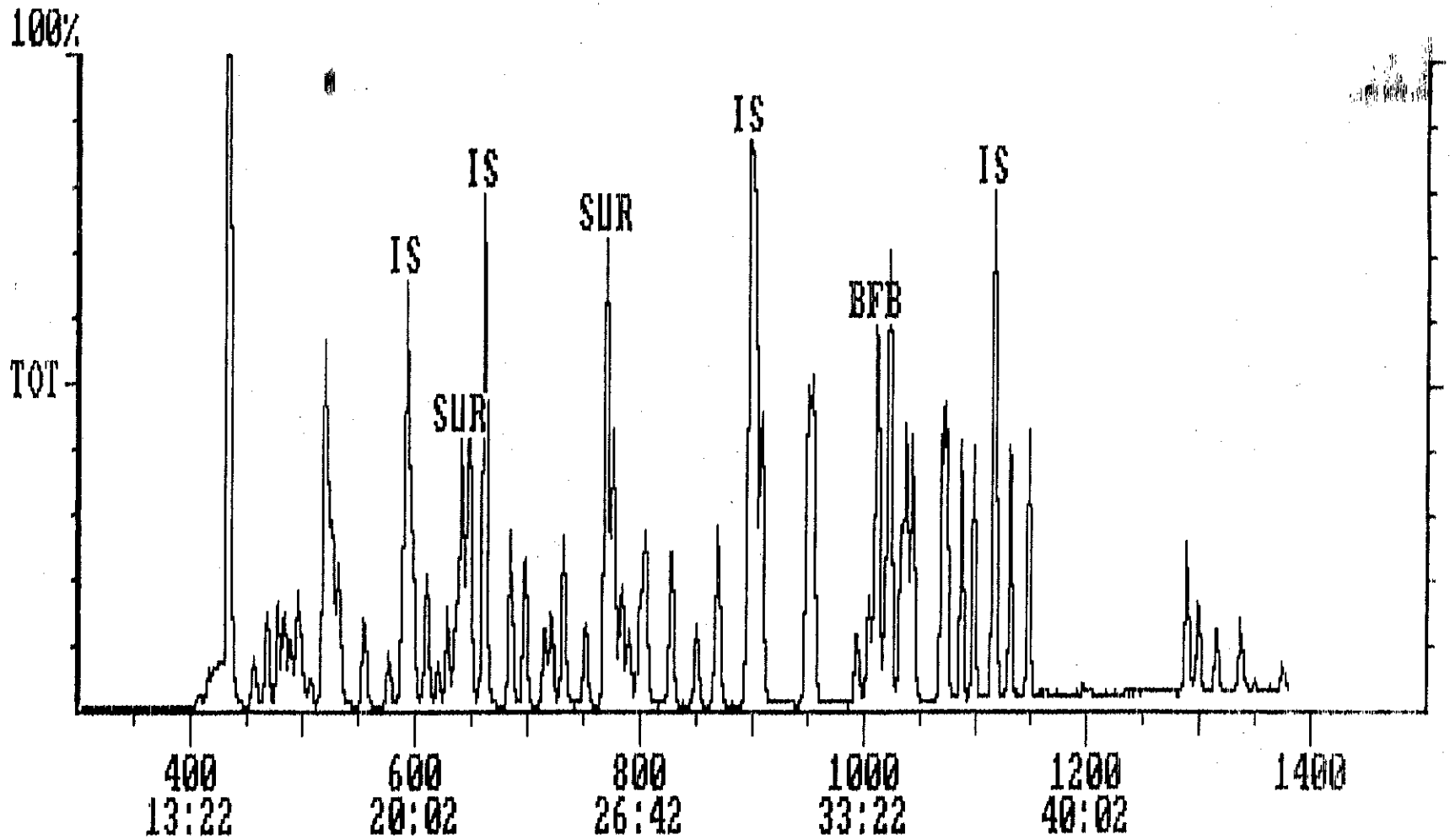
BORING NO. 16 AND 17

Chromatogram \DATA\DI0703-1 Acquired: Jul-03-1991 10:06:29
Comment: 5ml DI WATER METHOD BLANK
Scan Range: 301 - 1470 Scan: 301 Int = 1014 @ 10:05 100% = 265674



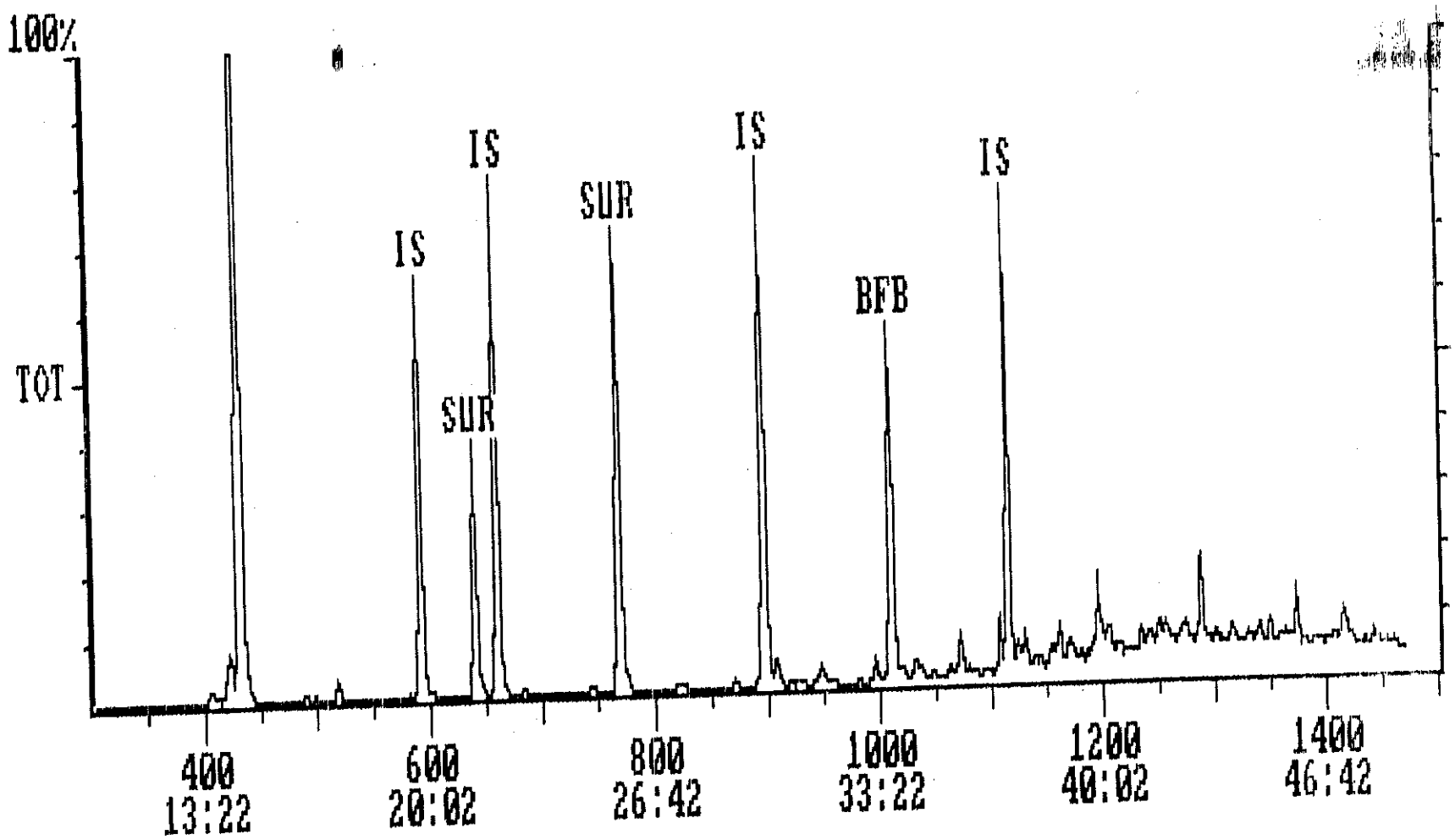
CHRO>

Chromatogram \DATA\ST0703-2 Acquired: Jul-03-1991 12:29:12
Comment: TARGET LIST VOC -- DAILY CALIBRATION STANDARD
Scan Range: 301 - 1380 Scan: 301 Int = 1036 @ 10:05 100% = 339874



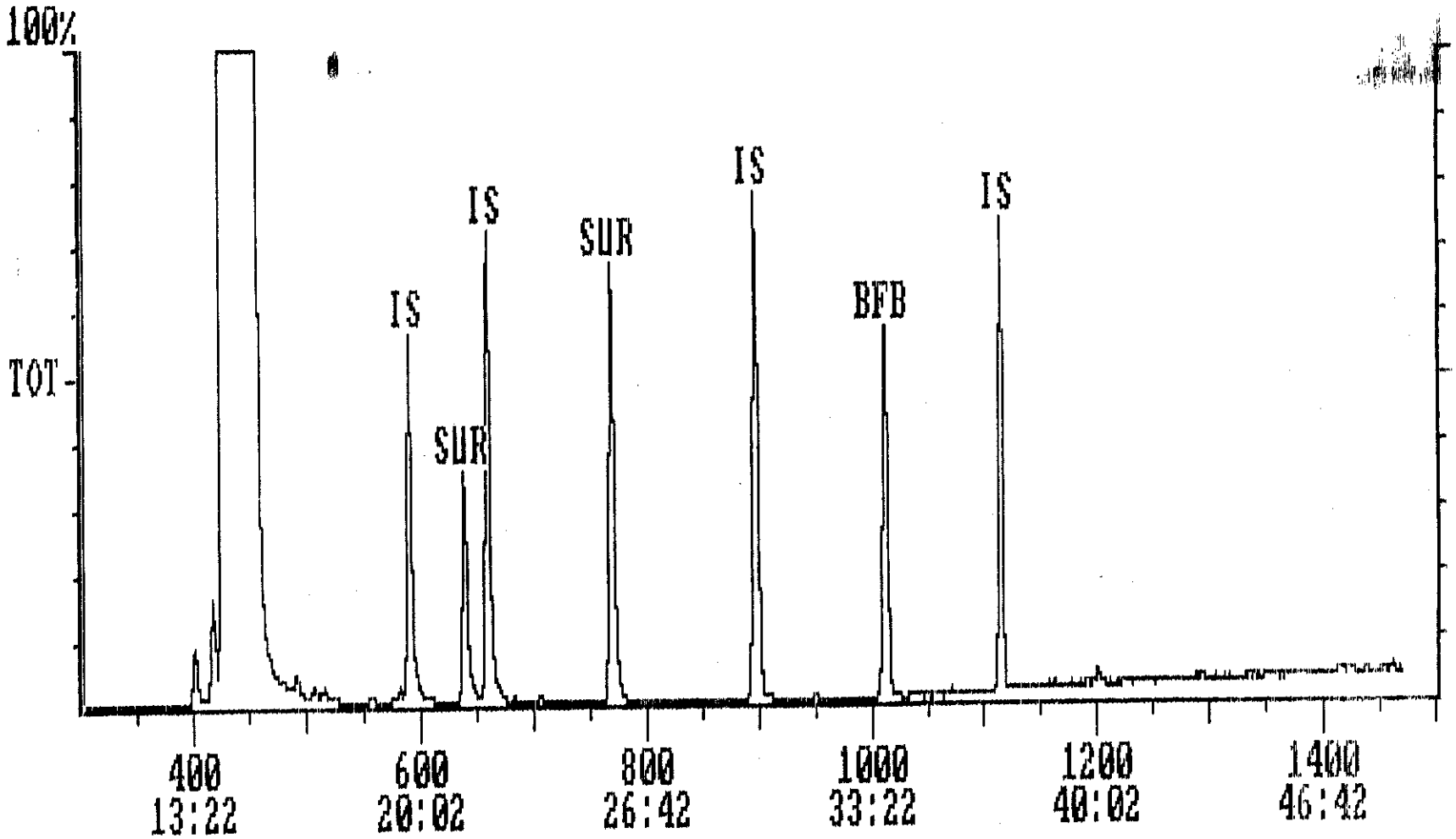
CHRO>

Chromatogram \DATA\ST0703-1 Acquired: Jul-03-1991 11:17:54
Comment: 489 ppb #2 FUEL OIL STANDARD
Scan Range: 301 - 1470 Scan: 301 Int = 1340 @ 10:05 100% = 348285



CHRO>

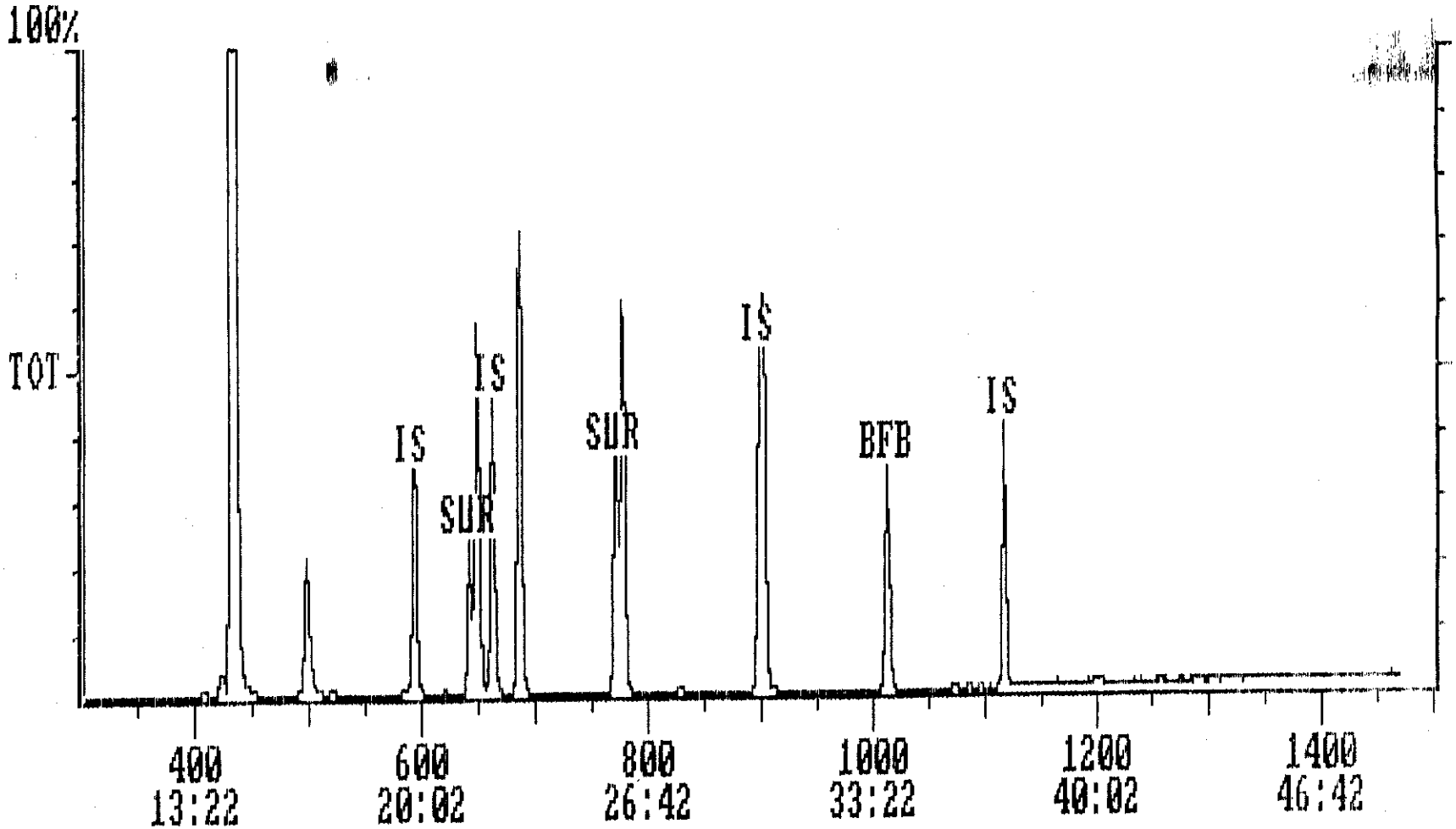
Chromatogram \DATA\MB0703-1 Acquired: Jul-03-1991 16:09:33
Comment: 1/50 METHANOL/DI METHOD BLANK FOR SOILS EXTRACTED 7/1/91
Scan Range: 301 - 1470 Scan: 301 Int = 1487 @ 10:05 100% = 347441



CHRO>

QA/QC
Matrix Spike

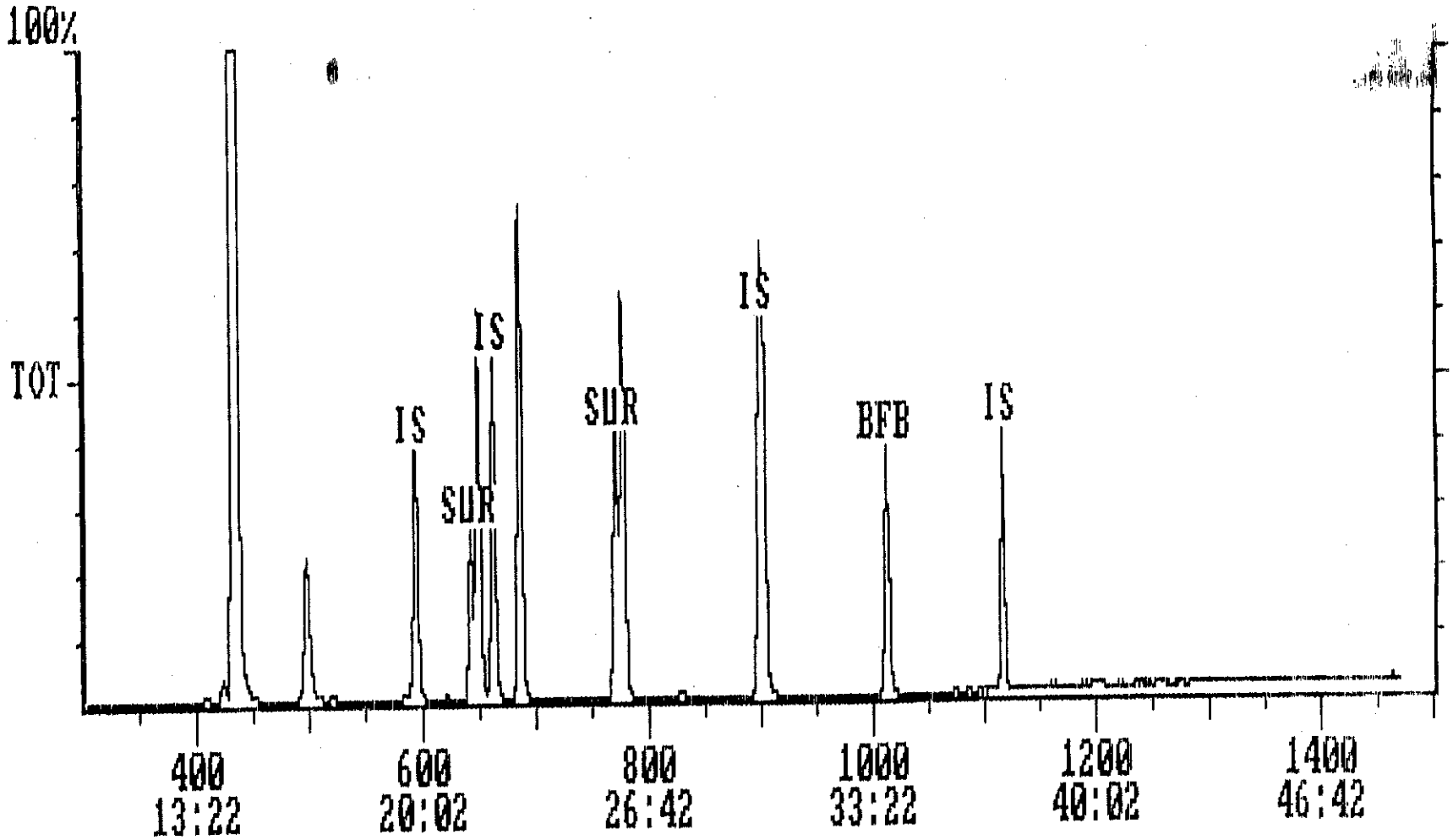
Chromatogram \DATA\18871-2 Acquired: Jul-03-1991 18:31:14
Comment: 1/500 SOIL #4 SPIKED COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
Scan Range: 301 - 1470 Scan: 301 Int = 1595 @ 10:05 100% = 588522



CHRO>

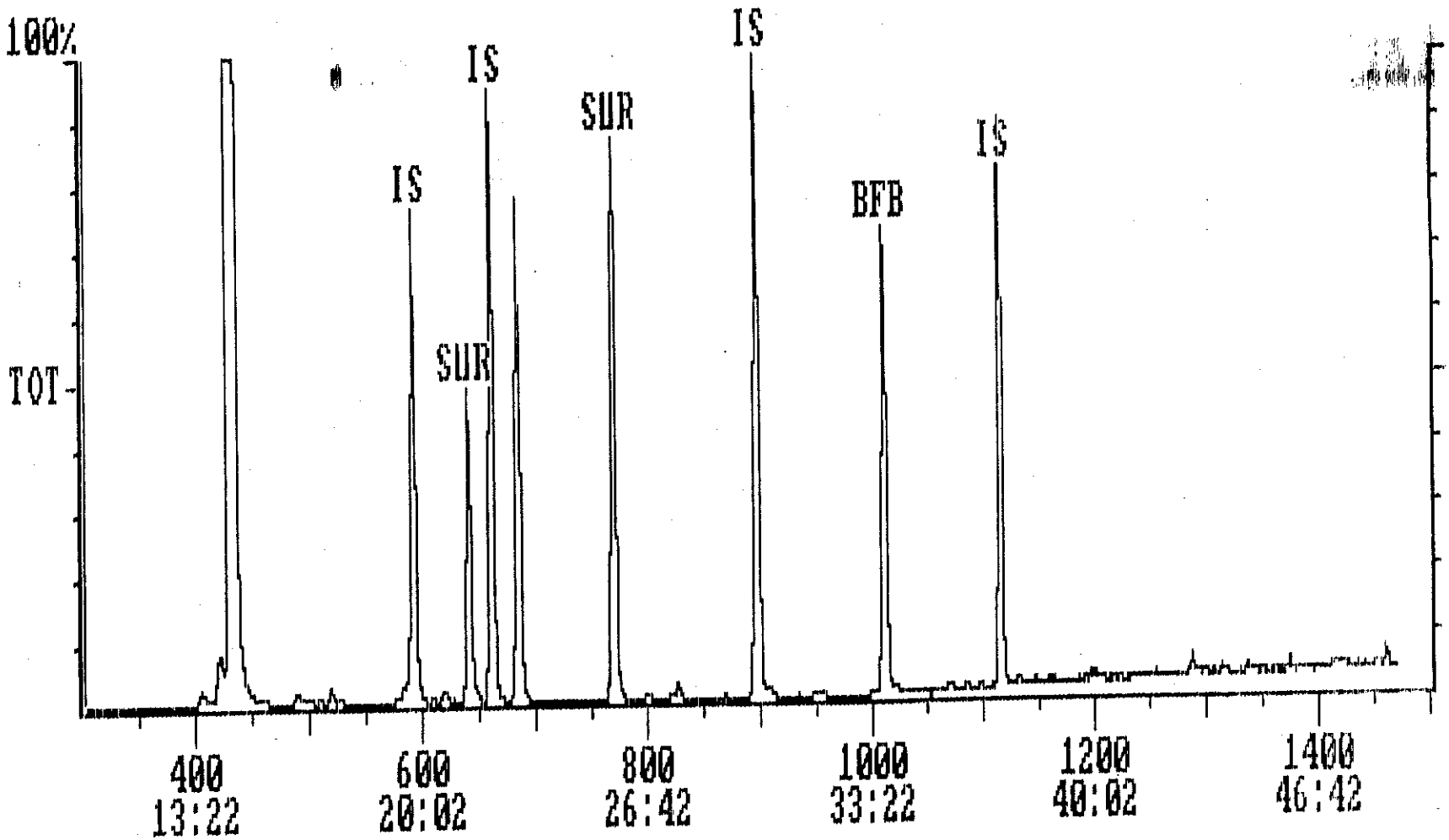
QA/QC
Duplicate Matrix Spike

Chromatogram \DATA\18871-3 Acquired: Jul-03-1991 19:42:35
Comment: 1/500 SOIL #4 DMS COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
Scan Range: 301 - 1470 Scan: 301 Int = 1467 @ 10:05 100% = 537657



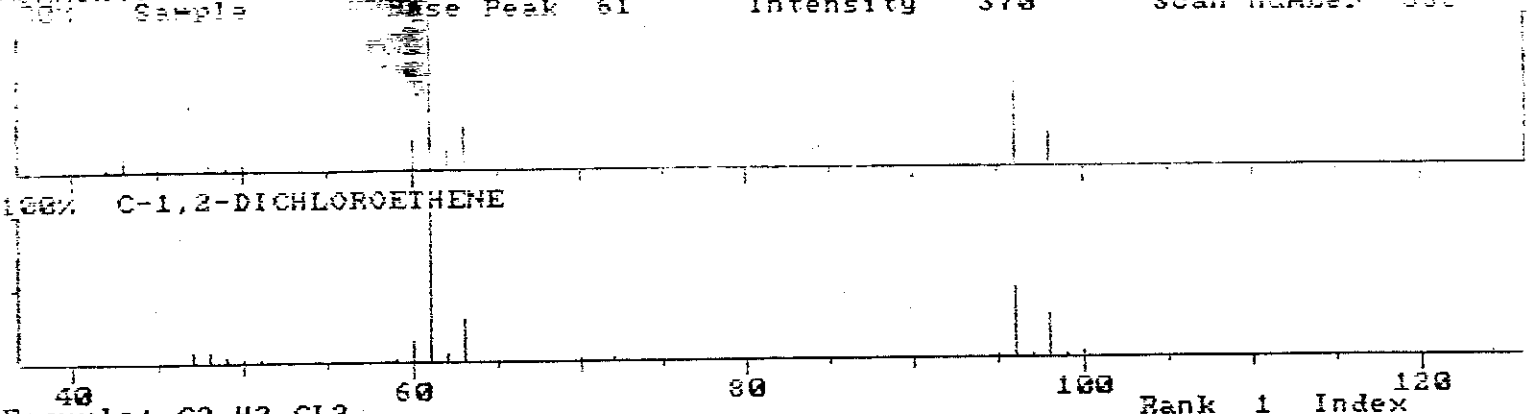
CHRO>

Chromatogram \DATA\18871 Acquired: Jul-03-1991 13:43:13
Comment: 1/500 SOIL #4 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
Scan Range: 301 - 1470 Scan: 301 Int = 806 @ 10:05 100% = 285725



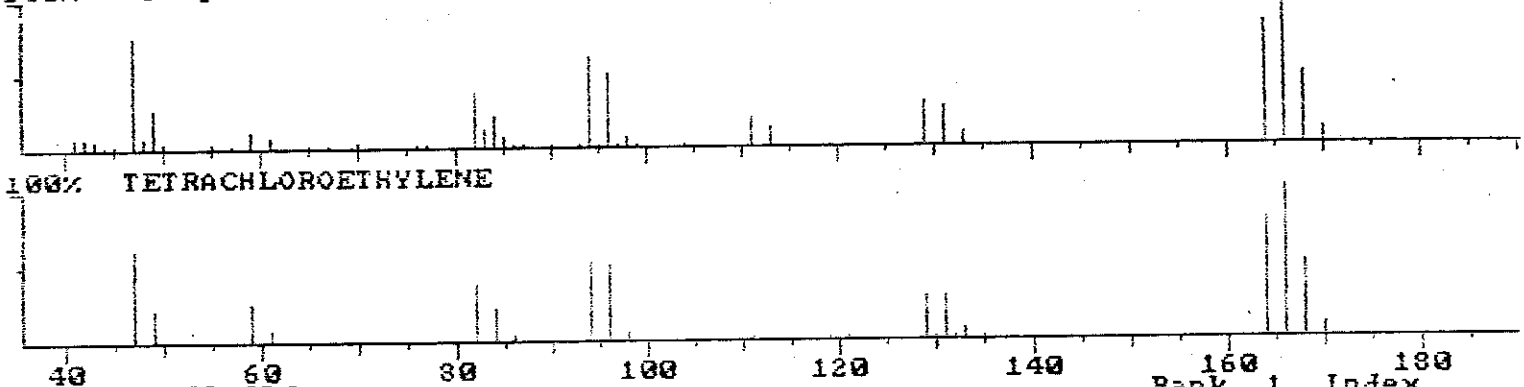
CHRO>

Library Search \DATA\18871 Acquired:Jul-03-1991 13:43:13 + 1[illegible]
Comment: 1/500 SOIL #4 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
100% Sample Base Peak 61 Intensity 370 Scan number 53[illegible]



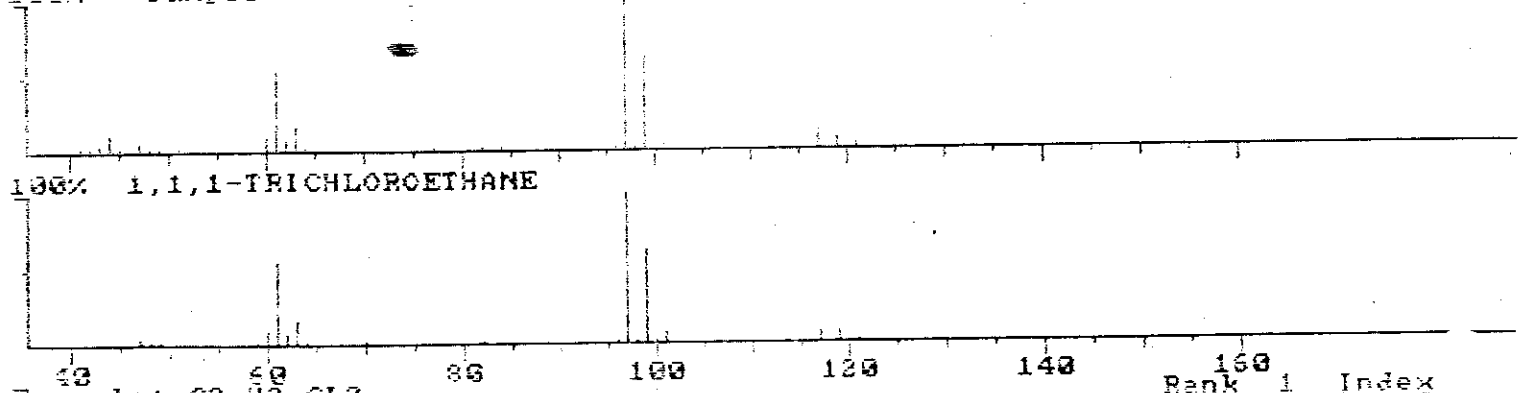
Formula: C2.H2.CL2. Rank 1 Index
Molecular weight 96 Purity[illegible] Fit[illegible] Rfit[illegible] Cas# 0-00-0
EIS(LB) (Purity, mass range 37 - 120, weight range 0 - 300)

Library Search \DATA\18871 Acquired:Jul-03-1991 13:43:13 + 27:36
Comment: 1/500 SOIL #4 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
100% Sample Base Peak 166 Intensity 787 Scan number 827



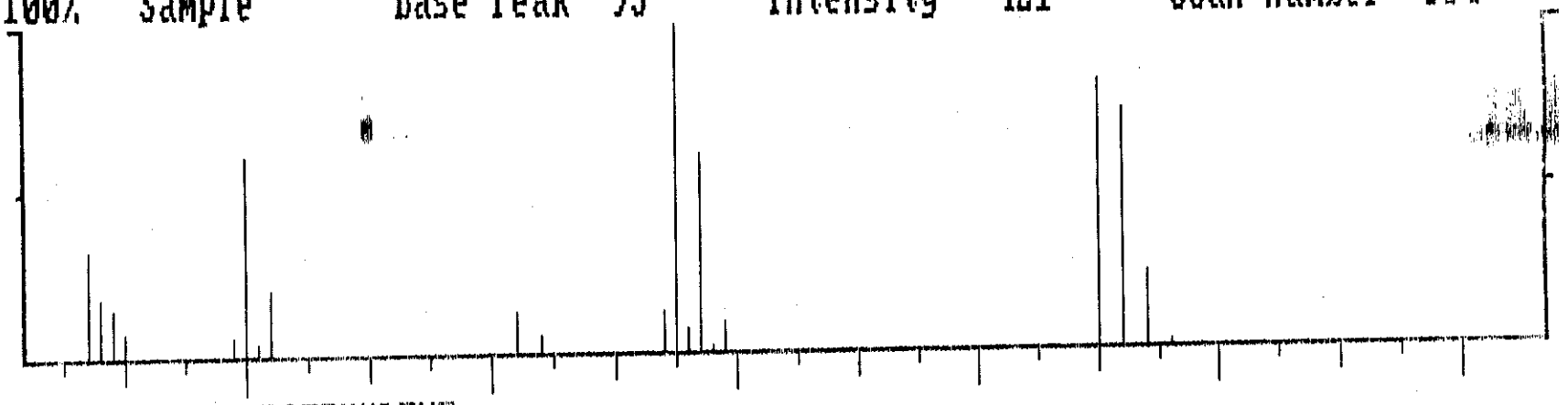
Formula: C2.CL4. Rank 1 Index
Molecular weight 166 Purity[illegible] Fit[illegible] Rfit[illegible] Cas# 0-00-0
EIS(LB) (Purity, mass range 36 - 190, weight range 0 - 300)

Library Search \DATA\18871 Acquired:Jul-03-1991 13:43:13 + 20:4[illegible]
Comment: 1/500 SOIL #4 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
100% Sample Base Peak 97 Intensity 629 Scan number 619

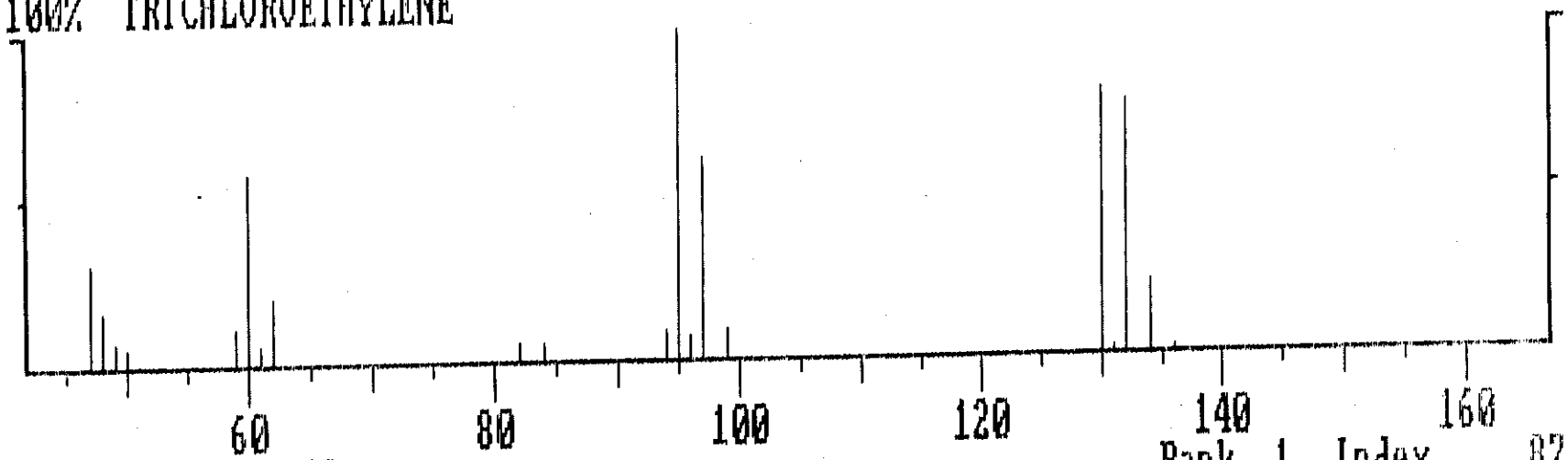


Formula: C2.H3.CL3. Rank 1 Index
Molecular weight 132 Purity[illegible] Fit[illegible] Rfit[illegible] Cas# 0-00-0
EIS(LB) (Purity, mass range 36 - 160, weight range 0 - 300)

Library Search \DATA\18871 Acquired:Jul-03-1991 13:43:13 + 22:50
Comment: 1/500 SOIL #4 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
100% Sample Base Peak 95 Intensity 421 Scan number 684

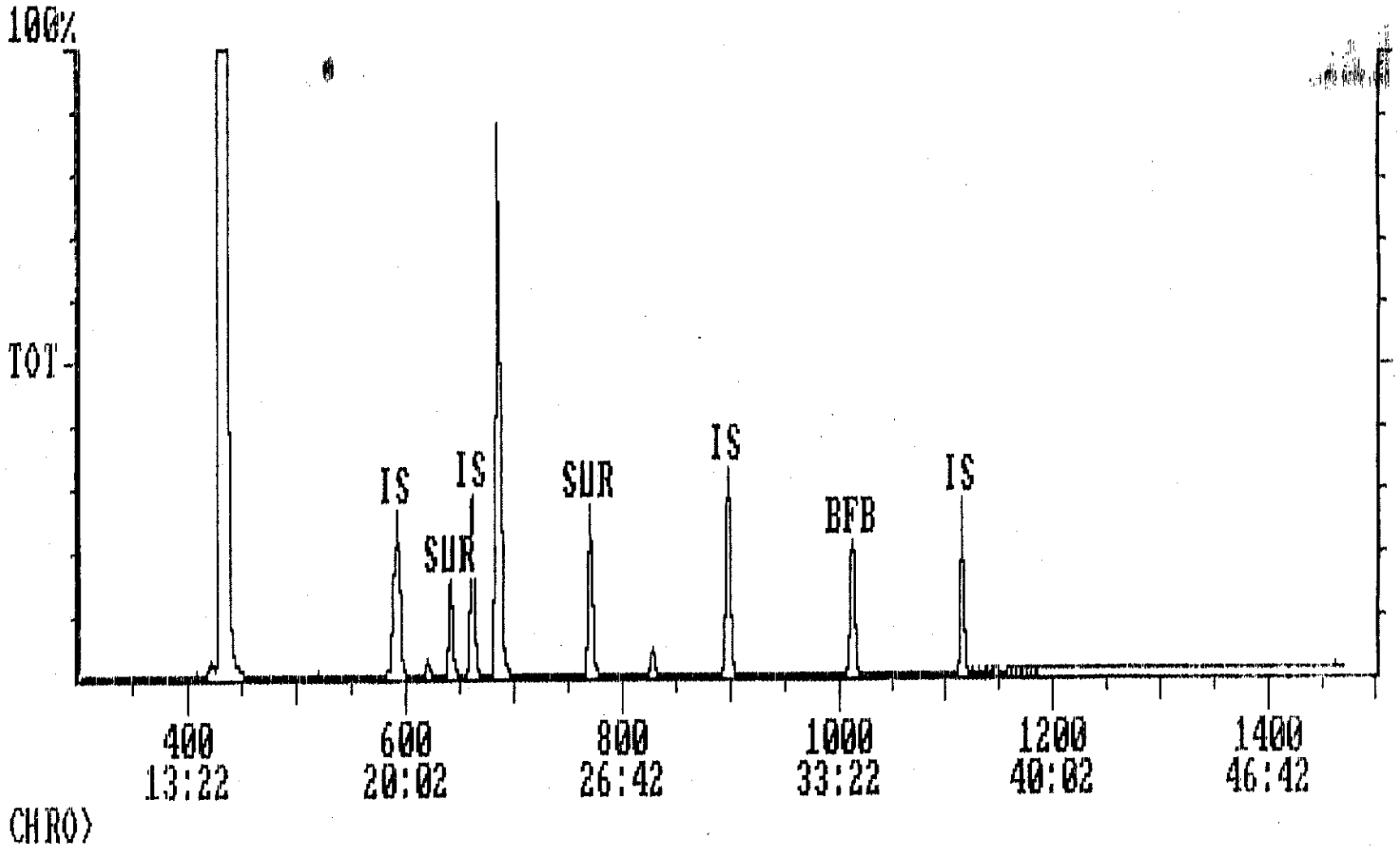


100% TRICHLOROETHYLENE

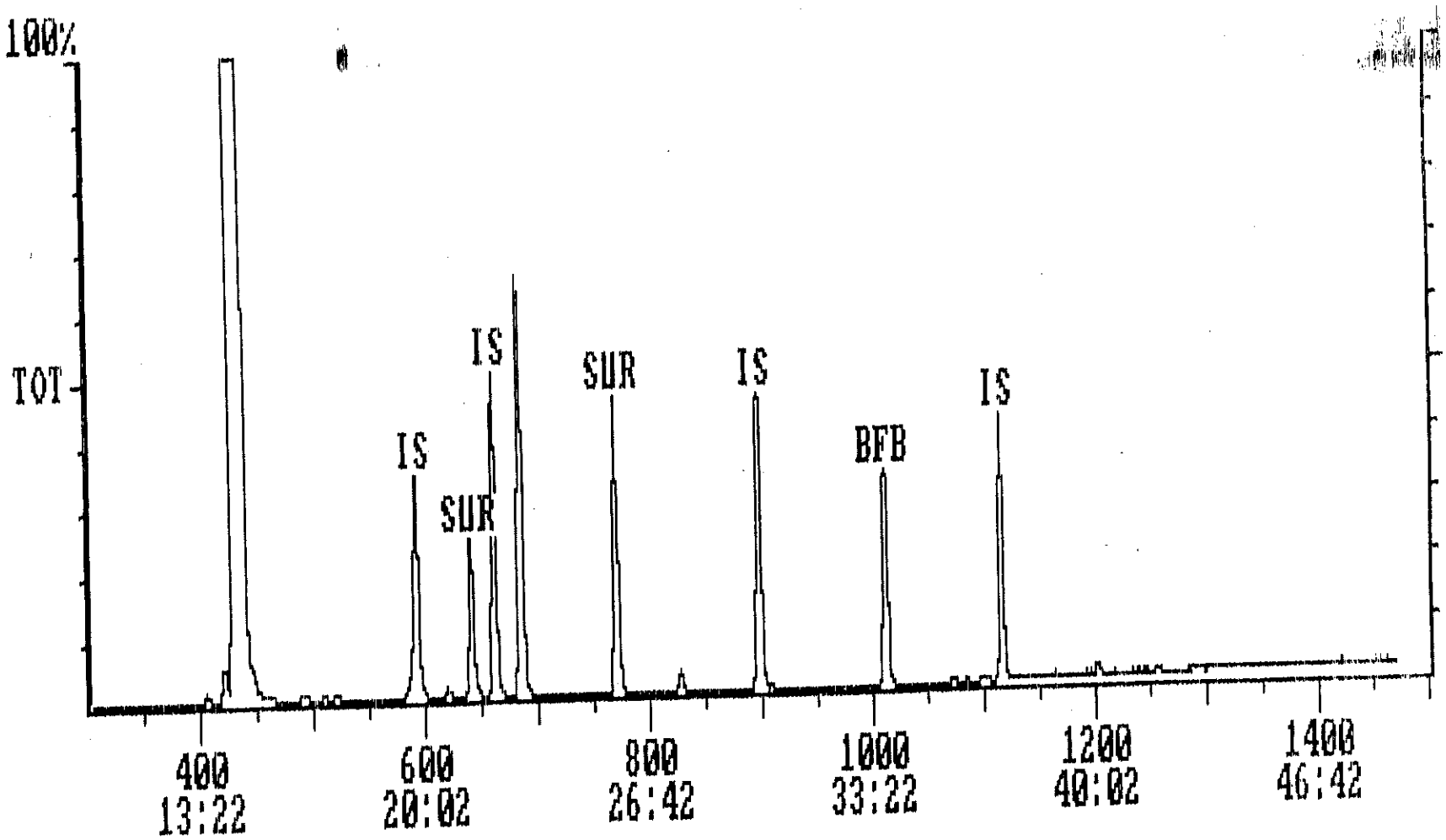


Rank 1 Index 87
Formula: C2.H.CL3.
Molecular weight 130 Purity [redacted] Fit [redacted] Rfit [redacted] Cas# 0-00-0
EIS(LB) (Purity, mass range 42 - 160, weight range 0 - 300)

Chromatogram \DATA\18871-1 Acquired: Jul-03-1991 17:19:51
Comment: 1/250 SOIL #4 LAB DUPL. COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
Scan Range: 301 - 1470 Scan: 301 Int = 1751 @ 10:05 100% = 924430

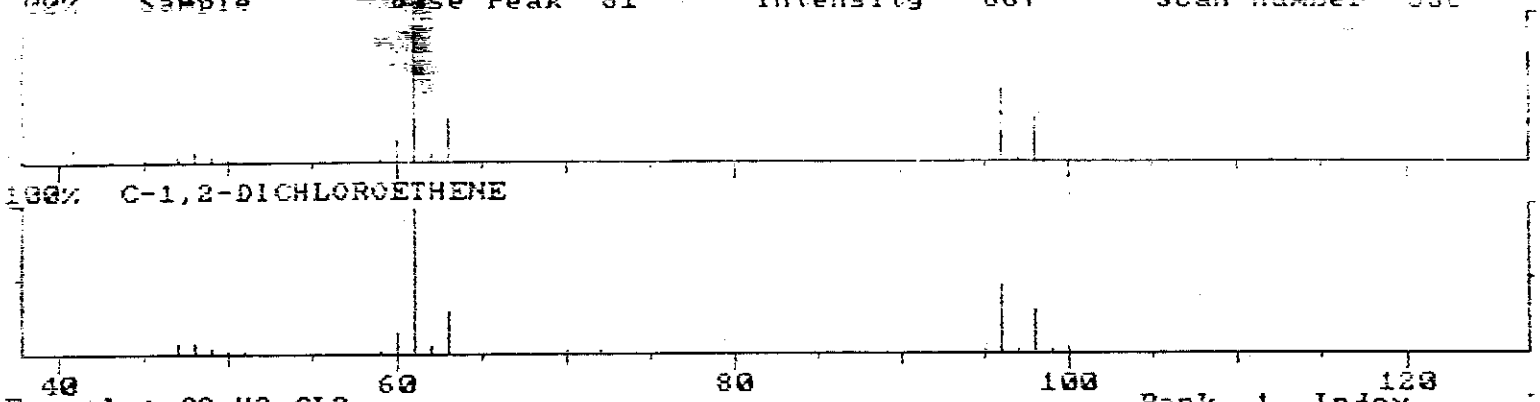


Chromatogram \DATA\18872-1 Acquired: Jul-03-1991 22:05:18
Comment: 1/100 SOIL #2 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
Scan Range: 301 - 1470 Scan: 301 Int = 1636 @ 10:05 100% = 551482



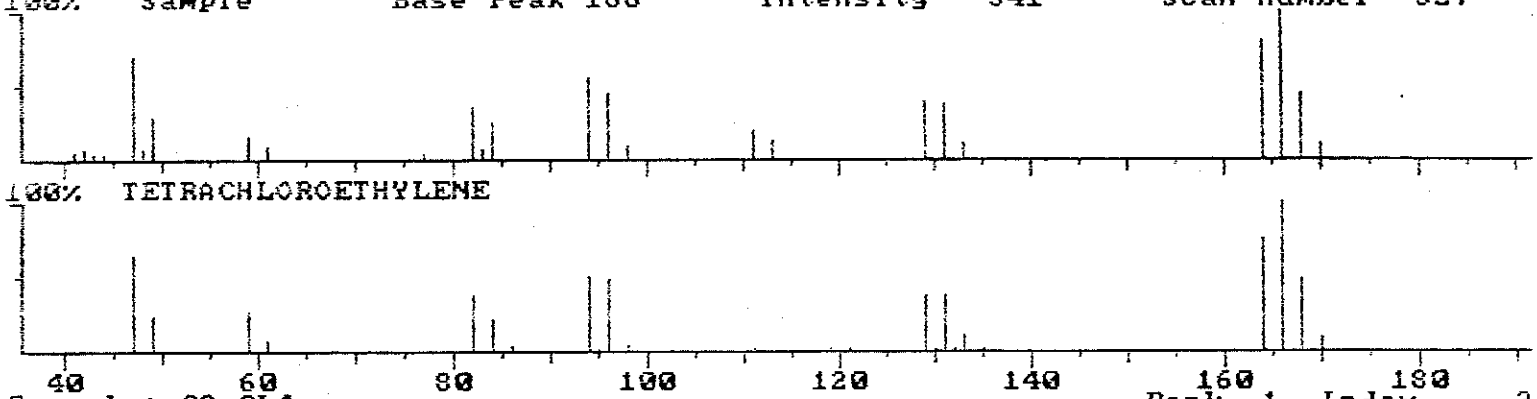
CHRO>

Library Search \DATA\18872-1 Acquired:Jul-03-1991 22:05:18 + 19:38
Comment: 1/100 SOIL #2 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
100% Sample Base Peak 61 Intensity 667 Scan number 586



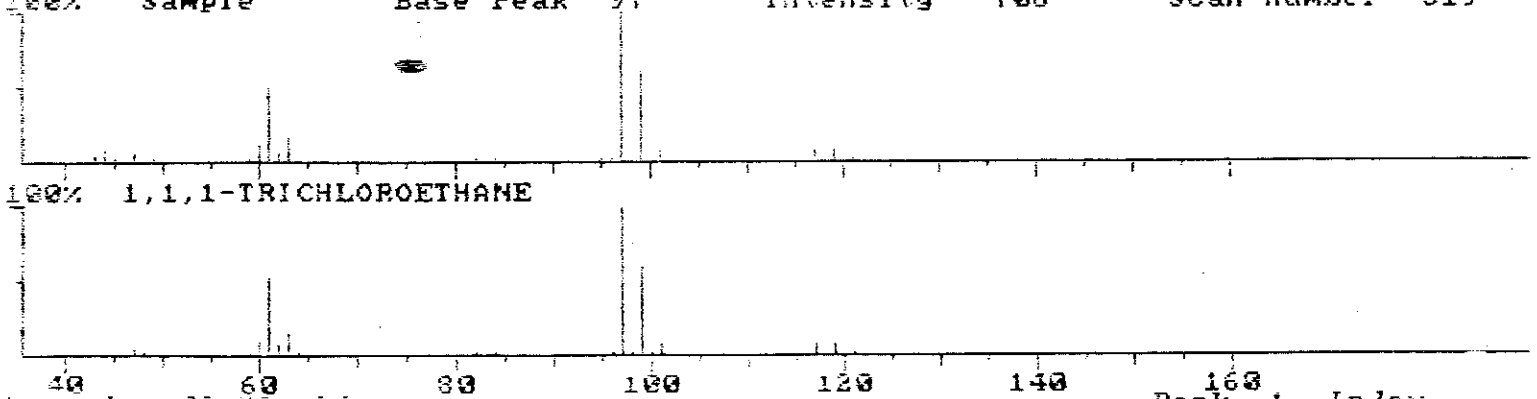
Formula: C2.H2.CL2. Rank 1 Index
Molecular weight 96 Purity [redacted] Fit [redacted] Rfit [redacted] Cas# 0-00-0
EIS(LB) (Purity, mass range 38 - 120, weight range 0 - 300)

Library Search \DATA\18872-1 Acquired:Jul-03-1991 22:05:18 + 27:36
Comment: 1/100 SOIL #2 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
100% Sample Base Peak 166 Intensity 341 Scan number 827



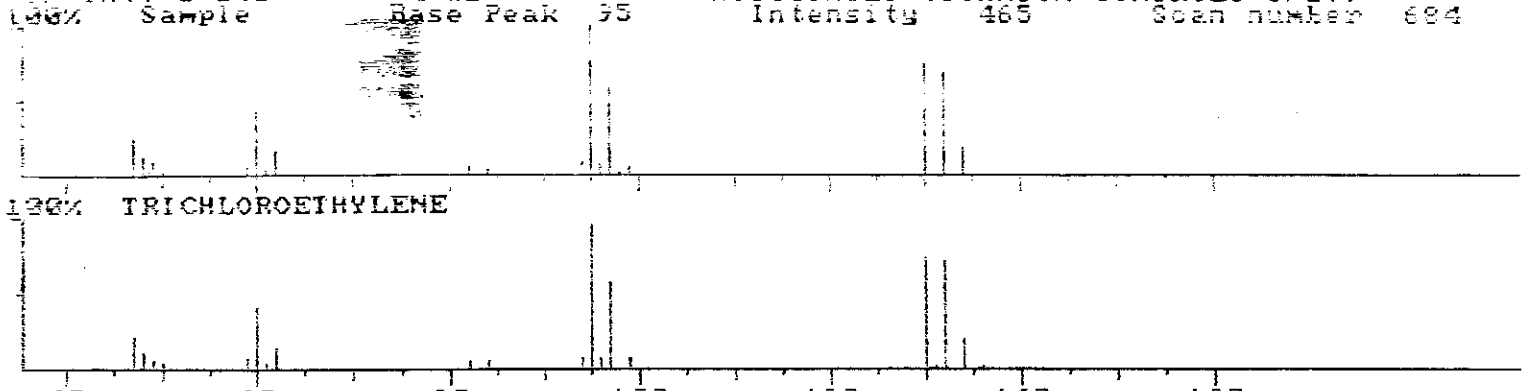
Formula: C2.CL4. Rank 1 Index 2
Molecular weight 166 Purity [redacted] Fit [redacted] Rfit [redacted] Cas# 0-00-0
EIS(LB) (Purity, mass range 36 - 190, weight range 0 - 300)

Library Search \DATA\18872-1 Acquired:Jul-03-1991 22:05:18 + 20:40
Comment: 1/100 SOIL #2 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
100% Sample Base Peak 97 Intensity 706 Scan number 619



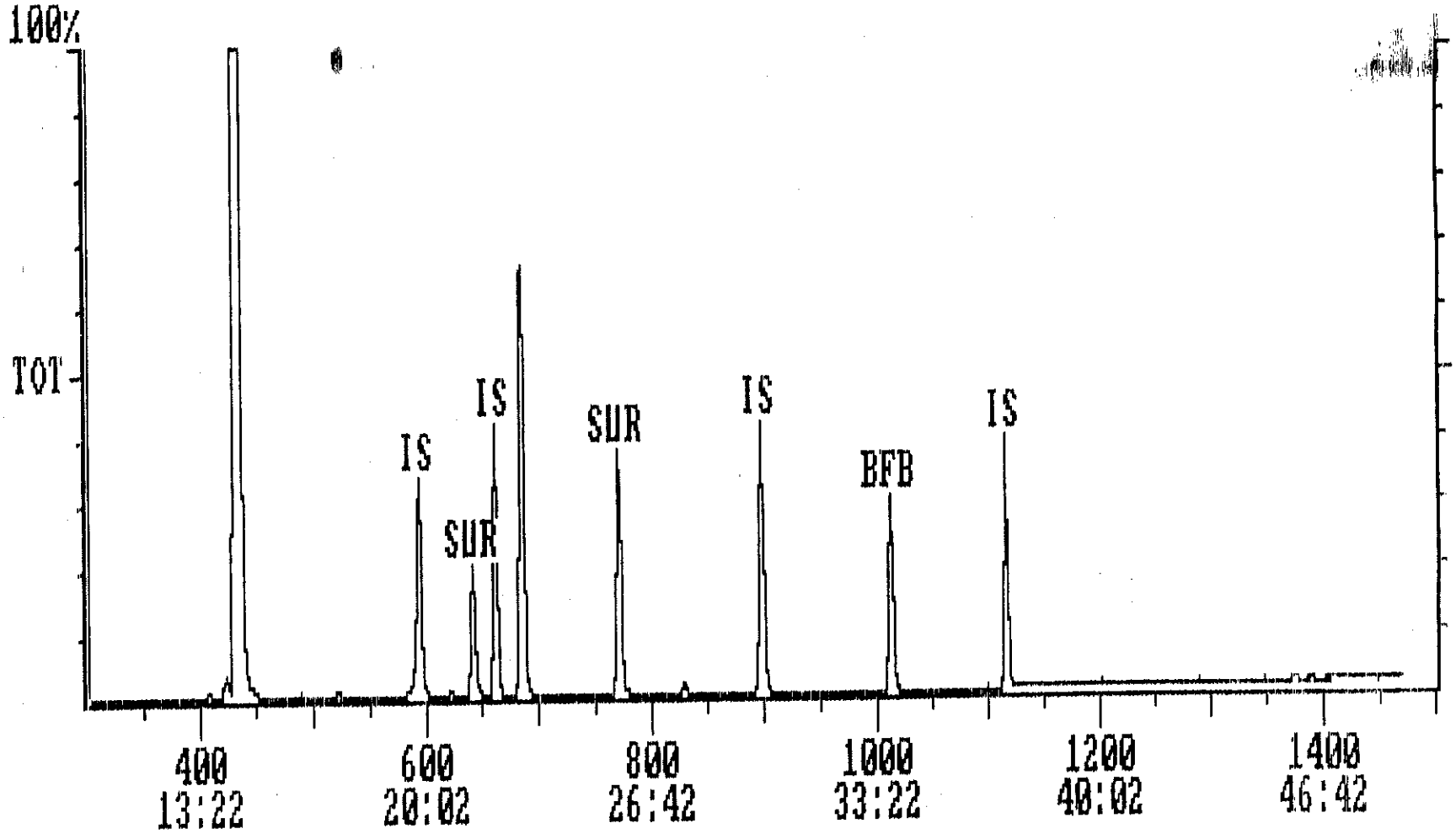
Formula: C2.H3.CL3. Rank 1 Index
Molecular weight 132 Purity [redacted] Fit [redacted] Rfit [redacted] Cas# 0-00-0
EIS(LB) (Purity, mass range 36 - 160, weight range 0 - 300)

Library Search \DATA\16072 1 Acquired:Jul-03-1991 22:05:13 + 22:50
Segment: 1/100 SOIL #2 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
100% Sample Base Peak 95 Intensity 465 Scan number 694



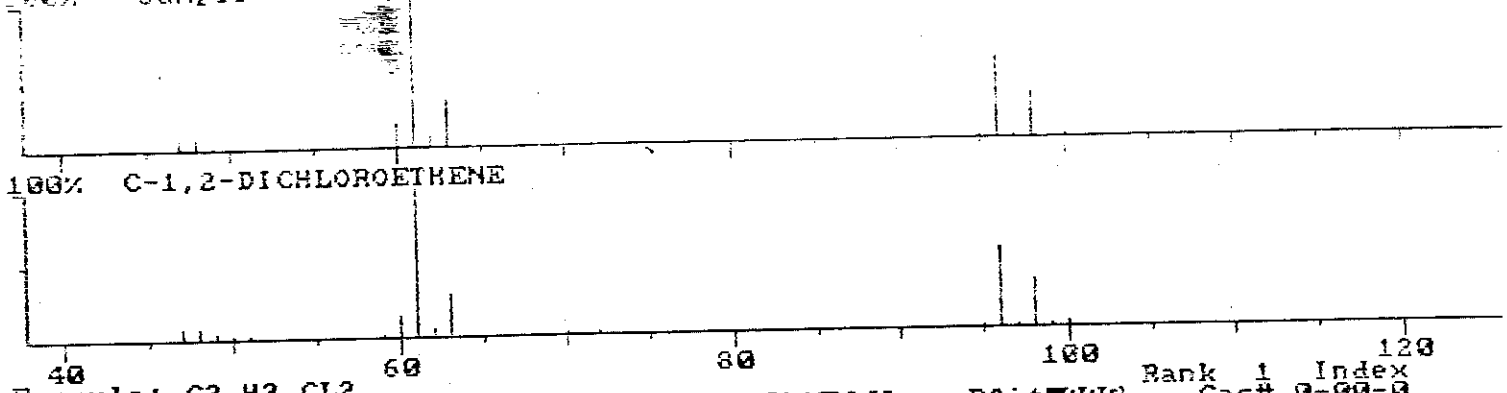
Formula: C2.H.CL3. Rank 1 Index 8
Molecular weight 130 Purity [redacted] Fit [redacted] Rfit [redacted] Cas# 0-00-0
EIS(LB) (Purity, mass range 36 - 160, weight range 0 - 300)

Chromatogram \DATA\18873 Acquired: Jul-03-1991 20:53:56
Comment: 1/400 SOIL #5 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
Scan Range: 301 - 1470 Scan: 301 Int = 1422 @ 10:05 100% = 675461



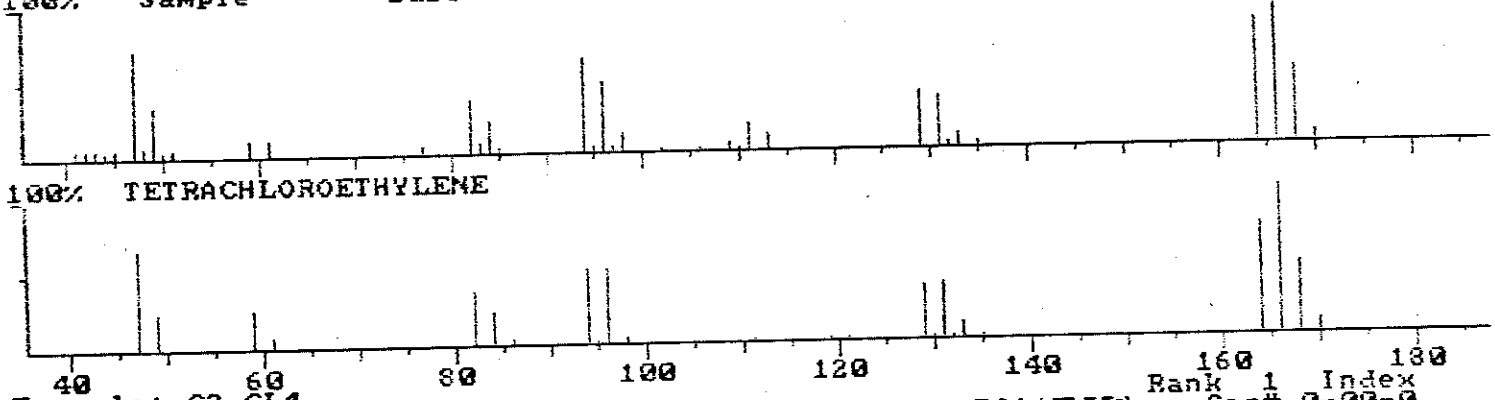
CHRO>

Library Search \DATA\18873 Acquired:Jul-03-1991 20:53:56 + 19:40
Comment: 1/400 SOIL #5 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
100% Sample Base Peak 61 Intensity 342 Scan number 589



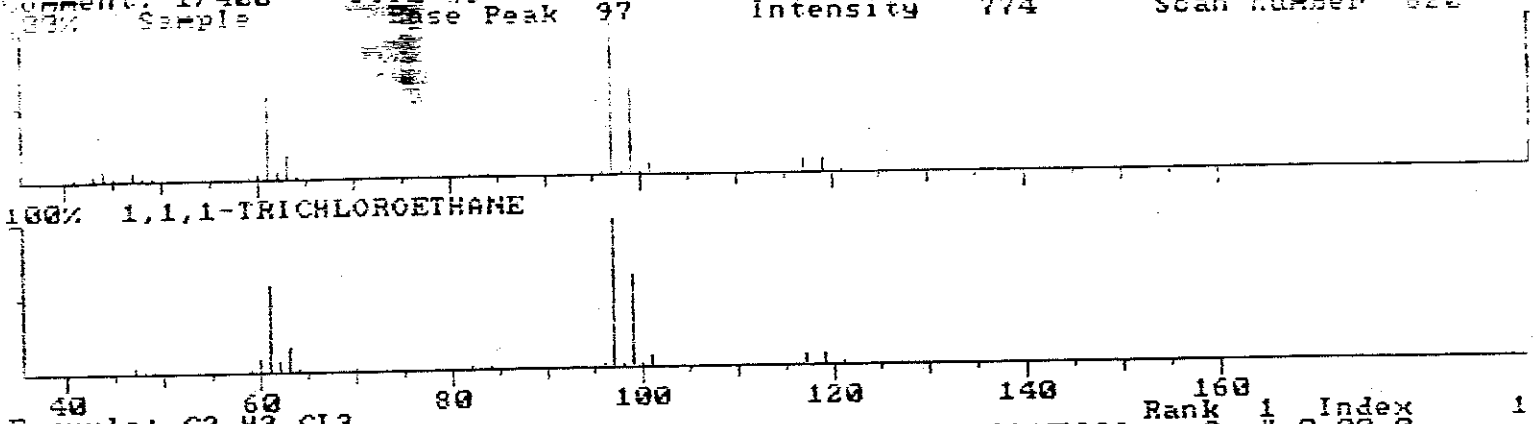
Rank 1 Index
Formula: C2.H2.CL2. Cas# 0-00-0
Molecular weight 96 Purity [redacted] Fit [redacted] Rfit [redacted]
EIS(LB) (Purity, mass range 33 - 120, weight range 0 - 300)

Library Search \DATA\18873 Acquired:Jul-03-1991 20:53:56 + 27:3
Comment: 1/400 SOIL #5 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
100% Sample Base Peak 166 Intensity 281 Scan number 828



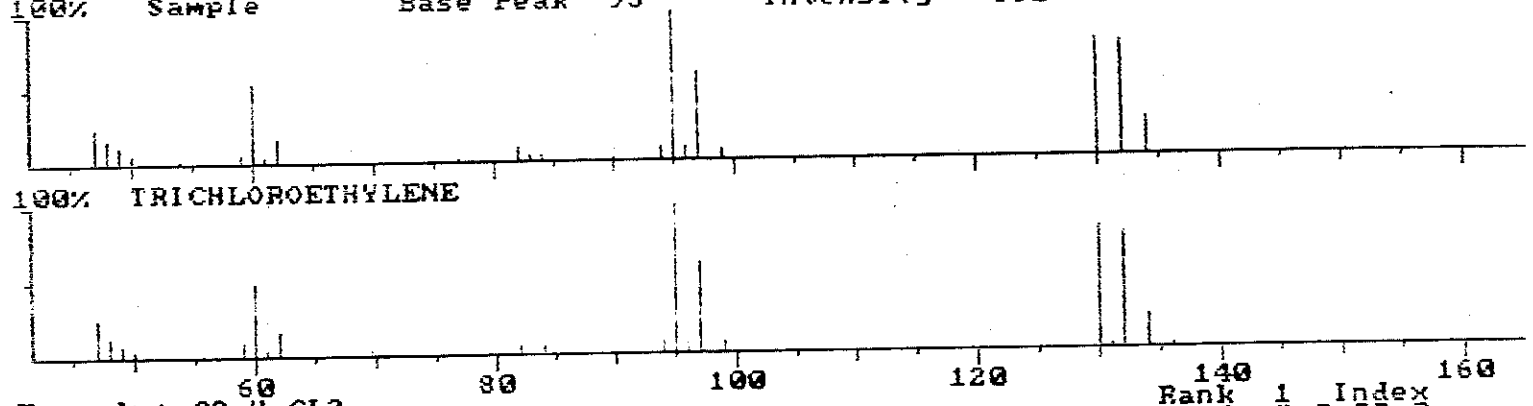
Rank 1 Index
Formula: C2.CL4. Cas# 0-00-0
Molecular weight 166 Purity [redacted] Fit [redacted] Rfit [redacted]
EIS(LB) (Purity, mass range 35 - 190, weight range 0 - 300)

Library Search \DATA\18873 Acquired:Jul-03-1991 22:53:56 + 30:42
Comment: 1/400 SOIL #5 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
23% Sample Base Peak 97 Intensity 774 Scan number 626



Rank 1 Index 1
Formula: C2.H3.CL3. Cas# 0-00-0
Molecular weight 132 Purity [redacted] Fit [redacted] Rfit [redacted]
EIS(LB) (Purity, mass range 36 - 160, weight range 0 - 300)

Library Search \DATA\18873 Acquired:Jul-03-1991 20:53:56 + 22:52
Comment: 1/400 SOIL #5 COLE ASSOCIATES (JOHNSON CONTROLS 6/27)
100% Sample Base Peak 95 Intensity 392 Scan number 685



Rank 1 Index
Formula: C2.H.CL3. Cas# 0-00-0
Molecular weight 130 Purity [redacted] Fit [redacted] Rfit [redacted]
EIS(LB) (Purity, mass range 42 - 160, weight range 0 - 300)

CHAIN OF CUSTODY RECORD – EIS ENVIRONMENTAL ENGINEERS INC

Project No.: 24227
Project Name: Johnson controls
Samplers: (Signature) [illegible]

Sta.No.	Date	Time	Comp	Grab	Station Location	Quantity of Containers	ANALYSIS: TOTAL VOCs	Remarks	EIS LAB USE ONLY (I=Intact B=Broken): Sample State	Tape
	6/27/91	11:30		X	HOLE #04	1	✓	18871		
	6/27/91	12:15		X	HOLE #02	1	✓	18872		
	6/27/91	12:00		X	HOLE # 05	1	✓	18873		
					* MATRIX SPIKE ONE SAMPLE					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
[illegible]	6/27/91	4PM	Nancy Myers				
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:

Mode of Transportation: EIS Vehicle
Public Transportation
Carrier:
Way or Air Bill No.

SECONDARY ROUND SAMPLES

Borings #3, 6, 16, 17 and Background

Environmental Health Laboratories

110 S. Hill Street
South Bend, IN 46617
(219) 233-4777
(219) 233-3272
FAX (219) 233-8207

RECEIVED
NOV 01 1991
Cole Associates Inc.

November 1, 1991

Fred Rouse
Cole Associates
2211 E. Jefferson
South Bend, IN 46615

Dear Fred,

This letter is in regards to the methylene chloride originally reported in the Johnson Controls samples labeled "Background, Hole # 17, Hole # 16, Hole # 3 and Hole # 6" that were collected August 23, 1991. Upon further evaluation of these samples it was determined that methylene chloride was not present.

The five soil samples submitted were re-extracted and the new methanol extracts analyzed. The original methanol extracts were also re-diluted and analyzed. Methylene chloride was not detected in any of the extracts in subsequent analyses.

Methylene chloride is a common laboratory background contaminant at levels ranging from the detection limit to 40 µg/L. It would appear that the laboratory reagent water used to dilute the extracts in the original testing was contaminated with ambient methylene chloride and was not reflective of the samples analyzed.

I am sorry for any inconvenience this may have caused you. Please feel free to contact me if you have any questions or comments regarding this matter.

Sincerely,

Paul Bowers

Paul Bowers
Quality Assurance Manager
Environmental Health Laboratories

Environmental Health Laboratories
RECEIVED SEP 1 0 1991
110 S. Hill Street
South Bend, IN 46617
(219) 233-3777
(219) 233-3272
FAX (219) 233-8[illegible]

Cole Associates Inc.

LABORATORY REPORT

Client: Cole Associates
Attn: Fred Rouse
2211 E. Jefferson
South Bend, IN 46615

Report#: 26763-767

Priority: Standard Written

Status: Final

Project/Site: Johnson Controls

Samples Submitted: Five soil samples

Collected: 08-23-91 By: Client Received: 08-27-91

REPORT SUMMARY

Five soil samples were analyzed for volatilie organic chemical (VOC) analysis. The following volatile organic chemicals were detected in the samples submitted for analysis at the concentrations indicated below:

Site	Parameter	Results	
Johnson Controls Background	Methylene chloride	1500	µg/kg
Johnson Controls Hole # 17	Methylene chloride	1600	µg/kg
	Trichloroethylene	670	µg/kg
	1,1,1-Trichloroethane	22	µg/kg
Johnson Controls Hole # 16	1,2-Dichloroethylene, cis	130	µg/kg
	Methylene chloride	1500	µg/kg
	1,1,1-Trichloroethane	44	µg/kg
	Trichloroethylene	950	µg/kg
Johnson Controls Hole # 3	1,1-Dichloroethane	130	µg/kg
	1,2-Dichloroethylene, cis	1900	µg/kg
	1,2-Dichloroethylene, trans	45	µg/kg
	Methylene chloride	1600	µg/kg
	Tetrachloroethylene	5700	µg/kg
	1,1,1-Trichloroethane	1800	µg/kg
	Trichloroethylene	41000	µg/kg
Johnson Controls Hole # 6	1,2-Dichloroethylene, cis	260	µg/kg
	Methylene chloride	1500	µg/kg
	Tetrachloroethylene	280	µg/kg
	1,1,1-Trichloroethane	420	µg/kg
	Trichloroethylene	560	µg/kg

Continued on the following page

Client: Cole Associates

Report#: 26763-767

REPORT SUMMARY-continued

This test covers chemical contamination arising from gasoline and other fuels, dry-cleaning and paint solvents, and many other industrial solvents.

All soil results are presented on the basis of soil wet weight.

Detailed quantitative results are presented on the following pages.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

APPROVED BY: _____ Laboratory Director

DATE: 9-13-91

Client: Cole Associates

Report#: 26763-767

Site: Johnson Controls Background 2-3½ ft. Depth

Lab #: 26763

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butlybenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	1.0	<	45	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0	<	45	µg/kg
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0	<	45	µg/kg
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropyle	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene, trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 26763-767

Site: Johnson Controls Background 2-3½ ft. Depth

Lab #: 26763

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL	Results		
Ethylbenzene	1.0	<	45	µg/kg
Hexachlorobutadiene	1.0	<	45	µg/kg
Isopropylbenzene	1.0	<	45	µg/kg
p-Isopropyltoluene	1.0	<	45	µg/kg
Methylene chloride	1.0		**1500**	**µg/kg**
Napthalene	1.0	<	45	µg/kg
n-Propylbenzene	1.0	<	45	µg/kg
Styrene	1.0	<	45	µg/kg
1,1,1,2-Tetrachloroethane	1.0	<	45	µg/kg
1,1,2,2-Tetrachloroethane	1.0	<	45	µg/kg
Tetrachloroethylene	1.0	<	45	µg/kg
Toluene	1.0	<	45	µg/kg
1,2,3-Trichlorobenzene	1.0	<	45	µg/kg
1,2,4-Trichlorobenzene	1.0	<	45	µg/kg
1,1,1-Trichloroethane	0.5	<	22	µg/kg
1,1,2-Trichloroethane	1.0	<	45	µg/kg
Trichloroethylene	0.5	<	22	µg/kg
Trichlorofluoromethane	1.0	<	45	µg/kg
1,2,3-Trichloropropane	1.0	<	45	µg/kg
1,2,4-Trimethylbenzene	1.0	<	45	µg/kg
1,3,5-Trimethylbenzene	1.0	<	45	µg/kg
Vinyl chloride	0.5	<	22	µg/kg
Total Xylenes	1.0	<	45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix. If other dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the results.

Surrogate Standards	Limits (%)	% Recovery 1:45
Bromofluorobenzene	74-121	101
1,2-Dichloroethane-d_4	70-121	100
Toluene - d_8	81-117	103

Analyzed: 08-31-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 26763-767

Site: Johnson Controls Hole # 17 4-5½ ft. Depth

Lab #: 26764

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butlybenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	1.0	<	45	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0	<	45	µg/kg
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0	<	45	µg/kg
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropyle	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene, trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 26763-767

Site: Johnson Controls Hole # 17 4-5½ ft. Depth

Lab #: 26764

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL	Results		
Ethylbenzene	1.0	<	45	µg/kg
Hexachlorobutadiene	1.0	<	45	µg/kg
Isopropylbenzene	1.0	<	45	µg/kg
p-Isopropyltoluene	1.0	<	45	µg/kg
Methylene chloride	1.0		**1600**	**µg/kg**
Napthalene	1.0	<	45	µg/kg
n-Propylbenzene	1.0	<	45	µg/kg
Styrene	1.0	<	45	µg/kg
1,1,1,2-Tetrachloroethane	1.0	<	45	µg/kg
1,1,2,2-Tetrachloroethane	1.0	<	45	µg/kg
Tetrachloroethylene	1.0	<	45	µg/kg
Toluene	1.0	<	45	µg/kg
1,2,3-Trichlorobenzene	1.0	<	45	µg/kg
1,2,4-Trichlorobenzene	1.0	<	45	µg/kg
1,1,1-Trichloroethane	0.5		**22**	**µg/kg**
1,1,2-Trichloroethane	1.0	<	45	µg/kg
Trichloroethylene	0.5		**670**	**µg/kg**
Trichlorofluoromethane	1.0	<	45	µg/kg
1,2,3-Trichloropropane	1.0	<	45	µg/kg
1,2,4-Trimethylbenzene	1.0	<	45	µg/kg
1,3,5-Trimethylbenzene	1.0	<	45	µg/kg
Vinyl chloride	0.5	<	22	µg/kg
Total Xylenes	1.0	<	45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix. If other dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the results.

Surrogate Standards	Limits (%)	% Recovery 1:45
Bromofluorobenzene	74-121	98
1,2-Dichloroethane-d_4	70-121	100
Toluene - d_8	81-117	100

Analyzed: 08-31-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 26763-767

Site: Johnson Controls Hole # 16 4-5½ ft. Depth

Lab #: 26765

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butlybenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	1.0	<	45	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0	<	45	µg/kg
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0		130	µg/kg
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropyle	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene, trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates | Report#: 26763-767

Site: Johnson Controls Hole # 16 4-5½ ft. Depth | Lab #: 26765

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL	Results		
Ethylbenzene	1.0	<	45	µg/kg
Hexachlorobutadiene	1.0	<	45	µg/kg
Isopropylbenzene	1.0	<	45	µg/kg
p-Isopropyltoluene	1.0	<	45	µg/kg
Methylene chloride	1.0		**1500**	**µg/kg**
Napthalene	1.0	<	45	µg/kg
n-Propylbenzene	1.0	<	45	µg/kg
Styrene	1.0	<	45	µg/kg
1,1,1,2-Tetrachloroethane	1.0	<	45	µg/kg
1,1,2,2-Tetrachloroethane	1.0	<	45	µg/kg
Tetrachloroethylene	1.0	<	45	µg/kg
Toluene	1.0	<	45	µg/kg
1,2,3-Trichlorobenzene	1.0	<	45	µg/kg
1,2,4-Trichlorobenzene	1.0	<	45	µg/kg
1,1,1-Trichloroethane	0.5		**44**	**µg/kg**
1,1,2-Trichloroethane	1.0	<	45	µg/kg
Trichloroethylene	0.5		**950**	**µg/kg**
Trichlorofluoromethane	1.0	<	45	µg/kg
1,2,3-Trichloropropane	1.0	<	45	µg/kg
1,2,4-Trimethylbenzene	1.0	<	45	µg/kg
1,3,5-Trimethylbenzene	1.0	<	45	µg/kg
Vinyl chloride	0.5	<	22	µg/kg
Total Xylenes	1.0	<	45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix. If other dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the results.

Surrogate Standards	Limits (%)	% Recovery 1:45
Bromofluorobenzene	74-121	98
1,2-Dichloroethane-d_4	70-121	98
Toluene - d_8	81-117	101

Analyzed: 08-31-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 26763-767

Site: Johnson Controls Hole # 3 4-5½ ft. Depth

Lab #: 26766

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butlybenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	1.0	<	45	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0		**130**	**µg/kg**
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0		**1900**	**µg/kg**
1,2-Dichloroethylene, trans	1.0		**45**	**µg/kg**
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropyle	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene, trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 26763-767

Site: Johnson Controls Hole # 3 4-5½ ft. Depth

Lab #: 26766

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL		Results	
Ethylbenzene	1.0		< 45	µg/kg
Hexachlorobutadiene	1.0		< 45	µg/kg
Isopropylbenzene	1.0		< 45	µg/kg
p-Isopropyltoluene	1.0		< 45	µg/kg
Methylene chloride	1.0		**1600**	**µg/kg**
Napthalene	1.0		< 45	µg/kg
n-Propylbenzene	1.0		< 45	µg/kg
Styrene	1.0		< 45	µg/kg
1,1,1,2-Tetrachloroethane	1.0		< 45	µg/kg
1,1,2,2-Tetrachloroethane	1.0		< 45	µg/kg
Tetrachloroethylene	1.0	√	**5700**	**µg/kg**
Toluene	1.0		< 45	µg/kg
1,2,3-Trichlorobenzene	1.0		< 45	µg/kg
1,2,4-Trichlorobenzene	1.0		< 45	µg/kg
1,1,1-Trichloroethane	0.5		**1800**	**µg/kg**
1,1,2-Trichloroethane	1.0		< 45	µg/kg
Trichloroethylene	0.5	√	**41000**	**µg/kg**
Trichlorofluoromethane	1.0		< 45	µg/kg
1,2,3-Trichloropropane	1.0		< 45	µg/kg
1,2,4-Trimethylbenzene	1.0		< 45	µg/kg
1,3,5-Trimethylbenzene	1.0		< 45	µg/kg
Vinyl chloride	0.5		< 22	µg/kg
Total Xylenes	1.0		< 45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix. If other dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the results.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:446
Bromofluorobenzene	74-121	100	94
1,2-Dichloroethane-d_4	70-121	99	99
Toluene - d_8	81-117	102	100

Analyzed: 08-31-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 26763-767

Site: Johnson Controls Hole # 6 4-5½ ft. Depth

Lab #: 26767

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butlybenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	1.0	<	45	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0	<	45	µg/kg
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0		260	µg/kg
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropyle	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene, trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 26763-767

Site: Johnson Controls Hole # 6 4-5½ ft. Depth

Lab #: 26767

VOLATILE ORGANIC CHEMICALS--Soil, Continued

Parameter	PQL	Results		
Ethylbenzene	1.0	<	45	µg/kg
Hexachlorobutadiene	1.0	<	45	µg/kg
Isopropylbenzene	1.0	<	45	µg/kg
p-Isopropyltoluene	1.0	<	45	µg/kg
Methylene chloride	1.0		**1500**	**µg/kg**
Napthalene	1.0	<	45	µg/kg
n-Propylbenzene	1.0	<	45	µg/kg
Styrene	1.0	<	45	µg/kg
1,1,1,2-Tetrachloroethane	1.0	<	45	µg/kg
1,1,2,2-Tetrachloroethane	1.0	<	45	µg/kg
Tetrachloroethylene	1.0		**280**	**µg/kg**
Toluene	1.0	<	45	µg/kg
1,2,3-Trichlorobenzene	1.0	<	45	µg/kg
1,2,4-Trichlorobenzene	1.0	<	45	µg/kg
1,1,1-Trichloroethane	0.5		**420**	**µg/kg**
1,1,2-Trichloroethane	1.0	<	45	µg/kg
Trichloroethylene	0.5		**560**	**µg/kg**
Trichlorofluoromethane	1.0	<	45	µg/kg
1,2,3-Trichloropropane	1.0	<	45	µg/kg
1,2,4-Trimethylbenzene	1.0	<	45	µg/kg
1,3,5-Trimethylbenzene	1.0	<	45	µg/kg
Vinyl chloride	0.5	<	22	µg/kg
Total Xylenes	1.0	<	45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix. If other dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the results.

Surrogate Standards	Limits (%)	% Recovery 1:45
Bromofluorobenzene	74-121	98
1,2-Dichloroethane-d_4	70-121	96
Toluene - d_8	81-117	99

Analyzed: 08-31-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 26763-767

REFERENCES AND DEFINITIONS OF TERMS

Volatile Organic Analysis
Analysis By: GC/MS Purge & Trap
Method: EPA Solid Waste Manual SW-846 Method 8260

Volatile Organic Chemicals (VOC's) are a group of natural and synthetic organic chemicals characterized by their volatility (ability to evaporate). The volatile chemicals included in this report have been selected by the EPA to be monitored in all public water supplies both because of their suspected toxicity and because of their widespread use in industry. Many are used in the production of plastics, clothing and other common items in nearly every household.

Practical Quantitation Limits (PQL's) represent the lower limit at which the compounds of interest can be accurately detected, at a 95% confidence level, and reported for a sample exhibiting minimal chemical background interference under the conditions employed in the analytical procedure. PQL's are by definition a function of the instrument performance for an ideal sample and thus are not adjusted for sample dilutions used to calculate results.

1 µg/kg = 1 microgram per kilogram = 1 part per billion (ppb).

Environmental Health Laboratories 110 S. Hill Street • South Bend, IN 46617 • Phone: 233-4777

SHADED AREA FOR LAB USE ONLY

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

CLIENT/COMPANY ORDERING TEST: COLE ASSOCIATES

PROJECT/SITE NAME: Johnson Controls

SAMPLERS: (Signature) [illegible]

PWS ID #:

PROJECT #:

LAB #	COLLECTION DATE	COLLECTION TIME	DESCRIPTION OF COLLECTION SITE	# OF CONTAINERS	MATRIX CODE	SAMPLE DEPTH (FT.)	WELL DEPTH (FT.)	TESTS REQUESTED (✓): VOC's	OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	TURNAROUND TIME	CUSTODY SEAL
	5/4/91		Sample Hole #24	1	SO			✓		M	S	N
	5/4/91		Sample Hole #19	1	SO		—	✓		M	S	
	5/4/91		Sample Hole #26	1	SO		—	✓		U	S	
	5/4/91		Sample Hole #23	1	SO		—	✓		M	S	
	5/4/91		Sample Hole #28	1	SO		—	✓		U	S	
	5/4/91		Sample Hole #20	1	SO		—	✓		M	S	
	5/4/91		Sample Hole #25	1	SO		—	✓		M	S	
	5/4/91		Sample Hole #22	1	SO		—	✓		M		
	5/4/91		Sample Hole #04	1	SO		—	✓		U	S	
	5/4/91		Sample Hole #21	1	SO		—	✓		L		
	5/4/91		Sample Hole #27	1	SO		—	✓		L		
	5/4/91		Sample Hole #15	1	SO		—	✓		L		

FIELD COMMENTS: CARRIER _____ AIRBILL NO. _____ COOLER NO. _____ DATE SHIPPED _____

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT.

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
[illegible]		9/5/91	
RELINQUISHED BY: (Signature)	RECEIVED FOR LABORATORY BY: (Signature) [illegible]	DATE 9/6/91	TIME 825

LAB COMMENTS

SHIPPING CONDITIONS: (Check One) ☑ Iced ☐ Ambient

TEMPERATURE: _____°C Lowest _____°C Highest _____°C Receipt

MATRIX CODES:

RW = REAGENT WATER
DW = DRINKING WATER
GW = GROUND WATER
SW = SURFACE WATER
SO = SOIL
SE = SEDIMENT
SL = SLUDGE
HW = HAZARDOUS WASTE
WW = WASTE WATER
PW = POOL WATER

CONTAMINATION LEVEL

L = LOW (NO ODOR)
M = MEDIUM
H = HIGH
U = UNKNOWN

TURN-AROUND-TIME (TAT) – SURCHARGES

SW = STANDARD (10-15 WORKING DAYS) WRITTEN 0%
RV = RUSH (3-5 WORKING DAYS) VERBAL 50%
RW = RUSH (3-5 WORKING DAYS WRITTEN) 75%
IV = IMMEDIATE (48-72 HOURS) VERBAL 100%
IW = IMMEDIATE (48-72 HOURS) WRITTEN 125%
WH = Weekend or Holiday 200%

SECOND ROUND SAMPLES

Borings #4 and #19 through #28

Environmental Health Laboratories

RECEIVED OCT 0 4 1991

Cole Associates Inc.

110 S. Hill Street
South Bend, IN 46617
(219) 233-4777
(219) 233-3272
FAX (219) 233-8227

LABORATORY REPORT

Client: Cole Associates
Attn: Fred Rouse
2211 E. Jefferson
South Bend, IN 46615

Report#: 27087-098

Priority: Standard Written

Status: Final

Project/Site: Johnson Controls

Samples Submitted: Twelve soil samples

Copies to: None

Collected: 09-05-91 By: Client Received: 09-06-91

REPORT SUMMARY

Twelve soil samples were analyzed for volatilie organic chemical (VOC) analysis. The following volatile organic chemicals were detected in the samples submitted for analysis at the concentrations indicated below:

Sample Hole # 24 (4 1/2 - 6 ' Sample Depth)

Benzene		27	µg/kg
1,1-Dichloroethane		330	µg/kg
1,2-Dichloroethylene, cis		49000	µg/kg
1,2-Dichloroethylene, trans		600	µg/kg
Methylene chloride		86	µg/kg
p-Dichlorobenzene		46	µg/kg
Tetrachloroethylene		3200	µg/kg
Toluene		790	µg/kg
1,2,3-Trichlorobenzene		160	µg/kg
1,2,4-Trichlorobenzene		75	µg/kg
1,1,1-Trichloroethane		1600	µg/kg
Trichloroethylene		260,000	µg/kg
Total Xylenes		350	µg/kg
Long chain hydrocarbons	◊ ~	1600	µg/kg

Sample Hole # 19 (4 1/2 - 6 ' Sample Depth)

1,1-Dichloroethane	67	µg/kg
1,2-Dichloroethylene, cis	980	µg/kg
Methylene chloride	140	µg/kg
Tetrachloroethylene	660	µg/kg
1,1,1-Trichloroethane	470	µg/kg
Trichloroethylene	18000	µg/kg

Continued on the following page

Client: Cole Associates

Report#: 27087-098

REPORT SUMMARY continued

Sample Hole # 26 (4 1/2 - 6 ' Sample Depth)

Methylene chloride	63	µg/kg
Trichloroethylene	170	µg/kg

Sample Hole # 23 (8 1/2 - 10' Sample Depth)

Ethylbenzene	79	µg/kg
Napthalene	140	µg/kg
Toluene	120	µg/kg
Trichloroethylene	34	µg/kg
1,2,4-Trimethylbenzene	290	µg/kg
1,3,5-Trimethylbenzene	72	µg/kg
Total Xylenes	530	µg/kg
Other alkyl-substituted benzenes ◊ ~	2700	µg/kg

Sample Hole # 28 (4 1/2 - 6 ' Sample Depth)

Methylene chloride	270	µg/kg
1,1,1-Trichloroethane	27	µg/kg
Trichloroethylene	490	µg/kg

Sample Hole # 20 (4 1/2 - 6 ' Sample Depth)

p-Dichlorobenzene	22	µg/kg
1,1-Dichloroethane	470	µg/kg
1,2-Dichloroethylene, cis	10000	µg/kg
1,2-Dichloroethylene, trans	490	µg/kg
Methylene chloride	87	µg/kg
Tetrachloroethylene	2100	µg/kg
1,2,4-Trichlorobenzene	330	µg/kg
1,1,1-Trichloroethane	2400	µg/kg
Trichloroethylene	33000	µg/kg

Sample Hole # 25 (4 1/2 - 6 ' Sample Depth)

Methylene chloride	48	µg/kg
Trichloroethylene	84	µg/kg

Sample Hole # 22 (6 - 7 1/2' Sample Depth)

1,1-Dichloroethane	250	µg/kg
1,2-Dichloroethylene, cis	5600	µg/kg
1,2-Dichloroethylene, trans	260	µg/kg
Methylene chloride	1000	µg/kg
Tetrachloroethylene	2300	µg/kg
1,1,1-Trichloroethane	2200	µg/kg
1,1,2-Trichloroethane	130	µg/kg
Trichloroethylene	27000	µg/kg

Continued on the following page

Client: Cole Associates

Report#: 27087-098

REPORT SUMMARY-continued

Sample Hole # 04 (12 1/2 - 14' Sample Depth)

1,1-Dichloroethane	60	µg/kg
1,2-Dichloroethylene, cis	1300	µg/kg
Isopropylbenzene	4600	µg/kg
Methylene chloride	130	µg/kg
Tetrachloroethylene	290	µg/kg
1,1,1-Trichloroethane	440	µg/kg
Trichloroethylene	11000	µg/kg
Total Xylenes	74	µg/kg

Sample Hole # 21 (4 1/2 - 6 ' Sample Depth)

1,1-Dichloroethane	47	µg/kg
1,2-Dichloroethylene, cis	240	µg/kg
Methylene chloride	92	µg/kg
Tetrachloroethylene	2500	µg/kg
1,1,1-Trichloroethane	950	µg/kg
Trichloroethylene	1700	µg/kg

Sample Hole # 27 (4 1/2 - 6 ' Sample Depth)

Methylene chloride	75	µg/kg
Trichloroethylene	270	µg/kg

Sample Hole # 15 (4 1/2 - 6 ' Sample Depth)

Methylene chloride	90	µg/kg
1,1,1-Trichloroethane	35	µg/kg
Trichloroethylene	1300	µg/kg
Total Xylenes	57	µg/kg

◊ - Tentatively identified parameter. The concentration is estimated from the ratio of the peak area to the internal standard area.

Note: Methylene chloride is a common laboratory solvent which was also detected in the methanol-water blank at a concentration of 67 g/kg.

This test covers chemical contamination arising from gasoline and other fuels, dry-cleaning and paint solvents, and many other industrial solvents.

Detailed quantitative results are presented on the following pages.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (219) 233-4777.

APPROVED BY: _____ Laboratory Director

DATE: 10-7-96

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole # 04 (12 1/2 - 14' Sample Depth)

Lab #: 27095

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butylbenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	2.0	<	90	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0		**60**	**µg/kg**
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0		**1300**	**µg/kg**
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropylene	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene,trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #04 (12 1/2 - 14' Sample Depth)

Lab #: 27095

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Parameter	PQL		Results	
Ethylbenzene	1.0		< 45	µg/kg
Hexachlorobutadiene	1.0		< 45	µg/kg
Isopropylbenzene	1.0	√	**4600**	**µg/kg**
p-Isopropyltoluene	1.0		< 45	µg/kg
Methylene chloride	1.0		**130**	**µg/kg**
Napthalene	1.0		< 45	µg/kg
n-Propylbenzene	1.0		< 45	µg/kg
Styrene	1.0		< 45	µg/kg
1,1,1,2-Tetrachloroethane	1.0		< 45	µg/kg
1,1,2,2-Tetrachloroethane	1.0		< 45	µg/kg
Tetrachloroethylene	1.0		**290**	**µg/kg**
Toluene	1.0		< 45	µg/kg
1,2,3-Trichlorobenzene	1.0		< 45	µg/kg
1,2,4-Trichlorobenzene	1.0		< 45	µg/kg
1,1,1-Trichloroethane	0.5		**440**	**µg/kg**
1,1,2-Trichloroethane	1.0		< 45	µg/kg
Trichloroethylene	0.5	√	**11000**	**µg/kg**
Trichlorofluoromethane	1.0		< 45	µg/kg
1,2,3-Trichloropropane	1.0		< 45	µg/kg
1,2,4-Trimethylbenzene	1.0		< 45	µg/kg
1,3,5-Trimethylbenzene	1.0		< 45	µg/kg
Vinyl chloride	0.5		< 22	µg/kg
Total Xylenes	1.0		**74**	**µg/kg**

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix. If other dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Note: Methylene chloride was also detected in the methanol-water blank at a concentration of 67 µg/kg.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450
Bromofluorobenzene	74-121	106	103
1,2-Dichloroethane-d4	70-121	103	104
Toluene-d_8	81-117	100	101

Analyzed: 09-26-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #15 (4 1/2 - 6 ' Sample Depth)

Lab #: 27098

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butylbenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	2.0	<	90	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0	<	45	µg/kg
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0	<	45	µg/kg
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropylene	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene,trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #15 (4 1/2 - 6 ' Sample Depth)

Lab #: 27098

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Parameter	PQL		Results	
Ethylbenzene	1.0	<	45	µg/kg
Hexachlorobutadiene	1.0	<	45	µg/kg
Isopropylbenzene	1.0	<	45	µg/kg
p-Isopropyltoluene	1.0	<	45	µg/kg
Methylene chloride	1.0		**90**	**µg/kg**
Napthalene	1.0	<	45	µg/kg
n-Propylbenzene	1.0	<	45	µg/kg
Styrene	1.0	<	45	µg/kg
1,1,1,2-Tetrachloroethane	1.0	<	45	µg/kg
1,1,2,2-Tetrachloroethane	1.0	<	45	µg/kg
Tetrachloroethylene	1.0	<	45	µg/kg
Toluene	1.0	<	45	µg/kg
1,2,3-Trichlorobenzene	1.0	<	45	µg/kg
1,2,4-Trichlorobenzene	1.0	<	45	µg/kg
1,1,1-Trichloroethane	0.5		**35**	**µg/kg**
1,1,2-Trichloroethane	1.0	<	45	µg/kg
Trichloroethylene	0.5		**1300**	**µg/kg**
Trichlorofluoromethane	1.0	<	45	µg/kg
1,2,3-Trichloropropane	1.0	<	45	µg/kg
1,2,4-Trimethylbenzene	1.0	<	45	µg/kg
1,3,5-Trimethylbenzene	1.0	<	45	µg/kg
Vinyl chloride	0.5	<	22	µg/kg
Total Xylenes	1.0		**57**	**µg/kg**

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix.

Surrogate Standards	Limits (%)	% Recovery 1:45
Bromofluorobenzene	74-121	106
1,2-Dichloroethane-d4	70-121	108
Toluene-d_8	81-117	104

Analyzed: 09-10-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #19 (4 1/2 - 6 ' Sample Depth)

Lab #: 27088

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butylbenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	2.0	<	90	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0		**67**	**µg/kg**
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0		**980**	**µg/kg**
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropylene	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene,trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #19 (4 1/2 - 6 ' Sample Depth)

Lab #: 27088

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Parameter	PQL		Results	
Ethylbenzene	1.0		< 45	µg/kg
Hexachlorobutadiene	1.0		< 45	µg/kg
Isopropylbenzene	1.0		< 45	µg/kg
p-Isopropyltoluene	1.0		< 45	µg/kg
Methylene chloride	1.0		**140**	**µg/kg**
Napthalene	1.0		< 45	µg/kg
n-Propylbenzene	1.0		< 45	µg/kg
Styrene	1.0		< 45	µg/kg
1,1,1,2-Tetrachloroethane	1.0		< 45	µg/kg
1,1,2,2-Tetrachloroethane	1.0		< 45	µg/kg
Tetrachloroethylene	1.0		**660**	**µg/kg**
Toluene	1.0		< 45	µg/kg
1,2,3-Trichlorobenzene	1.0		< 45	µg/kg
1,2,4-Trichlorobenzene	1.0		< 45	µg/kg
1,1,1-Trichloroethane	0.5		**470**	**µg/kg**
1,1,2-Trichloroethane	1.0		< 45	µg/kg
Trichloroethylene	0.5	√	**18000**	**µg/kg**
Trichlorofluoromethane	1.0		< 45	µg/kg
1,2,3-Trichloropropane	1.0		< 45	µg/kg
1,2,4-Trimethylbenzene	1.0		< 45	µg/kg
1,3,5-Trimethylbenzene	1.0		< 45	µg/kg
Vinyl chloride	0.5		< 22	µg/kg
Total Xylenes	1.0		< 45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix. If other dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Note: Methylene chloride was also detected in the methanol-water blank at a concentration of 67 µg/L.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:450
Bromofluorobenzene	74-121	102	99
1,2-Dichloroethane-d4	70-121	106	102
Toluene-d_8	81-117	106	101

Analyzed: 09-09 & 09-22-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #20 (4 1/2 - 6 ' Sample Depth)

Lab #: 27092

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butylbenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	2.0	<	90	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5		**22**	**µg/kg**
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0		**470**	**µg/kg**
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0	√	**10,000**	**µg/kg**
1,2-Dichloroethylene, trans	1.0		**490**	**µg/kg**
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropylene	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene,trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #20 (4 1/2 - 6 ' Sample Depth)

Lab #: 27092

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Parameter	PQL		Results	
Ethylbenzene	1.0		< 45	µg/kg
Hexachlorobutadiene	1.0		< 45	µg/kg
Isopropylbenzene	1.0		< 45	µg/kg
p-Isopropyltoluene	1.0		< 45	µg/kg
Methylene chloride	1.0		**87**	**µg/kg**
Napthalene	1.0		< 45	µg/kg
n-Propylbenzene	1.0		< 45	µg/kg
Styrene	1.0		< 45	µg/kg
1,1,1,2-Tetrachloroethane	1.0		< 45	µg/kg
1,1,2,2-Tetrachloroethane	1.0		< 45	µg/kg
Tetrachloroethylene	1.0		**2100**	**µg/kg**
Toluene	1.0		< 45	µg/kg
1,2,3-Trichlorobenzene	1.0		< 45	µg/kg
1,2,4-Trichlorobenzene	1.0		**330**	**µg/kg**
1,1,1-Trichloroethane	0.5	√	**2400**	**µg/kg**
1,1,2-Trichloroethane	1.0		< 45	µg/kg
Trichloroethylene	0.5	√	**33000**	**µg/kg**
Trichlorofluoromethane	1.0		< 45	µg/kg
1,2,3-Trichloropropane	1.0		< 45	µg/kg
1,2,4-Trimethylbenzene	1.0		< 45	µg/kg
1,3,5-Trimethylbenzene	1.0		< 45	µg/kg
Vinyl chloride	0.5		< 22	µg/kg
Total Xylenes	1.0		< 45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix. If other dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Note: Methylene chloride was also detected in the methanol-water blank at a concentration of 67 µg/L

		% Recovery	
Surrogate Standards	Limits (%)	1:45	1:450
Bromofluorobenzene	74-121	106	103
1,2-Dichloroethane-d4	70-121	105	107
Toluene-d_8	81-117	105	106

Analyzed: 09-10-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #21 (4 1/2 - 6 ' Sample Depth)

Lab #: 27096

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butylbenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	2.0	<	90	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0		**47**	**µg/kg**
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0		**240**	**µg/kg**
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropylene	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene,trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #21 (4 1/2 - 6 ' Sample Depth)

Lab #: 27096

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Parameter	PQL	Results		
Ethylbenzene	1.0	<	45	µg/kg
Hexachlorobutadiene	1.0	<	45	µg/kg
Isopropylbenzene	1.0	<	45	µg/kg
p-Isopropyltoluene	1.0	<	45	µg/kg
Methylene chloride	1.0		**92**	**µg/kg**
Napthalene	1.0	<	45	µg/kg
n-Propylbenzene	1.0	<	45	µg/kg
Styrene	1.0	<	45	µg/kg
1,1,1,2-Tetrachloroethane	1.0	<	45	µg/kg
1,1,2,2-Tetrachloroethane	1.0	<	45	µg/kg
Tetrachloroethylene	1.0		**2500**	**µg/kg**
Toluene	1.0	<	45	µg/kg
1,2,3-Trichlorobenzene	1.0	<	45	µg/kg
1,2,4-Trichlorobenzene	1.0	<	45	µg/kg
1,1,1-Trichloroethane	0.5		**950**	**µg/kg**
1,1,2-Trichloroethane	1.0	<	45	µg/kg
Trichloroethylene	0.5		**1700**	**µg/kg**
Trichlorofluoromethane	1.0	<	45	µg/kg
1,2,3-Trichloropropane	1.0	<	45	µg/kg
1,2,4-Trimethylbenzene	1.0	<	45	µg/kg
1,3,5-Trimethylbenzene	1.0	<	45	µg/kg
Vinyl chloride	0.5	<	22	µg/kg
Total Xylenes	1.0	<	45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix.

Surrogate Standards	Limits (%)	% Recovery 1:45
Bromofluorobenzene	74-121	101
1,2-Dichloroethane-d4	70-121	106
Toluene-d_8	81-117	102

Analyzed: 09-10-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #22 (4 1/2 - 6 ' Sample Depth)

Lab #: 27093

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butylbenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	2.0	<	90	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0	<	45	µg/kg
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0	<	45	µg/kg
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropylene	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene,trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #22 (4 1/2 - 6 ' Sample Depth)

Lab #: 27093

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Parameter	PQL		Results	
Ethylbenzene	1.0	<	45	µg/kg
Hexachlorobutadiene	1.0	<	45	µg/kg
Isopropylbenzene	1.0	<	45	µg/kg
p-Isopropyltoluene	1.0	<	45	µg/kg
Methylene chloride	1.0		**48**	**µg/kg**
Napthalene	1.0	<	45	µg/kg
n-Propylbenzene	1.0	<	45	µg/kg
Styrene	1.0	<	45	µg/kg
1,1,1,2-Tetrachloroethane	1.0	<	45	µg/kg
1,1,2,2-Tetrachloroethane	1.0	<	45	µg/kg
Tetrachloroethylene	1.0	<	45	µg/kg
Toluene	1.0	<	45	µg/kg
1,2,3-Trichlorobenzene	1.0	<	45	µg/kg
1,2,4-Trichlorobenzene	1.0	<	45	µg/kg
1,1,1-Trichloroethane	0.5	<	22	µg/kg
1,1,2-Trichloroethane	1.0	<	45	µg/kg
Trichloroethylene	0.5		**84**	**µg/kg**
Trichlorofluoromethane	1.0	<	45	µg/kg
1,2,3-Trichloropropane	1.0	<	45	µg/kg
1,2,4-Trimethylbenzene	1.0	<	45	µg/kg
1,3,5-Trimethylbenzene	1.0	<	45	µg/kg
Vinyl chloride	0.5	<	22	µg/kg
Total Xylenes	1.0	<	45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix.

Note: Methylene chloride was also detected in the methanol-water blank at a concentration of 67 µg/L

Surrogate Standards	Limits (%)	% Recovery 1:45
Bromofluorobenzene	74-121	104
1,2-Dichloroethane-d4	70-121	103
Toluene-d_8	81-117	100

Analyzed: 09-10-91

Analyst: JRB

Method: 8260

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole # 22 (6 - 7 1/2' Sample Depth)

Lab #: 27094

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5		< 22	µg/kg
Bromobenzene	1.0		< 45	µg/kg
Bromochloromethane	1.0		< 45	µg/kg
Bromodichloromethane	0.5		< 22	µg/kg
Bromoform	0.5		< 22	µg/kg
Bromomethane	2.0		< 90	µg/kg
n-Butylbenzene	1.0		< 45	µg/kg
sec-Butylbenzene	1.0		< 45	µg/kg
tert-Butylbenzene	1.0		< 45	µg/kg
Carbon tetrachloride	0.5		< 22	µg/kg
Chlorobenzene	1.0		< 45	µg/kg
Chloroethane	2.0		< 90	µg/kg
Chloroform	0.5		< 22	µg/kg
Chloromethane	2.0		< 90	µg/kg
o-Chlorotoluene	1.0		< 45	µg/kg
p-Chlorotoluene	1.0		< 45	µg/kg
Dibromochloromethane	0.5		< 22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0		< 45	µg/kg
1,2-Dibromoethane(EDB)	1.0		< 45	µg/kg
Dibromomethane	1.0		< 45	µg/kg
m-Dichlorobenzene	1.0		< 45	µg/kg
o-Dichlorobenzene	1.0		< 45	µg/kg
p-Dichlorobenzene	0.5		< 22	µg/kg
Dichlorodifluoromethane	1.0		< 45	µg/kg
1,1-Dichloroethane	1.0		**250**	**µg/kg**
1,2-Dichloroethane	0.5		< 22	µg/kg
1,1-Dichloroethylene	0.5		< 22	µg/kg
1,2-Dichloroethylene, cis	1.0	√	**5600**	**µg/kg**
1,2-Dichloroethylene, trans	1.0		**260**	**µg/kg**
1,2-Dichloropropane	1.0		< 45	µg/kg
1,3-Dichloropropane	1.0		< 45	µg/kg
2,2-Dichloropropane	1.0		< 45	µg/kg
1,1-Dichloropropylene	1.0		< 45	µg/kg
1,3-Dichloropropylene, cis	1.0		< 45	µg/kg
1,3-Dichloropropylene,trans	1.0		< 45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #22 (6 - 7 1/2' Sample Depth)

Lab #: 27094

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Parameter	PQL		Results	
Ethylbenzene	1.0		< 45	µg/kg
Hexachlorobutadiene	1.0		< 45	µg/kg
Isopropylbenzene	1.0		< 45	µg/kg
p-Isopropyltoluene	1.0		< 45	µg/kg
Methylene chloride	1.0		**1000**	**µg/kg**
Napthalene	1.0		< 45	µg/kg
n-Propylbenzene	1.0		< 45	µg/kg
Styrene	1.0		< 45	µg/kg
1,1,1,2-Tetrachloroethane	1.0		< 45	µg/kg
1,1,2,2-Tetrachloroethane	1.0		< 45	µg/kg
Tetrachloroethylene	1.0		**2300**	**µg/kg**
Toluene	1.0		< 45	µg/kg
1,2,3-Trichlorobenzene	1.0		< 45	µg/kg
1,2,4-Trichlorobenzene	1.0		< 45	µg/kg
1,1,1-Trichloroethane	0.5		**2200**	**µg/kg**
1,1,2-Trichloroethane	1.0		**130**	**µg/kg**
Trichloroethylene	0.5	√	**27000**	**µg/kg**
Trichlorofluoromethane	1.0		< 45	µg/kg
1,2,3-Trichloropropane	1.0		< 45	µg/kg
1,2,4-Trimethylbenzene	1.0		< 45	µg/kg
1,3,5-Trimethylbenzene	1.0		< 45	µg/kg
Vinyl chloride	0.5		< 22	µg/kg
Total Xylenes	1.0		< 45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix. If other dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Note: Methylene chloride was also detected in the methanol-water blank at a concentration of 67 µg/L

		% Recovery	
Surrogate Standards	Limits (%)	1:45	1:450
Bromofluorobenzene	74-121	103	104
1,2-Dichloroethane-d4	70-121	106	108
Toluene-d_8	81-117	102	103

Analyzed: 09-10-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #23 (8 1/2 - 10' Sample Depth)

Lab #: 27090

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL	Results		
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butylbenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	2.0	<	90	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0	<	45	µg/kg
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0	<	45	µg/kg
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropylene	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene,trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #23 (8 1/2 - 10' Sample Depth)

Lab #: 27090

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Parameter	PQL		Results	
Ethylbenzene	1.0		**79**	ug/kg
Hexachlorobutadiene	1.0	<	45	µg/kg
Isopropylbenzene	1.0	<	45	υγ/κγ
p-Isopropyltoluene	1.0	<	45	υγ/κγ
Methylene chloride	1.0	<	45	υγ/κγ
Napthalene	1.0		**140**	υγ/κγ
n-Propylbenzene	1.0	<	45	υγ/κγ
Styrene	1.0	<	45	µg/kg
1,1,1,2-Tetrachloroethane	1.0	<	45	µg/kg
1,1,2,2-Tetrachloroethane	1.0	<	45	µg/kg
Tetrachloroethylene	1.0	<	45	µg/kg
Toluene	1.0		**120**	**µg/kg**
1,2,3-Trichlorobenzene	1.0	<	45	µg/kg
1,2,4-Trichlorobenzene	1.0	<	45	µg/kg
1,1,1-Trichloroethane	0.5	<	22	µg/kg
1,1,2-Trichloroethane	1.0	<	45	µg/kg
Trichloroethylene	0.5		**34**	**µg/kg**
Trichlorofluoromethane	1.0	<	45	µg/kg
1,2,3-Trichloropropane	1.0	<	45	µg/kg
1,2,4-Trimethylbenzene	1.0		**290**	**µg/kg**
1,3,5-Trimethylbenzene	1.0		**72**	**µg/kg**
Vinyl chloride	0.5	<	22	µg/kg
Total Xylenes	1.0		**530**	**µg/kg**
Tentatively Identified Parameters				
Other alkyl-substituted benzenes	NA	◊	**~ 2700**	**µg/kg**

◊ ~ Tentatively identified parameter. The concentration is estimated from the ratio of the peak area to the internal standard area.

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix.

NA = Not applicable

Note: Methylene chloride was also detected in the methanol-water blank at a concentration of 67 µg/L

Continued on the following page

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole # 23 (8 1/2 - 10' Sample Depth)

Lab #: 27090

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Surrogate Standards	Limits (%)	% Recovery 1:45
Bromofluorobenzene	74-121	101
1,2-Dichloroethane-d4	70-121	105
Toluene-d_8	81-117	103

Analyzed: 09-09-91

Analyst: JRB

Method: 8260

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole # 24 (4 1/2 - 6 ' Sample Depth)

Lab #: 27087

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5		**27**	**µg/kg**
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butylbenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	2.0	<	90	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5		**46**	**µg/kg**
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0		**330**	**µg/kg**
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0	√	**49000**	**µg/kg**
1,2-Dichloroethylene, trans	1.0		**600**	**µg/kg**
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropylene	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene,trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #24 (4 1/2 - 6 ' Sample Depth)

Lab #: 27087

VOLATILE ORGANIC CHEMICALS–Soil, Cont.

Parameter	PQL		Results	
Ethylbenzene	1.0		< 45	µg/kg
Hexachlorobutadiene	1.0		< 45	µg/kg
Isopropylbenzene	1.0		< 45	µg/kg
p-Isopropyltoluene	1.0		< 45	µg/kg
Methylene chloride	1.0		**86**	**µg/kg**
Napthalene	1.0		< 45	µg/kg
n-Propylbenzene	1.0		< 45	µg/kg
Styrene	1.0		< 45	µg/kg
1,1,1,2-Tetrachloroethane	1.0		< 45	µg/kg
1,1,2,2-Tetrachloroethane	1.0		< 45	µg/kg
Tetrachloroethylene	1.0		**3200**	**µg/kg**
Toluene	1.0		**790**	**µg/kg**
1,2,3-Trichlorobenzene	1.0		**160**	**µg/kg**
1,2,4-Trichlorobenzene	1.0		**75**	**µg/kg**
1,1,1-Trichloroethane	0.5		**1600**	**µg/kg**
1,1,2-Trichloroethane	1.0		< 45	µg/kg
Trichloroethylene	0.5	√	**260000**	**µg/kg**
Trichlorofluoromethane	1.0		< 45	µg/kg
1,2,3-Trichloropropane	1.0		< 45	µg/kg
1,2,4-Trimethylbenzene	1.0		< 45	µg/kg
1,3,5-Trimethylbenzene	1.0		< 45	µg/kg
Vinyl chloride	0.5		< 22	µg/kg
Total Xylenes	1.0		**350**	**µg/kg**
Tentatively Identified Parameters				
Long chain saturated and unsaturated hydrocarbons	NA	◊	**~ 1600**	**µg/kg**

◊ ~ Tentatively identified parameter. The concentration is estimated from the ratio of the peak area to the internal standard area.

NA = Not applicable

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix. If other dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceeding the result.

Note: Methylene chloride was also detected in the methanol-water blank at a concentration of 67 g/kg.

Continued on the following page

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #24 (4 1/2 - 6 ' Sample Depth)

Lab #: 27087

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Surrogate Standards	Limits (%)	% Recovery 1:45	1:4500
Bromofluorobenzene	74-121	102	102
1,2-Dichloroethane-d4	70-121	108	104
Toluene-d_8	81-117	105	101

Analyzed: 09-09 & 09-22-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #26 (4 1/2 - 6 ' Sample Depth)

Lab #: 27089

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butylbenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	2.0	<	90	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0	<	45	µg/kg
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0	<	45	µg/kg
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropylene	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene,trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #26 (4 1/2 - 6 ' Sample Depth)

Lab #: 27089

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Parameter	PQL		Results	
Ethylbenzene	1.0	<	45	µg/kg
Hexachlorobutadiene	1.0	<	45	µg/kg
Isopropylbenzene	1.0	<	45	µg/kg
p-Isopropyltoluene	1.0	<	45	µg/kg
Methylene chloride	1.0		**63**	**µg/kg**
Napthalene	1.0	<	45	µg/kg
n-Propylbenzene	1.0	<	45	µg/kg
Styrene	1.0	<	45	µg/kg
1,1,1,2-Tetrachloroethane	1.0	<	45	µg/kg
1,1,2,2-Tetrachloroethane	1.0	<	45	µg/kg
Tetrachloroethylene	1.0	<	45	µg/kg
Toluene	1.0	<	45	µg/kg
1,2,3-Trichlorobenzene	1.0	<	45	µg/kg
1,2,4-Trichlorobenzene	1.0	<	45	µg/kg
1,1,1-Trichloroethane	0.5	<	22	µg/kg
1,1,2-Trichloroethane	1.0	<	45	µg/kg
Trichloroethylene	0.5		**170**	**µg/kg**
Trichlorofluoromethane	1.0	<	45	µg/kg
1,2,3-Trichloropropane	1.0	<	45	µg/kg
1,2,4-Trimethylbenzene	1.0	<	45	µg/kg
1,3,5-Trimethylbenzene	1.0	<	45	µg/kg
Vinyl chloride	0.5	<	22	µg/kg
Total Xylenes	1.0	<	45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix.

Note: Methylene chloride was also detected in the methanol-water blank at a concentration of 67 µg/L

		% Recovery
Surrogate Standards	Limits	1:45
Bromofluorobenzene	74-121	101
1,2-Dichloroethane-d4	70-121	109
Toluene-d_8	81-117	102

Analyzed: 09-09-91

Analyst: JRB

Method: 8260

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #27 (4 1/2 - 6 ' Sample Depth)

Lab #: 27097

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butylbenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	2.0	<	90	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0	<	45	µg/kg
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0	<	45	µg/kg
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropylene	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene,trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole # 27 (4 1/2 - 6 ' Sample Depth)

Lab #: 27097

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Parameter	PQL		Results	
Ethylbenzene	1.0	<	45	µg/kg
Hexachlorobutadiene	1.0	<	45	µg/kg
Isopropylbenzene	1.0	<	45	µg/kg
p-Isopropyltoluene	1.0	<	45	µg/kg
Methylene chloride	1.0		**75**	**µg/kg**
Napthalene	1.0	<	45	µg/kg
n-Propylbenzene	1.0	<	45	µg/kg
Styrene	1.0	<	45	µg/kg
1,1,1,2-Tetrachloroethane	1.0	<	45	µg/kg
1,1,2,2-Tetrachloroethane	1.0	<	45	µg/kg
Tetrachloroethylene	1.0	<	45	µg/kg
Toluene	1.0	<	45	µg/kg
1,2,3-Trichlorobenzene	1.0	<	45	µg/kg
1,2,4-Trichlorobenzene	1.0	<	45	µg/kg
1,1,1-Trichloroethane	0.5	<	22	µg/kg
1,1,2-Trichloroethane	1.0	<	45	µg/kg
Trichloroethylene	0.5		**270**	**µg/kg**
Trichlorofluoromethane	1.0	<	45	µg/kg
1,2,3-Trichloropropane	1.0	<	45	µg/kg
1,2,4-Trimethylbenzene	1.0	<	45	µg/kg
1,3,5-Trimethylbenzene	1.0	<	45	µg/kg
Vinyl chloride	0.5	<	22	µg/kg
Total Xylenes	1.0	<	45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix.

Surrogate Standards	Limits (%)	% Recovery 1:45
Bromofluorobenzene	74-121	100
1,2-Dichloroethane-d4	70-121	107
Toluene-d_8	81-117	100

Analyzed: 09-10-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole # 28 (4 1/2 - 6 ' Sample Depth)

Lab #: 27091

VOLATILE ORGANIC CHEMICALS--Soil

Parameter	PQL		Results	
Benzene	0.5	<	22	µg/kg
Bromobenzene	1.0	<	45	µg/kg
Bromochloromethane	1.0	<	45	µg/kg
Bromodichloromethane	0.5	<	22	µg/kg
Bromoform	0.5	<	22	µg/kg
Bromomethane	2.0	<	90	µg/kg
n-Butylbenzene	1.0	<	45	µg/kg
sec-Butylbenzene	1.0	<	45	µg/kg
tert-Butylbenzene	1.0	<	45	µg/kg
Carbon tetrachloride	0.5	<	22	µg/kg
Chlorobenzene	1.0	<	45	µg/kg
Chloroethane	2.0	<	90	µg/kg
Chloroform	0.5	<	22	µg/kg
Chloromethane	2.0	<	90	µg/kg
o-Chlorotoluene	1.0	<	45	µg/kg
p-Chlorotoluene	1.0	<	45	µg/kg
Dibromochloromethane	0.5	<	22	µg/kg
1,2-Dibromo-3-Chloropropane	1.0	<	45	µg/kg
1,2-Dibromoethane(EDB)	1.0	<	45	µg/kg
Dibromomethane	1.0	<	45	µg/kg
m-Dichlorobenzene	1.0	<	45	µg/kg
o-Dichlorobenzene	1.0	<	45	µg/kg
p-Dichlorobenzene	0.5	<	22	µg/kg
Dichlorodifluoromethane	1.0	<	45	µg/kg
1,1-Dichloroethane	1.0	<	45	µg/kg
1,2-Dichloroethane	0.5	<	22	µg/kg
1,1-Dichloroethylene	0.5	<	22	µg/kg
1,2-Dichloroethylene, cis	1.0	<	45	µg/kg
1,2-Dichloroethylene, trans	1.0	<	45	µg/kg
1,2-Dichloropropane	1.0	<	45	µg/kg
1,3-Dichloropropane	1.0	<	45	µg/kg
2,2-Dichloropropane	1.0	<	45	µg/kg
1,1-Dichloropropylene	1.0	<	45	µg/kg
1,3-Dichloropropylene, cis	1.0	<	45	µg/kg
1,3-Dichloropropylene,trans	1.0	<	45	µg/kg

Continued on the following page.

Client: Cole Associates

Report#: 27087-098

Site: Sample Hole #28 (4 1/2 - 6 ' Sample Depth)

Lab #: 27091

VOLATILE ORGANIC CHEMICALS--Soil, Cont.

Parameter	PQL		Results	
Ethylbenzene	1.0	<	45	µg/kg
Hexachlorobutadiene	1.0	<	45	µg/kg
Isopropylbenzene	1.0	<	45	µg/kg
p-Isopropyltoluene	1.0	<	45	µg/kg
Methylene chloride	1.0		**270**	**µg/kg**
Napthalene	1.0	<	45	µg/kg
n-Propylbenzene	1.0	<	45	µg/kg
Styrene	1.0	<	45	µg/kg
1,1,1,2-Tetrachloroethane	1.0	<	45	µg/kg
1,1,2,2-Tetrachloroethane	1.0	<	45	µg/kg
Tetrachloroethylene	1.0	<	45	µg/kg
Toluene	1.0	<	45	µg/kg
1,2,3-Trichlorobenzene	1.0	<	45	µg/kg
1,2,4-Trichlorobenzene	1.0	<	45	µg/kg
1,1,1-Trichloroethane	0.5		**27**	**µg/kg**
1,1,2-Trichloroethane	1.0	<	45	µg/kg
Trichloroethylene	0.5		**490**	**µg/kg**
Trichlorofluoromethane	1.0	<	45	µg/kg
1,2,3-Trichloropropane	1.0	<	45	µg/kg
1,2,4-Trimethylbenzene	1.0	<	45	µg/kg
1,3,5-Trimethylbenzene	1.0	<	45	µg/kg
Vinyl chloride	0.5	<	22	µg/kg
Total Xylenes	1.0	<	45	µg/kg

Results were obtained on analysis of a 1:45 dilution of the sample submitted due to the complex sample matrix.

Note: Methylene chloride was also detected in the methanol-water blank at a concentration of 67 µg/L

Surrogate Standards	Limits (%)	% Recovery 1:45
Bromofluorobenzene	74-121	102
1,2-Dichloroethane-d4	70-121	102
Toluene-d_8	81-117	99

Analyzed: 09- 10-91 Analyst: JRB Method: 8260

Client: Cole Associates

Report#: 27087-098

REFERENCES AND DEFINITIONS OF TERMS

Volatile Organic Chemical (VOC) Soil Analysis

Analysis By: GC/MS Purge & Trap

Method: EPA Solid Waste Manual SW-846 Method 8260

Volatile Organic Chemicals (VOC's) are a group of natural and synthetic organic chemicals characterized by their volatility (ability to evaporate). The volatile chemicals included in this report have been selected by the EPA to be monitored both because of their suspected toxicity and because of their widespread use in industry. Many are used in the production of plastics, clothing and other common items found in most industries.

Practical Quantitation Limits (PQL's) represent the lower limit at which the compounds of interest can be accurately detected, at a 95% confidence level, and reported for a sample exhibiting minimal chemical background interference under the conditions employed in the analytical procedure. PQL's are by definition a function of the instrument performance for an ideal sample and thus are not adjusted for sample dilutions used to calculate results.

1 µg/kg = 1 microgram per killogram = 1 part per billion

< = "less than". This number is the lowest reportable value by the procedure used for analysis.

VERBAL
DRINKING WATER SAMPLES

February 13, 1992

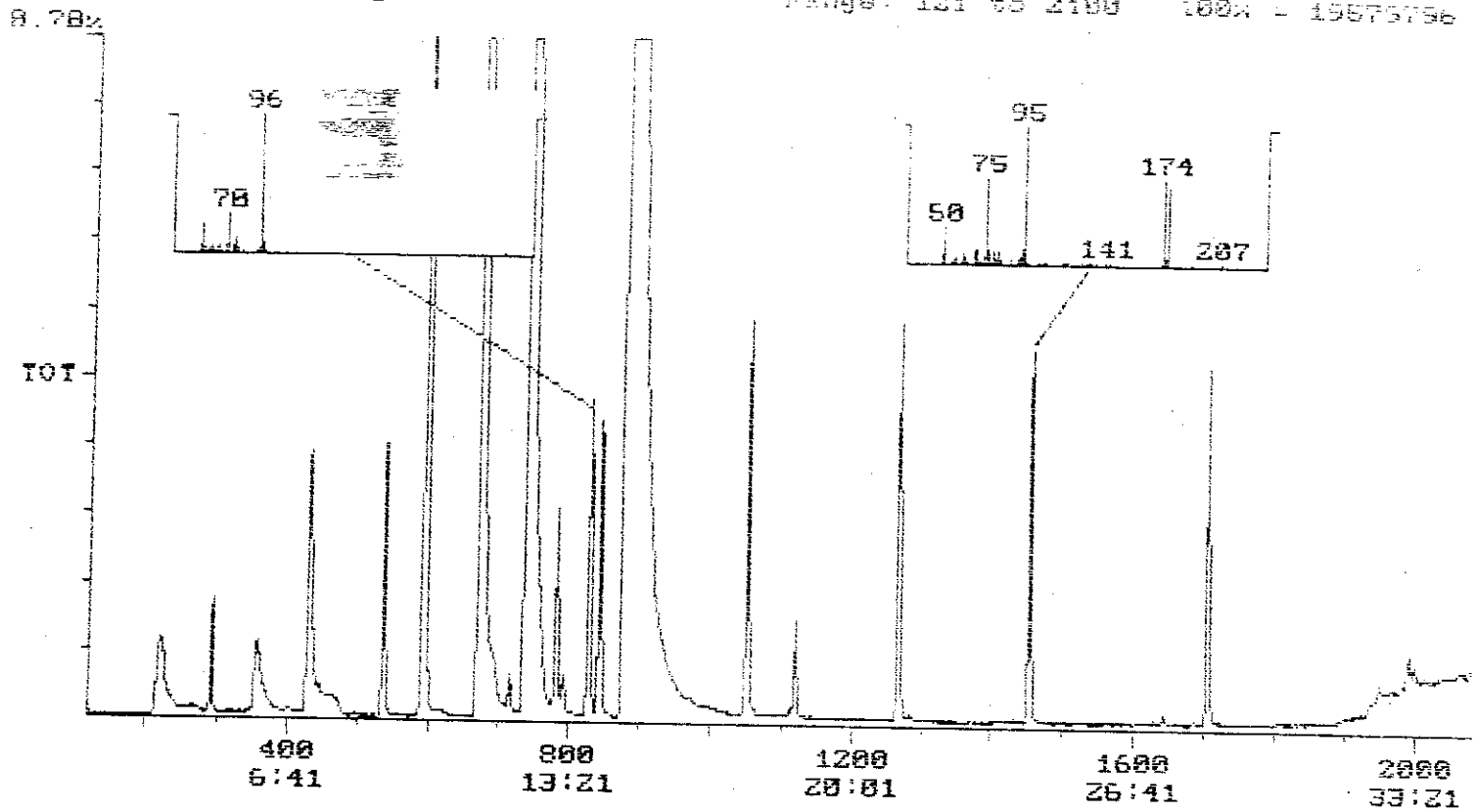
Johnson Controls

Verbal Analysis Results

	ppb
# 517 S. 15th Street	
Vinyl Chlorid	1.65
Trichloroethylene	0.52
1,1 Dichloroethylene	3.14
Trans, 1,2 Dechloroethylene	9.61
1,1 Dichloroethane	30.7
Dichloroflorometh ane	2.4
1,1,1 Trichloroethylene	9.64
* CIS, 1,2 Dichlorethylene	750
Trichloroethylene	700
# 1108 Sanders	
Trichloroethylene	3.92
# 1110 Sanders	
Tran-1,2 Dichloroethylene	0.07
CIS 1,2 Dichloroethylene	1.87
1,1 Dichloroethane	0.18
1,1,1 Trichloroethane	10.4
* Trichloroethylene	70.0
# 1113 Sanders	
Trans-1,2 Dichloroethylene	0.11
CIS, 1,2 Dichloroethylene	10.6
Trichloroethylene	0.41
# 516 Post Filter	
Vinyl Chloride	3.33
Trichloroflorom ethane	32.6
Trans, 1,2 Dichloroethylene	15.5
Chloroform	4.46
Dichlorodiflorom ethane	40.7
* 1,1,1 TCA	150
1,2 Dichloroethane	2.43
1,1,2 Dichlorethane	0.29
* 1,1 Dichloroethylene	70.0
* 1,1 Dichloroethane	125.0
* CIS, 1,2 Dichlorethylene	800.00
* TCE	700.00

* Estimated dilutions being run.

Chromatogram Plot C:\MSDCHEM\1\DATA\32895 Date 22/04/2
Comment: 32895\ES\FS\GW\5242\1\020492\SML\ Johnson Controls 516 15th ST
Scan No: 1454 Retention Time: 21:15 RIC: 84958 Mass Range: 19 - 237
Plotted: 121 to 2100 Range: 121 to 2100 100% = 195757796



Quantitation Report Quanfile: 32895 Quan Entries: 31
Comment: 32895\ES\FS\GW\5242\1\020492\SML\ Johnson Controls 516 15th ST
Sorted via: Entry Number ↑ (S) = Standard

Cal	Name of Compound	R Time	Peak Area	Calc Amt(A)	Units
1	IS-1,4-Difluorobenzene	14:05	117,664	10.000	ug/L
2	IS-Chlorobenzene-d5	21:09	108,368	10.000	ug/L
3	IS-Fluorobenzene	13:50	158,569	10.000	ug/L
4	SS-12Dichloroethane-d4	13:03	98,192	9.278	ug/L
5	SS-Toluene-d8	17:33	182,694	10.577	ug/L
6	SS-Bromofluorobenzene	24:15	85,261	10.263	ug/L
7	SS-12Dichlorbenzene-d4	28:28	73,848	9.438	ug/L
8	Chloromethane	3:51	626	~~2.510~~	ug/L
9	Vinyl chloride	4:28	28,748	5.197	ug/L
10	Bromomethane	5:07	147	~~0.000~~	ug/L
11	Trichlorofluoromethane	5:57	168,526	12.580	ug/L
12	1,1-Dichloroethylene	7:11	254,244	25.667	ug/L
13	Methylene chloride	8:19	1,527	~~0.000~~	ug/L
14	t-1,2-Dichloroethylene	8:57	183,024	9.292	ug/L
15	1,1-Dichloroethane	9:55	918,953	61.846	ug/L
16	c-1,2-Dichloroethylene	11:14	9,282,538	388.658	ug/L
17	Chloroform	11:57	38,455	1.381	ug/L
20	Trichloroethylene	14:47	56,846,638	3098.939	ug/L
23	Toluene	17:43	1,242	~~0.012~~	ug/L
24	Tetrachloroethylene	19:05	357	~~0.415~~	ug/L
33	1122-Tetrachloroethane	24:48	136	~~0.020~~	ug/L
37	1,3-Dichlorobenzene	27:13	218	~~0.053~~	ug/L
41	124-Trichlorobenzene	32:17	685	~~0.600~~	ug/L
43	123-Trichlorobenzene	32:58	754	~~0.189~~	ug/L
44	Dichlorodifluoromethan	3:41	192,293	47.847	ug/L
45	Chloroethane	5:28	535	~~0.203~~	ug/L

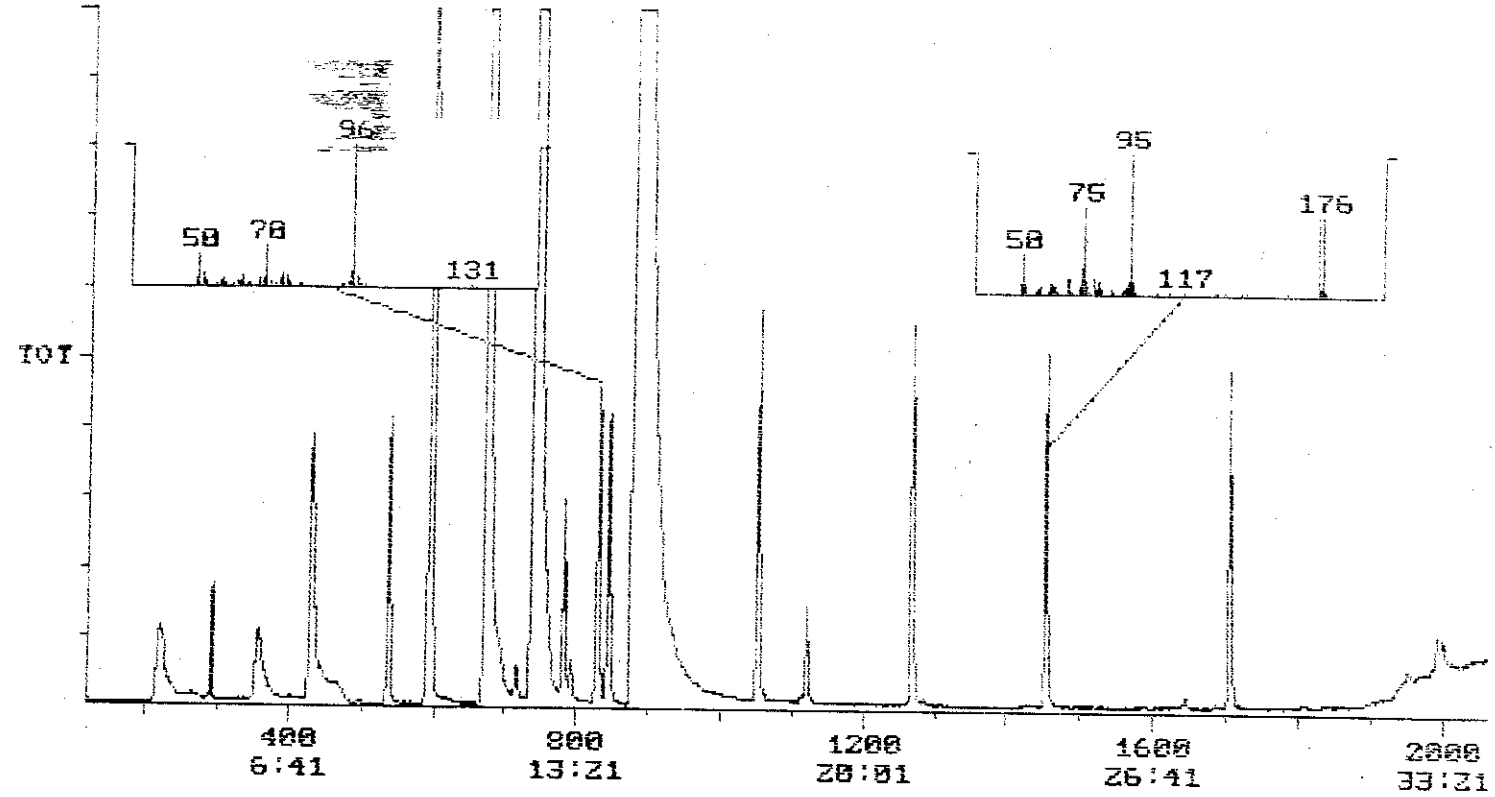
Calibration Report Quant File: 32095 Quan Entries: 31

Comment: 32095\ES\FS\GW\5242\1\020492\5ML\ Johnson Controls 516 15th ST

Sorted via: Entry Number ↑ (S) = Standard

Cal	Name of Compound	R Time	Peak Area	Calc Amt(A)	Units
49	111-Trichloroethane	12:22	10,916,543	392.619	ug/L
51	1,2-Dichloroethane	13:14	14,241	0.830	ug/L
55	1,1,2-Trichloroethane	18:41	47,619	2.944	ug/L
58	1,1,1,2-Tetrachloroeth	21:25	3,024	~~0.165~~	ug/L
67	1,2-Dichlorobenzene	28:46	63	~~0.000~~	ug/L

Chromatogram Plot [illegible] Date: [illegible]
Comment: 32093\ES\FS\GW\5242\1\020492\5ML\ Johnson Controls
Scan No: 1456 Retention Time: 24:17 RIC: 58975 Mass Range: 19 - 177
Plotted: 121 to 2100 Range: 121 to 2100 100% = 20256736



Quantitation Report Quanfile: 32093 Quan Entries: 36
Comment: 32093\ES\FS\GW\5242\1\020492\5ML\ Johnson Controls
Sorted via: Entry Number ↑ (S) = Standard

Cal	Name of Compound	R Time	Peak Area	Calc Amt(A)	Units
1	IS-1,4-Difluorobenzene	14:06	117,631	10.000	ug/L
2	IS-Chlorobenzene-d5	21:09	108,258	10.000	ug/L
3	IS-Fluorobenzene	13:51	153,020	10.000	ug/L
4	SS-12Dichloroethane-d4	13:04	97,607	9.226	ug/L
5	SS-Toluene-d8	17:34	182,526	10.578	ug/L
6	SS-Bromofluorobenzene	24:15	84,080	10.131	ug/L
7	SS-12Dichlorbenzene-d4	28:28	73,071	9.399	ug/L
8	Chloromethane	3:51	632	~~2.569~~	ug/L
9	Vinyl chloride	4:27	20,740	5.199	ug/L
10	Bromomethane	5:14	97	~~3.000~~	ug/L
11	Trichlorofluoromethane	5:57	168,854	12.608	ug/L
12	1,1-Dichloroethylene	7:11	258,944	26.134	ug/L
13	Methylene chloride	8:19	1,934	~~8.300~~	ug/L
14	t-1,2-Dichloroethylene	8:58	188,315	9.563	ug/L
15	1,1-Dichloroethane	9:55	946,586	64.260	ug/L
16	c-1,2-Dichloroethylene	11:14	9,411,788	393.566	ug/L
17	Chloroform	11:58	30,544	1.386	ug/L
20	Trichloroethylene	14:47	57,628,734	3142.447	ug/L
23	Toluene	17:43	1,140	~~0.009~~	ug/L
24	Tetrachloroethylene	19:04	263	~~0.419~~	ug/L
34	o-Chlorotoluene	25:12	235	~~0.031~~	ug/L
37	1,3-Dichlorobenzene	27:22	190	~~0.052~~	ug/L
41	124-Trichlorobenzene	32:19	880	~~0.715~~	ug
42	Naphthalene	32:38	1,268	~~0.229~~	ug/L
43	123-Trichlorobenzene	32:59	837	~~0.199~~	ug/L
44	Dichlorodifluoromethan	3:41	193,964	48.273	ug/L

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SHADED AREA FOR LAB USE ONLY

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

CLIENT/COMPANY ORDERING TEST: COLE ASSOCIATES INC.

PROJECT/SITE NAME: JOHNSON CONTROLS – 1110 SANDERS, GOSH

SAMPLERS (Signature): Kenneth E Waltman

PWS ID #: 24291

PROJECT #:

LAB #	COLLECTION DATE	COLLECTION TIME	DESCRIPTION OF COLLECTION SITE	# OF CONTAINERS	MATRIX CODE	SAMPLE DEPTH (FT.)	WELL DEPTH (FT.)	TESTS REQUESTED (✓): VOC	OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	TURNAROUND TIME	CUSTODY SEAL
	2/11/91	12:59	1110 SANDERS ST., GOSHEN	1	DW			✓		M	IV	
	2/11/91	14:00	" " " "	1	DW			✓		M	IV	
	2/11/91	12:54	TRIP BLANK "	1	RW			✓				
	2/11/91	13:55	TRIP BLANK "	1	RW			✓				

FIELD COMMENTS: CARRIER _____ AIRBILL NO. _____ COOLER NO. _____ DATE SHIPPED _____

SAMPLES TAKE FROM KITCHEN SINK AFTER FILTERING DEVICE

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT.

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
Kenneth E Waltman		2/11/92	
RELINQUISHED BY: (Signature)	RECEIVED FOR LABORATORY BY: (Signature)	DATE	TIME
	[illegible]	2-11-92	1510

LAB COMMENTS

SHIPPING CONDITIONS: (Check One) I. Iced II. Ambient

TEMPERATURE: ____ °C Lowest ____ °C Highest ____ °C Receipt

MATRIX CODES:

RW	REAGENT WATER	SE	SEDIMENT
DW	DRINKING WATER	SL	SLUDGE
GW	GROUND WATER	HW	HAZARDOUS WASTE
SW	SURFACE WATER	WW	WASTE WATER
SO	SOIL	PW	POOL WATER

CONTAMINATION LEVEL

L	LOW (NO ODOR)	H	HIGH
M	MEDIUM	U	UNKNOWN

TURN-AROUND-TIME (TAT) – SURCHARGES

SW	STANDARD (10-15 WORKING DAYS) WRITTEN	0%	IV	IMMEDIATE (48-72 HOURS) VERBAL	100%
RV	RUSH (3-5 WORKING DAYS) VERBAL	50%	IW	IMMEDIATE (48-72 HOURS) WRITTEN	125%
RW	RUSH (3-5 WORKING DAYS WRITTEN)	75%	WH	Weekend or Holiday	200%

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SHADED AREA FOR LAB USE ONLY

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

CLIENT/COMPANY ORDERING TEST: Cole Associates Inc.

PROJECT/SITE NAME: Johnson Controls

SAMPLERS: (Signature) [illegible]

PWS ID #:

PROJECT #: 2429

LAB #	COLLECTION DATE	COLLECTION TIME	DESCRIPTION OF COLLECTION SITE	# OF CONTAINERS	MATRIX CODE	SAMPLE DEPTH (FT.)	WELL DEPTH (FT.)	TESTS REQUESTED (✓): VOCs	OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	TURNAROUND TIME	CUSTODY SEAL
	2/7	12:00	517 S. 15TH Street	1	DW			X		H	IV	✓
	2/7	12:00	517 S. 15TH Street	1	DW			X		H	IV	✓

FIELD COMMENTS: CARRIER _____ AIRBILL NO. _____ COOLER NO. _____ DATE SHIPPED _____

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT.

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
[illegible]		2/7	1:06
RELINQUISHED BY: (Signature)	RECEIVED FOR LABORATORY BY: (Signature) [illegible]	2-7-92	1305

LAB COMMENTS: [illegible]

SHIPPING CONDITIONS: (Check One) ☐ Iced ☐ Ambient

TEMPERATURE: ____° C Lowest ____° C Highest ____° C Receipt

MATRIX CODES:

RW	REAGENT WATER	SE	SEDIMENT
DW	DRINKING WATER	SL	SLUDGE
GW	GROUND WATER	HW	HAZARDOUS WASTE
SW	SURFACE WATER	WW	WASTE WATER
SO	SOIL	PW	POOL WATER

CONTAMINATION LEVEL

L	LOW (NO ODOR)	H	HIGH
M	MEDIUM	U	UNKNOWN

TURN-AROUND-TIME (TAT) – SURCHARGES

SW	STANDARD (10-15 WORKING DAYS) WRITTEN	0%	IV	IMMEDIATE (48-72 HOURS) VERBAL	100%
RV	RUSH (3-5 WORKING DAYS) VERBAL	50%	IW	IMMEDIATE (48-72 HOURS) WRITTEN	125%
RW	RUSH (3-5 WORKING DAYS WRITTEN)	75%	WH	Weekend or Holiday	200%

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SHADED AREA FOR LAB USE ONLY

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

CLIENT/COMPANY ORDERING TEST: Cole Associates Inc

PROJECT/SITE NAME: Johnson Controls

SAMPLERS (Signature):

PWS ID #:

PROJECT #:

LAB #	COLLECTION DATE	COLLECTION TIME	DESCRIPTION OF COLLECTION SITE	# OF CONTAINERS	MATRIX CODE	SAMPLE DEPTH (FT.)	WELL DEPTH (FT.)	TESTS REQUESTED (✓) VOC's	OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	TURNAROUND TIME	CUSTODY SEAL
	2/4	10:15	516 15th St. (Fo)	2	DW			X		U	IV	✓
	2/4	10:20	516 15th St. Trip	2	DW			X		U	IV	✓
	2/4	10:25	516 15th St. (@ well pump)	2	DW			X		M	IV	✓

FIELD COMMENTS: CARRIER _____ AIRBILL NO. _____ COOLER NO. _____ DATE SHIPPED _____

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT.

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY (Signature)	RECEIVED FOR LABORATORY BY: (Signature)	DATE: 2-4-92	TIME: 1130

LAB COMMENTS:

SHIPPING CONDITIONS: (Check One) ☑ Iced ☐ Ambient

TEMPERATURE: ____ °C Lowest ____ °C Highest ____ °C Receipt

MATRIX CODES:

RW	REAGENT WATER	SE	SEDIMENT
DW	DRINKING WATER	SL	SLUDGE
GW	GROUND WATER	HW	HAZARDOUS WASTE
SW	SURFACE WATER	WW	WASTE WATER
SO	SOIL	PW	POOL WATER

CONTAMINATION LEVEL

L	LOW (NO ODOR)	H	HIGH
M	MEDIUM	U	UNKNOWN

TURN-AROUND-TIME (TAT) – SURCHARGES

SW	STANDARD (10-15 WORKING DAYS) WRITTEN	0%	IV	IMMEDIATE (48-72 HOURS) VERBAL	100%
RV	RUSH (3-5 WORKING DAYS) VERBAL	50%	IW	IMMEDIATE (48-72 HOURS) WRITTEN	125%
RW	RUSH (3-5 WORKING DAYS WRITTEN)	75%	WH	Weekend or Holiday	200%

Comment: 32093\ES\FS\GW\5242\1\020492\5ML\ Johnson Controls
Started ia: Entry Number 1 (S) = Standard

Cal	Name of Compound	R Time	Peak Area	Calc Amt(A)	Units
45	Chloroethane	5:19	568	~~0.569~~	ug/L
49	111-Trichloroethane	12:23	10,989,652	395.359	ug/L
50	1,1-Dichloropropylene	12:56	104	~~0.000~~	ug/L
51	1,2-Dichloroethane	13:14	14,254	0.831	ug/L
55	1,1,2-Trichloroethane	18:42	46,554	2.880	ug/L
58	1,1,1,2-Tetrachloroeth	21:26	3,161	~~0.174~~	ug/L
61	1,2,3-Trichloropropane	24:46	271	~~0.028~~	ug/L
72	Carbon Disulfide	7:41	157	~~0.599~~	ug/L
74	Acrylonitrile	8:46	65	~~0.007~~	ug/L
83	Bis(2-Chloroethyl) Eth	27:01	216	~~0.385~~	ug/L

Environmental Health Laboratories 110 S. Hill Street • South Bend, IN 46617 • Phone: 233-4777

SHADED AREA FOR LAB USE ONLY

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

CLIENT/COMPANY ORDERING TEST: Cole Associates Inc

PROJECT/SITE NAME: Johnson Controls

SAMPLERS (Signature): [illegible]

PWS ID #:

PROJECT #: 24291

LAB #	COLLECTION DATE	COLLECTION TIME	DESCRIPTION OF COLLECTION SITE	# OF CONTAINERS	MATRIX CODE	SAMPLE DEPTH (FT.)	WELL DEPTH (FT.)	VOC	OTHER SAMPLE RELATED REMARKS	CONTAMINATION LEVEL	TURNAROUND TIME	CUSTODY SEAL
	2/6	1:22	1108 SANDERS	2	DW		28	X		U	IV	N
	2/6	11:05	1110 SANDERS	2	DW			X		U	IV	
	2/6	1:40	1113 SANDERS	2	DW			X		U	IV	
	2/6	2:40	TRIP BLANK	2	RW							
	2/6	11:45	1116 15TH Street (Post Filter)	2	DW			X		U	IV	N

TESTS REQUESTED (✓)

FIELD COMMENTS: CARRIER _____ AIRBILL NO. _____ COOLER NO. _____ DATE SHIPPED _____

Water samples taken from residential wells West of JCI.

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT.

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE	TIME
[illegible]			
RELINQUISHED BY (Signature)	RECEIVED FOR LABORATORY BY: (Signature) [illegible]	DATE 2-6-0	TIME 1650

LAB COMMENTS: [illegible]

SHIPPING CONDITIONS: (Check One) [illegible] Ambient

TEMPERATURE: ____ °C Lowest ____ °C Highest ____ °C Receipt

MATRIX CODES:

- RW - REAGENT WATER
- DW - DRINKING WATER
- GW - GROUND WATER
- SW - SURFACE WATER
- SO - SOIL
- SE - SEDIMENT
- SL - SLUDGE
- HW - HAZARDOUS WASTE
- WW - WASTE WATER
- PW - POOL WATER

CONTAMINATION LEVEL

- L - LOW (NO ODOR)
- M - MEDIUM
- H - HIGH
- U - UNKNOWN

TURN-AROUND-TIME (TAT) – SURCHARGES

SW	= STANDARD (10-15 WORKING DAYS) WRITTEN	0%	IV	= IMMEDIATE (48-72 HOURS) VERBAL	100%
RV	= RUSH (3-5 WORKING DAYS) VERBAL	50%	IW	= IMMEDIATE (48-72 HOURS) WRITTEN	125%
RW	= RUSH (3-5 WORKING DAYS WRITTEN)	75%	WH	= Weekend or Holiday	200%

RCRA IF
Elkhart Co

REC'D 4/2/92

(1/5)

Suggested Meeting Agenda

Johnson Controls Inc. - IDEM Meeting

April 2, 1992

1. Introductions

2. Review of Interim Report

3. Presentation of Supplemental Site Investigation activities

4. The next step: Phased Tasks

   a. Supplemental Site Investigation activities as required & preparation of final S.I. Report
   b. Aquifer characterization
   c. Interim response containment system (in process of obtaining NPDES surface discharge limits)
   d. Feasibility Study - Alternate Analysis - Treatability Tests
   e. Full Scale Remediation

5. Preliminary Clean-up levels on & off-site

6. RCRA Permit fees ($5,000 TSDF Plus $100 LQG)

7. Closure Extension

8. Miscellaneous Topic

RCRA IF
Elkhart Co 2/5
Johnson Controls

Received 4/2/9
Mtg w/ Facility

JOHNSON CONTROLS, GOSHEN — 1992 SUMMARY OF RESULTS
PHASE 1B 32177 – 32226

Lab ID#	Depth	Site	Matrix	Date	CIS-1,2 DCE P & T	1,1,1-TCA P & T	TCE P & T	TetCE P & T	Units	
32177-88	5-7	AH22	SO	02/06/92	<1	<0.5	<0.5	<1	ug/kg	*
32177-88	10-12	AH22	SO	02/06/92	<1	<0.5	<0.5	<1	ug/kg	*
32177-88	15	AH22	GW	02/06/92	60	<0.5	2.4	<1	ug/l	*
32177-88	25	AH22	GW	02/06/92	56	<0.5	<0.5	<1	ug/l	*
32177-88	35	AH22	GW	02/06/92	1,500	<0.5	1,800	<1	ug/l	*
32177-88	45	AH22	GW	02/06/92	2,000	<0.5	9,400	<1	ug/l	* *
32177-88	55	AH22	GW	02/06/92	1,700	<0.5	5,600	<1	ug/l	*
32177-88	65	AH22	GW	02/06/92	1,500	<0.5	4,200	<1	ug/l	*
32177-88	75	AH22	GW	02/06/92	1,200	<0.5	3,700	<1	ug/l	*
32177-88	85	AH22	GW	02/06/92	1,100	<0.5	3,000	<1	ug/l	*
32177-88	95	AH22	GW	02/06/92	440	<0.5	610	<1	ug/l	*
32194-216	5-7	AH23	SO	02/06/92	<1	<0.5	<0.5	<1	ug/kg	*
32194-216	10-12	AH23	SO	02/06/92	<1	<0.5	<0.5	<1	ug/kg	*
32194-216	15	AH23	GW	02/06/92	<1	<0.5	1.1	<1	ug/l	
32194-216	25	AH23	GW	02/06/92	1.7	1.8	130	<1	ug/l	*
32194-216	35	AH23	GW	02/06/92	<1	<0.5	4.4	<1	ug/l	
32194-216	45	AH23	GW	02/06/92	<1	<0.5	<0.5	<1	ug/l	
32194-216	55	AH23	GW	02/06/92	<1	<0.5	<0.5	<1	ug/l	
32194-216	65	AH23	GW	02/06/92	<1	<0.5	<0.5	<1	ug/l	
32194-216	75	AH23	GW	02/06/92	<1	<0.5	<0.5	<1	ug/l	
32194-216	85	AH23	GW	02/06/92	<1	<0.5	<0.5	<1	ug/l	
32194-216	95	AH23	GW	02/06/92	<1	<0.5	<0.5	<1	ug/l	
32194-216	5-7	AH24	SO	02/06/92	<1	<0.5	<0.5	<1	ug/kg	*
32194-216	10-7	AH24	SO	02/06/92	<1	<0.5	<0.5	1.1	ug/kg	*
32194-216	20	AH24	GW	02/06/92	16	<0.5	<0.5	<1	ug/l	
32194-216	30	AH24	GW	02/06/92	60	<0.5	<0.5	<1	ug/l	*
32194-216	40	AH24	GW	02/06/92	62	<0.5	<0.5	<1	ug/l	*
32194-216	50	AH24	GW	02/06/92	23	<0.5	<0.5	<1	ug/l	*
32194-216	60	AH24	GW	02/06/92	7.4	<0.5	<0.5	<1	ug/l	*

* This sample has additional volatile organic compounds present

JOHNSON CONTROLS, GOSHEN — 1992 SUMMARY OF RESULTS
PHASE 1B 32177 – 32226

Lab ID#	Depth	Site	Matrix	Date	CIS-1,2 DCE P & T	1,1,1-TCA P & T	TCE P & T	TetCE P & T	Units	
32194-216	70	AH24	GW	02/06/92	3.4	<0.5	<0.5	<1	ug/l	*
32194-216	80	AH24	GW	02/06/92	16	<0.5	<0.5	<1	ug/l	*
32194-216	90	AH24	GW	02/06/92	1,200	<0.5	4,000	<1	ug/l	*
32194-216	100	AH24	GW	02/06/92	1,200	<0.5	4,400	<1	ug/l	*
32226-42	5-7	AH25	SO	02/07/92	<1	<0.5	<0.5	<1	ug/kg	*
32226-42	10-12	AH25	SO	02/07/92	<1	<0.5	<0.5	<1	ug/kg	*
32226-42	15	AH25	GW	02/07/92	240	<0.5	20	<1	ug/l	*
32226-42	25	AH25	GW	02/07/92	20	<0.5	0.6	<1	ug/l	*
32226-42	35	AH25	GW	02/07/92	1.3	<0.5	<0.5	<1	ug/l	*
32226-42	45	AH25	GW	02/07/92	1.1	<0.5	<0.5	<1	ug/l	*
32226-42	55	AH25	GW	02/07/92	<1	<0.5	<0.5	<1	ug/l	*
32226-42	65	AH25	GW	02/07/92	2.6	<0.5	<0.5	<1	ug/l	*
32226-42	75	AH25	GW	02/07/92	2.8	<0.5	<0.5	<1	ug/l	*
32226-42	85	AH25	GW	02/07/92	<1	<0.5	<0.5	<1	ug/l	*
32226-42	95	AH25	GW	02/07/92	<1	<0.5	<0.5	<1	ug/l	*
32226-42	5-7	AH26	SO	02/07/92	<1	<0.5	<0.5	<1	ug/kg	*
32226-42	10-12	AH26	SO	02/07/92	<1	<0.5	<0.5	<1	ug/kg	*
32226-42	20	AH26	GW	02/07/92	<1	<0.5	<0.5	<1	ug/l	
32226-42	30	AH26	GW	02/07/92	<1	<0.5	<0.5	<1	ug/l	
32226-42	35	AH26	GW	02/07/92	<1	<0.5	<0.5	<1	ug/l	

* This sample has additional volatile organic compounds present

RCRA IF
Elkhart Co
Johnson Controls 3/5

Rec'd 12/92
Mtg w/ Facility

Johnson Controls, Goshen- 1992: Summary of On-Site Results
Phase II 030992 - 031192

						1,2 DCE		1,1,1-TCA		TriCE		TetCe			
Lab ID#	Sample #	Depth	Site	Matrix	Date Col.	HS	P & T	HS	P & T	HS	P & T	HS	P & T	Units	
32891	JC-1A	5-7'	AH#27	SO	03-09-92	<5		<5		<5		<5		ug/Kg	
32892	JC-2A	10-12'	AH#27	SO	03-09-92	<5		<5		<5		<5		ug/Kg	
32893	JC-3A	20'	AH#27	GW	03-09-92	<5		<5		<5		<5		ug/L	
32894	JC-4A	30'	AH#27	GW	03-09-92	<5		<5		<5		<5		ug/L	
32895	JC-5A	35'	AH#27	GW	03-09-92	<5		<5		<5		<5		ug/L	
32896	JC-6A	5-7'	AH#28	SO	03-09-92	<5		<5		<5		<5		ug/Kg	
32897	JC-7A	10-12'	AH#28	SO	03-09-92	<5		<5		<5		<5		ug/Kg	
32898	JC-8A	20'	AH#28	GW	03-09-92	<5		<5		<5		<5		ug/L	
32899	JC-9A	30'	AH#28	GW	03-09-92	<5		<5		<5		<5		ug/L	
32900	JC-10A	40'	AH#28	GW	03-09-92	<5		<5		<5		<5		ug/L	
32901	JC-11A	5-7'	AH#29	SO	03-09-92	<5		<5		<5		<5		ug/Kg	
32902	JC-12A	10-12'	AH#29	SO	03-09-92	<5		<5		<5		<5		ug/Kg	
32903	JC-13A	20'	AH#29	GW	03-09-92	<5		<5		<5		<5		ug/L	
32904	JC-14C	30'	AH#29	GW	03-09-92		<5		<5		<5		<5	ug/L	*
32905	JC-15C	40'	AH#29	GW	03-09-92		<5		<5		<5		<5	ug/L	*
32927A	JC-16	5-7'	AH#30	SO	03-10-92	<5		<5		<5		<5		ug/Kg	
32928B	JC-17	10-12'	AH#30	SO	03-10-92	<5		<5		<5		<5		ug/Kg	
32929	JC-18	20'	AH#30	GW	03-10-92		<5		<5		<5		<5	ug/L	
32930	JC-19	30'	AH#30	GW	03-10-92		<5		<5		<5		<5	ug/L	*
32931	JC-20	40'	AH#30	GW	03-10-92		<5		<5		<5		<5	ug/L	*
32932	JC-21	50'	AH#30	GW	03-10-92		<5		<5		<5		<5	ug/L	*
32933	JC-22	55'	AH#30	GW	03-10-92		<5		<5		<5		<5	ug/L	*
32972A	JC-24A	5-7'	AH#31	SO	03-10-92	<5		<5		<5		<5		ug/Kg	
32973A	JC-25A	10-12'	AH#31	SO	03-10-92	<5		<5		<5		<5		ug/Kg	
32974	JC-26	20'	AH#31	GW	03-10-92		<5		<5		<5		<5	ug/L	
32975	JC-27	30'	AH#31	GW	03-10-92		<5		<5		<5		<5	ug/L	
32976	JC-28	40'	AH#31	GW	03-10-92		<5		<5		<5		<5	ug/L	
32977	JC-29	50'	AH#31	GW	03-10-92		<5		<5		<5		<5	ug/L	
32978A	JC-30A	5-7'	AH#32	SO	03-10-92	<5		96		300		<5		ug/Kg	
32979A	JC-31A	10-12'	AH#32	SO	03-10-92	<5		130		370		<5		ug/Kg	
32980	JC-32	15'	AH#32	GW	03-10-92		6		420		6400		7	ug/L	*
32981	JC-33	25'	AH#32	GW	03-10-92		330		<5		96		<5	ug/L	*
32982	JC-34	35'	AH#32	GW	03-10-92		370		<5		270		<5	ug/L	

Johnson Controls, Goshen- 1992: Summary of On-Site Results
Phase II 030992 - 031192

						1,2 DCE		1,1,1-TCA		TriCE		TetCE			
Lab ID#	Sample #	Depth	Site	Matrix	Date Col.	HS	P & T	HS	P & T	HS	P & T	HS	P & T	Units	
32983	JC-35	45'	AH#32	GW	03-10-92		46		<5		16		<5	ug/L	
32984	JC-36	55'	AH#32	GW	03-10-92		150		<5		81		<5	ug/L	@
32984D	JC-36	55'	AH#32	GW	03-10-92		59 #		<5		12		<5	ug/L	@
32985	JC-37	65'	AH#32	GW	03-10-92		99		<5		40		<5	ug/L	
32986	JC-38	75'	AH#32	GW	03-10-92		6		<5		<5		<5	ug/L	
32987	JC-39	85'	AH#32	GW	03-10-92		12		<5		<5		<5	ug/L	
33075	JC-40A	5-7'	AH#33	SO	03-11-92	<5		<5		<5		<5		ug/Kg	
33076	JC-41A	10-12'	AH#33	SO	03-11-92	<5		<5		<5		<5		ug/Kg	
33077	JC-42A	15'	AH#33	GW	03-11-92	160		15		63		<5		ug/L	
33078	JC-43A	25'	AH#33	GW	03-11-92	3000		25		58		<5		ug/L	
33079	JC-44A	35'	AH#33	GW	03-11-92	310		<5		<5		<5		ug/L	
33080	JC-45A	45'	AH#33	GW	03-11-92	65		<5		<5		<5		ug/L	
33081	JC-46A	55'	AH#33	GW	03-11-92	34		<5		<5		<5		ug/L	
33082	JC-47A	65'	AH#33	GW	03-11-92	22		<5		<5		<5		ug/L	
33083	JC-48A	75'	AH#33	GW	03-11-92	11		<5		<5		<5		ug/L	
33084	JC-49B	5-7'	AH#34	SO	03-11-92	<5		<5		<5		<5		ug/Kg	
33085	JC-50B	10-12'	AH#34	SO	03-11-92	<5		<5		<5		<5		ug/Kg	
33086	JC-51B	20'	AH#34	GW	03-11-92	<5		<5		15		<5		ug/L	
33087	JC-52B	30'	AH#34	GW	03-11-92	<5		<5		<5		<5		ug/L	
33088	JC-53B	40'	AH#34	GW	03-11-92	<5		<5		<5		<5		ug/L	
33089	JC-54B	50'	AH#34	GW	03-11-92	<5		<5		<5		<5		ug/L	
33090	JC-55A	60'	AH#34	GW	03-11-92	<5		<5		<5		<5		ug/L	
33091	JC-56A	70'	AH#34	GW	03-11-92	<5		<5		<5		<5		ug/L	
33092	JC-57A	80'	AH#34	GW	03-11-92	<5		<5		<5		<5		ug/L	
33093	JC-58A	90'	AH#34	GW	03-11-92	<5		<5		<5		<5		ug/L	
33094	JC-59A	100'	AH#34	GW	03-11-92	<5		<5		<5		<5		ug/L	
33115	JC-60A	5-7'	AH#35	SO	03-11-92	<5		<5		<5		<5		ug/Kg	
33116	JC-61A	10-12'	AH#35	SO	03-11-92	<5		<5		<5		<5		ug/Kg	
33117	JC-62A	20'	AH#35	GW	03-11-92	<5		<5		<5		<5		ug/L	
33118	JC-63A	30'	AH#35	GW	03-11-92	<5		<5		<5		<5		ug/L	
33119	JC-64A	40'	AH#35	GW	03-11-92	<5		<5		<5		<5		ug/L	
33120	JC-65A	50'	AH#35	GW	03-11-92	<5		<5		<5		<5		ug/L	
33121	JC-66A	55'	AH#35	GW	03-11-92	<5		<5		<5		<5		ug/L	

* This sample has additional volatile organic compounds present.

= This value is greater than the calibration range (50 ug/L) and is estimated only.

@ = The results for this sample run straight and diluted do not agree. Therefore, both sets of results are presented.

1,2 DCE = 1,2-Dichloroethylene, cis

1,1,1-TCA = 1,1,1-Trichloroethane

TriCE = Trichloroethylene

TetCE = Tetrachloroethylene

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 2/6/92

BORING/WELL #: AH-22
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13'
DEVELOPMENT: N/A
WEATHER: N/A

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		1'0"	Gravel	
		4'0"	Brown, silty clay	
Soil	SS	4'-6'	Brown, fine sand	
Soil	SS	10'-12'		
Water	BB	13'-15'	Brown, medium sand with trace of gravel	
		20'0"		
Water	BB	23'-25'	Tan, medium sand with trace of gravel	
Water	BB	33'-35'		
Water	BB	43'-45'		
Water	BB	53'-55'		
Water	BB	63'-65'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-20" (7 Bags)
COMMENTS:

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 2/6/92

BORING/WELL #: AH-22
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13'
DEVELOPMENT: N/A
WEATHER: N/A

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
70	Water	BB	73'-75'	Tan, medium sand with gravel	
80	Water	BB	83'-85'		
90	Water	BB	93'-95'		
			96'0"	Brown, stiff clay	
			97'0"		
100					
110					
120					
130					

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-20' (7 Bags)
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 2-6-92

BORING/WELL #: AH-23
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Clear, cold, @40°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		3'	Silty, brown clay	
Soil	SS	5'- 7'	Silty, brown sand	
		8'		
Soil	SS	10'- 12'	Medium, brown sand	
Water	Bailer	15'		
		20'		
Water	Bailer	25'	Medium, tan sand with trace of gravel	
Water	Bailer	35'		
Water	Bailer	45'		
Water	Bailer	55'		
Water	Bailer	65'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 97' to 20', benseal 20' to grade
COMMENTS: SS = split spoon, N/A = not applicable

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 2-6-92

BORING/WELL #: AH-23
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 13' below grade
DEVELOPMENT: N/A
WEATHER: Clear, cold, @40°F

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
70					
	Water	Bailer	75'		
80					
	Water	Bailer	85'		
90					
	Water	Bailer	95'		
			97'	End of Boring (stiff, gray clay)	
100					
110					
120					
130					

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 97' to 20', benseal 20' to grade
COMMENTS: SS = split spoon, N/A = not applicable

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 2-6-92

BORING/WELL #: AH-24
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 17' below grade
DEVELOPMENT: N/A
WEATHER: Clear, cold, @40°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Silty, red clay	
Soil	SS	5'- 7'		
			Silty, brown sand	
Soil	SS	10'- 12'		
Water	Bailer	15', 16'		
			Medium, brown sand	
Water	Bailer	25'		
			Coarse, tan sand with gravel	
Water	Bailer	35'		
Water	Bailer	45'		
Water	Bailer	55'		
Water	Bailer	65'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 104' to 20', benseal 20' to grade
COMMENTS: SS = split spoon, N/A = not applicable

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 2-6-92

BORING/WELL #: AH-24
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 17' below grade
DEVELOPMENT: N/A
WEATHER: Clear, cold, @40°F

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
70					
	Water	Bailer	75'		
				Coarse, tan sand with gravel	
80					
	Water	Bailer	85'		
90					
	Water	Bailer	95'		
100					
			104'	End of Boring (stiff, gray clay)	
110					
120					
130					

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 104' to 20', benseal 20' to grade
COMMENTS: SS = split spoon, N/A = not applicable

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 2-7-92

BORING/WELL #: AH-25
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 17' below grade
DEVELOPMENT: N/A
WEATHER: Clear, cold, @40°F

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		1'	Gravel 0' to 1'	
			Silty, red clay	
		5'		
Soil	SS	5'- 7'	Silty, red sand	
		9'		
Soil	SS	10'- 12'	Medium, brown sand	
Water	Bailer	15'		
Water	Bailer	25'		
Water	Bailer	35'	Medium, tan sand with trace of gravel	
Water	Bailer	45'		
Water	Bailer	55'		
Water	Bailer	65'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 98' to 20', benseal 20' to grade
COMMENTS: SS = split spoon, N/A = not applicable

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 2-7-92

BORING/WELL #: AH-25
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 17' below grade
DEVELOPMENT: N/A
WEATHER: Clear, cold, @40°F

DEPTH: 70, 80, 90, 100, 110, 120, 130

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
Water	Bailer	75'		
			Coarse, tan sand	
Water	Bailer	85'		
Water	Bailer	95'		
		98'	End of Boring (stiff, gray clay)	

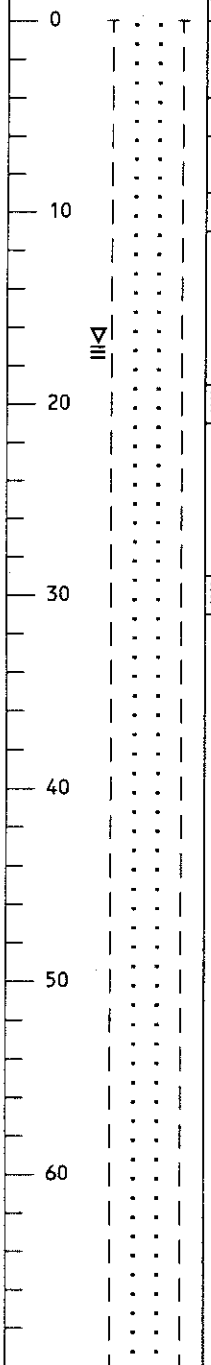
CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 98' to 20', benseal 20' to grade
COMMENTS: SS = split spoon, N/A = not applicable

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Controls
LOCATION: Goshen, Indiana
CLIENT: Johnson Controls
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** Mark
INSTALLATION DATE: 2-6-92

BORING/WELL #: AH-26
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 17' below grade
DEVELOPMENT: N/A
WEATHER: Clear, cold, @40°F



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		1'	Grass and top soil 0' to 1'	
		4'	Silty, red sand	
Soil	SS	4'- 6'	Fine, brown sand	
Soil	SS	9'- 11'		
		11'		
Water	Bailer	20'	Medium, tan sand with small gravel	
Water	Bailer	30'		
		35'	End of Boring (stiff, gray clay)	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Natural cuttings 35' to 20', benseal 20' to grade
COMMENTS: SS = split spoon, N/A = not applicable

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-9-92

BORING/WELL #: AH-27
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 18
DEVELOPMENT: N/A
WEATHER: N/A

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
0			2'0"	Silty black sand	
5	Soil	SS	5'-7'	Fine red sand with trace of gravel	
10	Soil	SS	10'-12'		
			12'0"		
15					
20	Water	BB	18'-20'	Fine brown sand	
25					
30	Water	BB	28'-30'		
			32'6"		
	Water	BB	33'-35'	Stiff gray clay	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-18', 8 Bags
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-9-92

BORING/WELL #: AH-28
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: N/A
DEVELOPMENT: N/A
WEATHER: Raining

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		3'6"	Silty black sand	
Soil	SS	5'-7'	Silty red sand	
		7'0"		
Soil	SS	10'-12'	Fine brown sand with trace of gravel	
		16'0"		
			Medium tan sand	
		39'0"		
			Stiff gray clay	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-17', 7 bags
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-9-92

BORING/WELL #: AH-29
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: N/A
DEVELOPMENT: N/A
WEATHER: Raining

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		2'0"	Silty black sand	
Soil	SS	3'-5'	Silty to fine red sand	
		6'0"		
Soil	SS	8'-10'	Fine brown sand	
		16'0"		
Water	BB	18'-20'	Medium tan sand with gravel	
Water	BB	28'-30'		
Water	BB	38'-40'		
		40'0"	Stiff gray clay	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-16', 8 bags
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-10-92

BORING/WELL #: AH-30
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 16'
DEVELOPMENT: N/A
WEATHER: Snowing, sunny, windy

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
Soil	SS	5'-7'		
Soil	SS	10'-12'		
Water	BB	16'-18'		
			Medium brown sand	
Water	BB	26'-28'		
Water	BB	36'-38'		
Water	BB	46'-48'		
		52'0"		
Water	BB	52'-54'	Stiff gray clay	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-16', 10 bags
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-10-92

BORING/WELL #: AH-31
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 18'
DEVELOPMENT: N/A
WEATHER: Cold, windy, snowing

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
Soil	SS	5'-7'	Fine reddish brown sand	
Soil	SS	10'-11' 11'		
Water	BB	18'-20'	Medium brown sand with gravel	
Water	BB	28'-30'		
Water	BB	38'-40'		
Water	BB	48'-50'		
		52'0"	Stiff gray clay	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-16', 8 bags
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-10-92

BORING/WELL #: AH-32
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 18'
DEVELOPMENT: N/A
WEATHER: Cold, windy, snowing, dark

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		0'6"	Asphalt	
		4'0"	Silty red sand	
Soil	SS	5'-7'	Fine reddish brown sand	
Soil	SS	10'-12'		
		16'0"		
Water	BB	18'-20'	Medium tan sand with small gravel	
Water	BB	28'-30'		
Water	BB	38'-40'		
Water	BB	48'-50'		
Water	BB	58'-60'		
Water	BB	68'-70'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-18', 9 bags
COMMENTS:

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-10-92

BORING/WELL #: AH-32
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 18'
DEVELOPMENT: N/A
WEATHER: Cold, windy, snowing, dark

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
70					
80	Water	BB	78'-80'	Medium tan sand with gravel	
90	Water	BB	88'-90'		
			92'0"	Stiff gray clay	
100					
110					
120					
130					

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-18', 9 bags
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-11-92

BORING/WELL #: AH-33
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 14'
DEVELOPMENT: N/A
WEATHER: Snowing

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		0'6"	Asphalt	
		3'0"	Fine red sand	
Soil	SS	5'-7'	Medium brown sand	
Soil	SS	10'-12'		
		14'0"		
Water	BB	14'-16'	Medium tan sand with trace of gravel	
Water	BB	24'-26'		
Water	BB	34'-36'		
Water	BB	44'-46'		
Water	BB	54'-56'		
Water	BB	64'-66'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-15'
COMMENTS:

The Traverse Group, Inc.
3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-11-92

BORING/WELL #: AH-33
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 14'
DEVELOPMENT: N/A
WEATHER: Snowing

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
70	Water	BB	74'-76' 76'0"	Medium tan sand with trace of gravel	
80				Stiff gray clay	
90					
100					
110					
120					
130					

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-15'
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-11-92

BORING/WELL #: AH-34
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 18'
DEVELOPMENT: N/A
WEATHER: Cloudy

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		0'6"	Asphalt	
		3'0"	Silty red sand	
Soil	SS	5'-7'	Fine red sand	
		8'0"		
Soil	SS	10'-12'	Medium brown sand	
Water	BB	18'-20'		
		20'0"		
Water	BB	28'-30'	Medium tan sand with small gravel	
Water	BB	38'-40'		
Water	BB	48'-50'		
Water	BB	58'-60'		
Water	BB	68'-70'		

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-16', 8 bags
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-11-92

BORING/WELL #: AH-34
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 18'
DEVELOPMENT: N/A
WEATHER: Cloudy

DEPTH	SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
70					
80	Water	BB	78'-80'	Medium tan sand with gravel	
90	Water	BB	88'-90'		
100	Water	BB	98'-100'		
			101'0"	Stiff gray clay	
110					
120					
130					

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-16', 8 bags
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-11-92

BORING/WELL #: AH-35
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 18'
DEVELOPMENT: N/A
WEATHER: Cloudy, snowing

DEPTH: 0, 10, 20, 30, 40, 50, 60

SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		1'0"	Grass and topsoil	
			Silty brown sand	
		5'0"		
Soil	SS	5'-7'	Fine brown sand	
		18'0"		
Water	BB	18'-20'	Medium tan sand	
Water	BB	28'-30'		
Water	BB	38'-40'		
Water	BB	48'-50'		
		53'0"		
Water	BB	54'-56'	Stiff gray clay	

CASING: DIAMETER: N/A **TYPE:** N/A **LENGTH:** N/A
SCREEN: DIAMETER: N/A **SLOT:** N/A **TYPE:** N/A **LENGTH:** N/A **INTERVAL:** N/A
PLUGGING/SEALING METHOD: Benseal 0'-16', 8 bags
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
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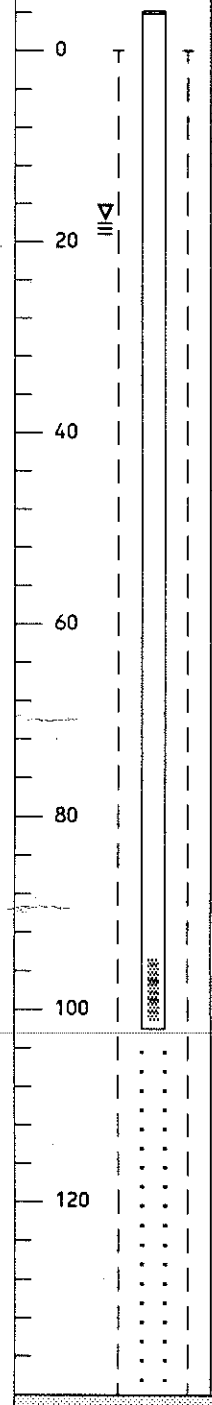
PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-12-92

BORING/WELL #: MW-13
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 18'
DEVELOPMENT: SB and Pump
WEATHER: Sunny, Cold



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		8'0"	Silty, reddish brown sand	
		18'0"	Fine, brown sand	
		103'0"	Medium tan sand with gravel	
			Stiff, gray clay	

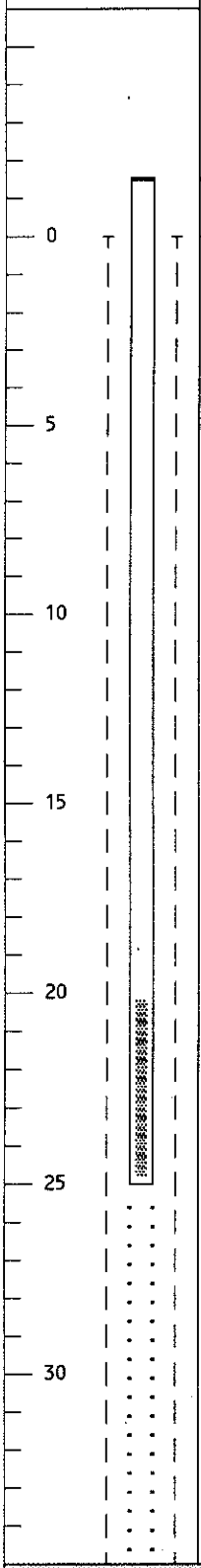
CASING: DIAMETER: 2" **TYPE:** SS Flush Joint (FJ) **LENGTH:** 97'
SCREEN: DIAMETER: 2" **SLOT:** 6 **TYPE:** SS FJ **LENGTH:** 5' **INTERVAL:** 97'-103'
PLUGGING/SEALING METHOD: Cement grout 61'-90', with flushmount
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-12-92

BORING/WELL #: MW-14
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: N/A
DEVELOPMENT: SB and Pump
WEATHER: Sunny, cold, windy



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
			Asphalt	
		0'4"	Fine brown sand	
		5'0"	Medium tan sand with small gravel	

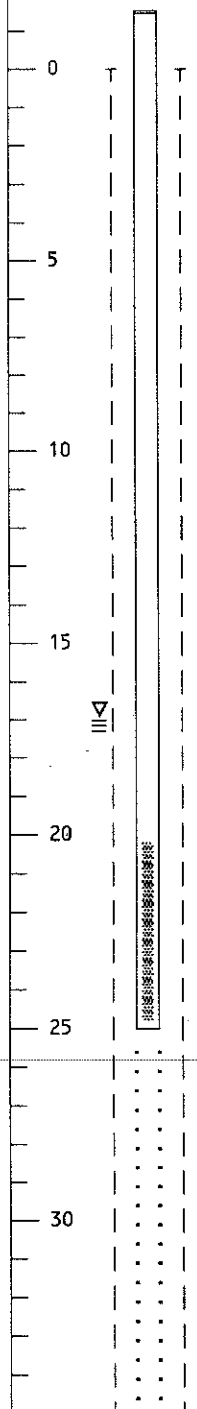
CASING: DIAMETER: 2" **TYPE:** SS Flush Joint (FJ) **LENGTH:** 20'
SCREEN: DIAMETER: 2" **SLOT:** 6 **TYPE:** SS FJ **LENGTH:** 5 **INTERVAL:** 20'-25'
PLUGGING/SEALING METHOD: Cement grout ground level to 18', flushmount vault
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-13-92

BORING/WELL #: MW-15
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 17'
DEVELOPMENT: SB and Pump
WEATHER: Cold



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		0'4"	Asphalt	
			Silty red sand	
		8'6"	Medium tan sand with small gravel	

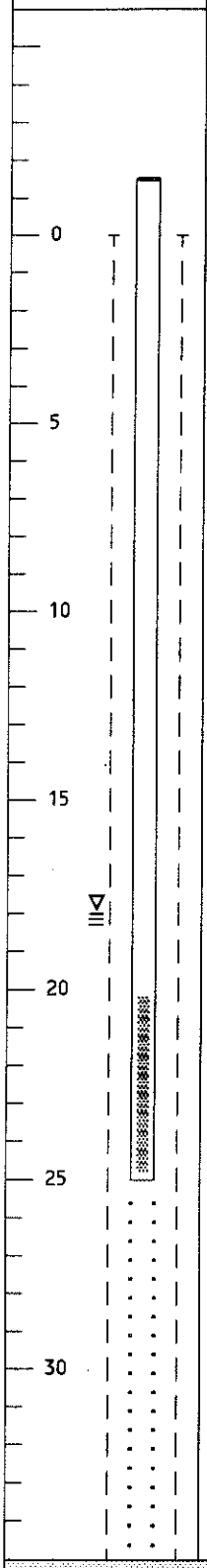
CASING: DIAMETER: 2" **TYPE:** SS Flush Joint (FJ) **LENGTH:** 20'
SCREEN: DIAMETER: 2" **SLOT:** 6 **TYPE:** SS FJ **LENGTH:** 5 **INTERVAL:** 20'-25'
PLUGGING/SEALING METHOD: Cement grout ground level to 18', flushmount vault
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-13-92

BORING/WELL #: MW-16
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 18'
DEVELOPMENT: SB and Pump
WEATHER: Cold



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		1'0"	Grass and topsoil	
		4'0"	Silty brown sand	
		12'0"	Fine brown sand	
			Medium tan sand	

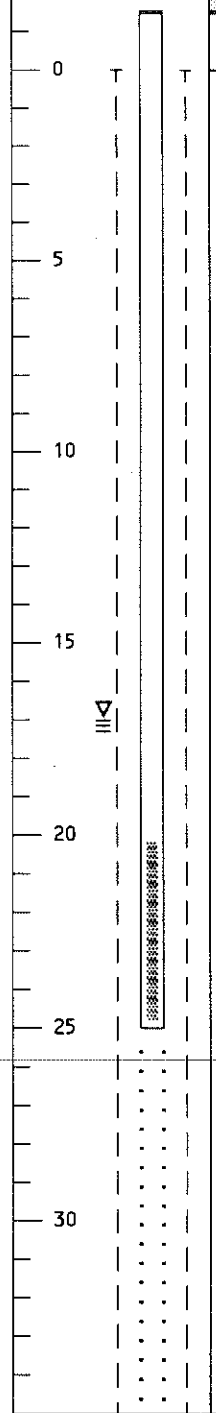
CASING: DIAMETER: 2" **TYPE:** SS Flush Joint (FJ) **LENGTH:** 20'
SCREEN: DIAMETER: 2" **SLOT:** 6 **TYPE:** SS FJ **LENGTH:** 5 **INTERVAL:** 20'-25'
PLUGGING/SEALING METHOD: Cement grout ground level to 18', flushmount vault
COMMENTS:

The Traverse Group, Inc.

3772 Plaza Drive, Suite 5
Ann Arbor, Michigan 48108

PROJECT: Johnson Control
LOCATION: Goshen, Indiana
CLIENT: Johnson Control
PROJECT NUMBER: 641
DRILLER: Norm **HELPER:** MS
INSTALLATION DATE: 3-13-92

BORING/WELL #: MW-17
SURFACE ELEVATION: N/A
TOP OF CASING ELEV: N/A
STATIC WATER LEVEL: 17'
DEVELOPMENT: SB and Pump
WEATHER: Cold, cloudy



SAMPLE TYPE	SAMPLING METHOD	DEPTH BELOW GRADE	SOIL DESCRIPTION	SOIL CLASS
		1'0"	Grass and top soil	
		3'6"	Silty red sand	
		11'0"	Fine brown sand	
			Medium tan sand with small gravel	

CASING: DIAMETER: 2" **TYPE:** SS Flush Joint (FJ) **LENGTH:** 20'
SCREEN: DIAMETER: 2" **SLOT:** 6 **TYPE:** SS FJ **LENGTH:** 5 **INTERVAL:** 20'-25'
PLUGGING/SEALING METHOD: Cement grout ground level to 18', flushmount vault
COMMENTS:

RECEIVED
APR 15 1992
OFFICE OF RCRA
WASTE MANAGEMENT DIVISION
EPA, REGION V

RCRA IF
Elkhart Co.
5/5
Johnson Controls

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
MEETING ATTENDANCE SHEET

Facility: Johnson Controls **Date:** 4-2-92

Re: Closure Activities

Name	Representing	Phone
Stephen West	IDEM-Permits	317/232-3264
Larry Grauvogel	Cole Associates	219/236.4400
Fred Rouse	" "	219/236.4400
Mark Tussing	Traverse Group	313/747/9300
JOE McCORKEL	JOHNSON CONTROLS	219/533/~~[illegible]~~ 211
Barry Steward	IDEM-Chemistry	317/232-8929
ROGER KOELPIN	IDEM-Geology	317/232-8726