

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: MicroMetrics/Aeroflex (formerly Knox Semiconductor)
Facility Address: 12 Industrial Park Rd, Rockport
Facility EPA ID #: MED071730220 and by mistake also MED981063662

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

☒ If yes - check here and continue with #2 below.

☐ If no - re-evaluate existing data, or

☐ if data are not available, skip to #8 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the

Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Is groundwater known or reasonably suspected to be "contaminated"¹ above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

_____ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

 x If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

Despite this 0.67 acre site being served by public water, there is a bedrock well on site (see attached Figures 1 and 2 for site location and location of well on site). However, the well never operated as intended, was dry, and was reportedly never used. Therefore the well has not been sampled. The site is also served by public sewer. The facility operated an acid neutralization tank to neutralize wastewater from the Etch Room prior to being discharged to the sewer. No floor drains were observed by Ransom Environmental Consultants (2007), but GeoInsight (2005) stated floor drain lines were interconnected and discharged to the municipal sewer.

The nearest surface water body is a limestone quarry pond approximately 100 feet south west of the site, and this water has not been tested. On October 12, 1985 Ray Worcester, Rockport Fire Chief, reported a fire at this facility to MEDEP. Two MEDEP responders arrived at the scene after the fire was out and performed some preliminary air monitoring. MEDEP responders did not see any sign of contaminants in the runoff. The "surface water" samples that were taken after the 1985 fire were collected on site from where a berm had been created to contain fire water. The laboratory results dated 10/28/1985 were reportedly ND for VOCs, as stated in the MEDEP spill report, however, the lab reports have been unable to be located. After the fire a 275 gallon fuel oil AST remained intact along with 55 gallon drums. The fire, electrical in nature, was just after the facility had formally closed out their interim license. This closure (terminating the interim license and no longer storing hazardous waste on site for more than 90 days) consisted of, among other things, removal of all hazardous waste containers to a licensed hazardous waste disposal facility, decontamination of the bermed and concrete hazardous waste storage area, and certification by a registered Maine professional engineer that the facility had been closed in compliance with the closure plan approved by the Board of Environmental Protection. When the facility was shut down in 2007 it went through another closure with MEDEP as is described in detail in the MEDEP files.

In May 2005 five soil borings were advanced on the property by GeoInsight (see Figure 2 for boring locations). Bedrock was encountered 4-6 feet below ground surface. Field

screening, for the five borings, and laboratory analysis of soil samples from three borings, did not identify VOCs above background levels (1ppm) or laboratory quantification limits (see attached laboratory soil analytical report). Groundwater was not encountered.

References:

GeoInsight, Inc., June 28, 2005. *Phase I Environmental Site Assessment and Subsurface Investigation, Knox Semiconductor.*

Ransom Environmental Consultants, Inc., October 31, 2007. *Certification of Site Closure, Aeroflex/MicroMetrics.*

Also Maine DEP file materials available in Augusta and filed by original site name of Knox Semiconductor.

Footnotes:

¹"Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

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3. Has the migration of contaminated groundwater stabilized (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"² as defined by the monitoring locations designated at the time of this determination)?

_____ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"².

_____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"²) - skip to #8 and enter "NO" status code, after providing an explanation.

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): _____

Footnotes:

² "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

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4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

_____ If yes - continue after identifying potentially affected surface water bodies.

_____ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): _____

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5. Is the discharge of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the maximum concentration³ of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

_____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration³ of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration³ of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations³ greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s): _____

Footnotes:

³ As measured in groundwater prior to entry to the groundwater/surface water/sediment interaction (e.g., hyporheic) zone.

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6. Can the discharge of "contaminated" groundwater into surface water be shown to be 'currently acceptable' (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented⁴)?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,⁵ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of "contaminated" groundwater can not be shown to be 'currently acceptable') - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s): _____

Footnotes:

⁴ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁵ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

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7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

_____ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

_____ If no - enter "NO" status code in #8.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s): _____

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8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

 x YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the MicroMetrics facility, EPA ID # MED071730220, located at 12 Industrial Park Rd, Rockport. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

 NO - Unacceptable migration of contaminated groundwater is observed or expected.

 IN - More information is needed to make a determination.

Completed by (signature) Heather Jackson Date 9/30/09
(print) Heather Jackson
(title) Environmental Specialist

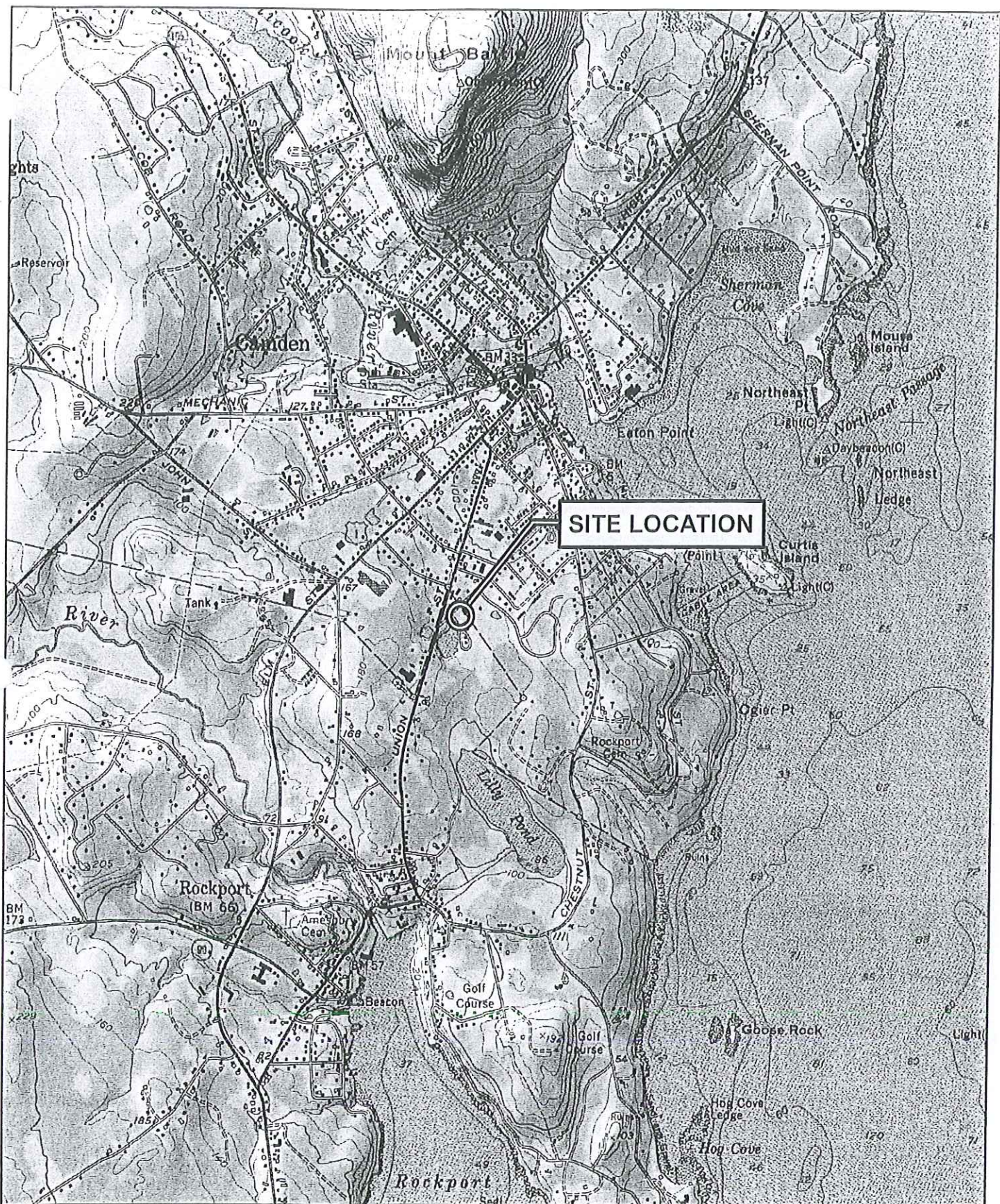
Supervisor (signature) Stacy A. Ladner Date 9/30/09
(print) Stacy A. Ladner
(title) Unit Manager
(EPA-Region or State) Maine

Locations where References may be found:

Maine DEP Augusta office, filed by original site name of Knox Semiconductor

Contact telephone and e-mail numbers

(name) Heather Jackson
(phone #) (207) 287-7880
(e-mail) heather.p.jackson@maine.gov



PROJECT: 076055

DATE: 10/19/2007

Figure 1 Site Location Map

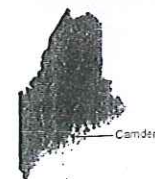
0 1,000 2,000 4,000 Feet
1:24,000

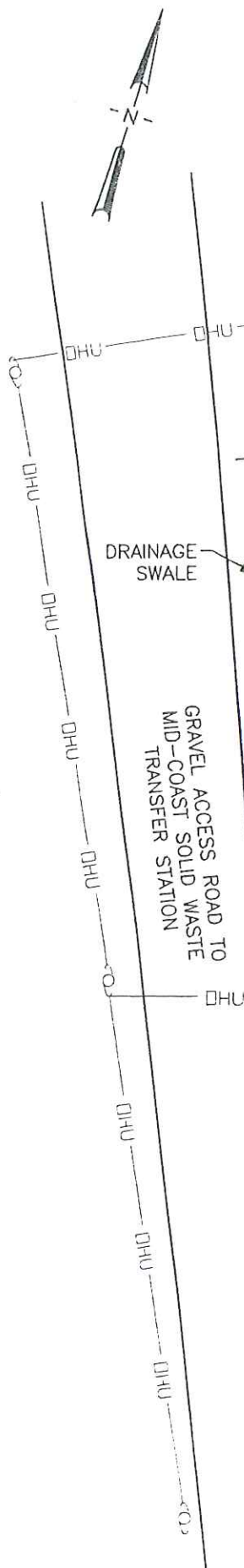


RANSOM
Environmental
Consultants, Inc.

Prepared For:
Aeroflex / Micrometrics
54 Grenier Field Road
Londonderry, New Hampshire

Site Address:
Micrometrics, Inc.
12 Industrial Park Road
Rockport, Maine



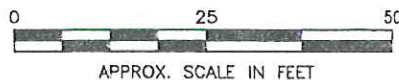


GEND

- BEDROCK WELL
- SB-1 SOIL BORING
- APPROXIMATE LOCATION OF PROPERTY BOUNDARY
- APPROXIMATE LOCATION OF CHAIN-LINK FENCE
- APPROXIMATE LOCATION OF MUNICIPAL SEWER LINE
- APPROXIMATE LOCATION OF DRAIN LINE
- APPROXIMATE LOCATION OF GAS LINE
- APPROXIMATE LOCATION OF OVERHEAD UTILITY LINES
- APPROXIMATE LOCATION OF WATER LINE
- UTILITY POLE
- SLOPE

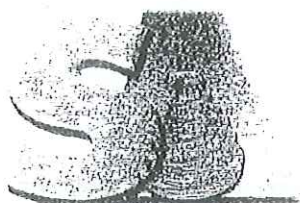
NOTES:

SITE PLAN DEVELOPED FROM DRAWING ENTITLED "AN OF LAND BELONGING TO JOHN R. WILLIAMS, DATED IN ROCKPORT, MAINE", DATED MAY 1980, RECORD AT THE TOWN OF ROCKPORT BUILDING DEVELOPEMENT DEPARTMENT.



	CLIENT: MICROMETRICS, INC.		
	PROJECT: 12 INDUSTRIAL PARK ROAD ROCKPORT, MAINE		
SITE PLAN			
DRAWN: DLL	CHECKED: PDF	APPROVED: BDK	FIGURE NO.: 2
DATE: 6/16/05	FILE NO.: 4445d001	PROJECT NO.: 4445-000	

Report Date:
01-Jun-05 14:50

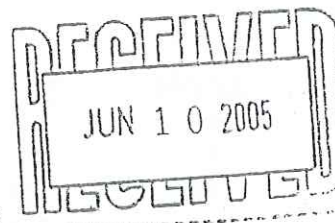


SPECTRUM ANALYTICAL, INC.

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HANIBAL TECHNOLOGY

Laboratory Report

- ☒ Final Report
☐ Re-Issued Report
☐ Revised Report



GeoInsight, Inc.
25 Sundial Avenue, Suite 515 West
Manchester, NH 03103
Attn: Peter Frank

Project: Rockport, ME
Project #: 4445

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA28712-01	SB-1 (0-4)	Soil	25-May-05 08:00	27-May-05 09:11
SA28712-02	SB-3 (0-4)	Soil	25-May-05 09:45	27-May-05 09:11
SA28712-03	SB-4 (0-4)	Soil	25-May-05 10:00	27-May-05 09:11

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. All applicable NELAC requirements have been met.
Please note that this report contains 13 pages of analytical data plus Chain of Custody document(s).
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Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538/2972
New York # 11393/11840
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393



Authorized by

Hamid C. Tayeh, Ph.D.
President/Laboratory Director

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CASE NARRATIVE:

The data set for work order SA28712 complies with internal QC criteria for the methods performed. The samples were received @ 4.0 degrees Celsius. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

The samples were analyzed and reported on a wet-weight basis per client request. Field preserved soil and sediment samples must always have an unpreserved sample aliquot collected and submitted in order to determine the moisture content of the sample.

Please refer to "Notes and Definitions" for all sample/analyte qualifiers. Qualifiers will note any exceedance levels and issues relating to sample analysis/matrix.

ENVIRONMENTAL ANALYSES

Identification

1)
-01

Client Project #
4445

Matrix
Soil

Collection Date/Time
25-May-05 08:00

Received
27-May-05

Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
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Organic Compounds

VOC Extraction	Field extracted	N/A	1	VOC	01-Jun-05	01-Jun-05	5060056	JAK	
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Organic Compounds by SW846 8260B

Prepared by method SW846 5030 Soil (high level)

VOC10

Acetone	BRL	448 µg/kg wet	50	SW846 8260B	28-May-05	28-May-05	5051941	tim	
Acrylonitrile	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Benzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Bromobenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Bromochloromethane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Bromodichloromethane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Bromoform	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Bromomethane	BRL	44.8 µg/kg wet	50	"	"	"	"	"	
2-Butanone (MEK)	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
n-Butylbenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
sec-Butylbenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
tert-Butylbenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Carbon disulfide	BRL	112 µg/kg wet	50	"	"	"	"	"	
Carbon tetrachloride	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Chlorobenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Chloroethane	BRL	44.8 µg/kg wet	50	"	"	"	"	"	
Chloroform	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Chloromethane	BRL	44.8 µg/kg wet	50	"	"	"	"	"	
2-Chlorotoluene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
4-Chlorotoluene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	BRL	44.8 µg/kg wet	50	"	"	"	"	"	
Dibromochloromethane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
1,2-Dibromoethane (EDB)	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Dibromomethane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
1,2-Dichlorobenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
1,3-Dichlorobenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
1,4-Dichlorobenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Dichlorodifluoromethane (Freon 12)	BRL	44.8 µg/kg wet	50	"	"	"	"	"	
1,1-Dichloroethane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
1,2-Dichloroethane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
1,1-Dichloroethene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
cis-1,2-Dichloroethene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
trans-1,2-Dichloroethene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
1,2-Dichloropropane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
1,3-Dichloropropane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
2,2-Dichloropropane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
1,1-Dichloropropene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
cis-1,3-Dichloropropene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
trans-1,3-Dichloropropene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Ethylbenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Hexachlorobutadiene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
2-Hexanone (MBK)	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
Isopropylbenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
4-Isopropyltoluene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	

Sample Identification

SB-1 (0-4)
SA 712-01Client Project #
4445Matrix
SoilCollection Date/Time
25-May-05 08:00Received
27-May-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
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Volatile Organic Compounds

Volatile Organic Compounds by SW846 8260B

Prepared by method SW846 5030 Soil (high level)

VOC10

1634-04-4	Methyl tert-butyl ether	BRL	22.4 µg/kg wet	50	SW846 8260B	28-May-05	28-May-05	5051941	tim	
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
75-09-2	Methylene chloride	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
91-20-3	Naphthalene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
103-65-1	n-Propylbenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
100-42-5	Styrene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
127-18-4	Tetrachloroethene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
108-88-3	Toluene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
79-01-6	Trichloroethene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
95-56-6	1,2,4-Trimethylbenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
106-88-8	1,3,5-Trimethylbenzene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
75-01-4	Vinyl chloride	BRL	22.4 µg/kg wet	50	"	"	"	"	"	
1330-20-7	m,p-Xylene	BRL	44.8 µg/kg wet	50	"	"	"	"	"	
95-47-6	o-Xylene	BRL	22.4 µg/kg wet	50	"	"	"	"	"	

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	106	70-130 %	"	"	"	"	"	
2037-26-5	Toluene-d8	92.8	70-130 %	"	"	"	"	"	
17060-07-0	1,2-Dichloroethane-d4	106	70-130 %	"	"	"	"	"	
1868-53-7	Dibromofluoromethane	105	70-130 %	"	"	"	"	"	

Identification

4)
2-02Client Project #
4445Matrix
SoilCollection Date/Time
25-May-05 09:45Received
27-May-05

Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Organic Compounds									
VOC Extraction	Field extracted	N/A	1	VOC	01-Jun-05	01-Jun-05	5060056	JAK	
<i>Organic Compounds by SW846 8260B</i>									
Prepared by method				SW846 5030 Soil (high level)				VOC10	
Acetone	BRL	410 µg/kg wet	50	SW846 8260B	28-May-05	28-May-05	5051941	tim	
Acrylonitrile	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Benzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Bromobenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Bromochloromethane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Bromodichloromethane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Bromoform	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Bromomethane	BRL	41.0 µg/kg wet	50	"	"	"	"	"	
2-Butanone (MEK)	BRL	205 µg/kg wet	50	"	"	"	"	"	
n-Butylbenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
sec-Butylbenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
tert-Butylbenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Carbon disulfide	BRL	102 µg/kg wet	50	"	"	"	"	"	
Carbon tetrachloride	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Chlorobenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Chloroethane	BRL	41.0 µg/kg wet	50	"	"	"	"	"	
Chloroform	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Chloromethane	BRL	41.0 µg/kg wet	50	"	"	"	"	"	
2-Chlorotoluene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
4-Chlorotoluene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	BRL	41.0 µg/kg wet	50	"	"	"	"	"	
Dibromochloromethane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
1,2-Dibromoethane (EDB)	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Dibromomethane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
1,2-Dichlorobenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
1,3-Dichlorobenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
1,4-Dichlorobenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Dichlorodifluoromethane (Freon12)	BRL	41.0 µg/kg wet	50	"	"	"	"	"	
1,1-Dichloroethane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
1,2-Dichloroethane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
1,1-Dichloroethene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
cis-1,2-Dichloroethene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
trans-1,2-Dichloroethene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
1,2-Dichloropropane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
1,3-Dichloropropane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
2,2-Dichloropropane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
1,1-Dichloropropene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
cis-1,3-Dichloropropene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
trans-1,3-Dichloropropene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Ethylbenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
Hexachlorobutadiene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
2-Hexanone (MBK)	BRL	205 µg/kg wet	50	"	"	"	"	"	
Isopropylbenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
4-Isopropyltoluene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	

Sample Identification

SB-3 (0-4)
SA28712-02Client Project #
4445Matrix
SoilCollection Date/Time
25-May-05 09:45Received
27-May-05

Lab No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
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Volatile Organic Compounds

Volatile Organic Compounds by SW846 8260B

Prepared by method SW846 5030 Soil (high level)

VOC10

1634-04-4	Methyl tert-butyl ether	BRL	20.5 µg/kg wet	50	SW846 8260B	28-May-05	28-May-05	5051941	tim	
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL	205 µg/kg wet	50	"	"	"	"	"	
75-09-2	Methylene chloride	BRL	205 µg/kg wet	50	"	"	"	"	"	
91-20-3	Naphthalene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
103-65-1	n-Propylbenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
100-42-5	Styrene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
127-18-4	Tetrachloroethene	BRL	30.7 µg/kg wet	50	"	"	"	"	"	
108-88-3	Toluene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
79-01-6	Trichloroethene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
8	1,3,5-Trimethylbenzene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
75-01-4	Vinyl chloride	BRL	20.5 µg/kg wet	50	"	"	"	"	"	
1330-20-7	m,p-Xylene	BRL	41.0 µg/kg wet	50	"	"	"	"	"	
95-47-6	o-Xylene	BRL	20.5 µg/kg wet	50	"	"	"	"	"	

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	107	70-130 %	"	"	"	"	"	"	
2037-26-5	Toluene-d8	92.4	70-130 %	"	"	"	"	"	"	
17060-07-0	1,2-Dichloroethane-d4	104	70-130 %	"	"	"	"	"	"	
1868-53-7	Dibromofluoromethane	105	70-130 %	"	"	"	"	"	"	

Sample Identification

SB-4 (0-4)

SA28712-03

Client Project #

4445

Matrix

Soil

Collection Date/Time

25-May-05 10:00

Received

27-May-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
	VOC Extraction	Field extracted	N/A	1	VOC	01-Jun-05	01-Jun-05	5060056	JAK	
<i>Volatile Organic Compounds by SW846 8260B</i>			Prepared by method SW846 5030 Soil (high level)						VOC10	
67-64-1	Acetone	BRL	430 µg/kg wet	50	SW846 8260B	28-May-05	28-May-05	5051941	tim	
107-13-1	Acrylonitrile	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
71-43-2	Benzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
108-86-1	Bromobenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
74-97-5	Bromochloromethane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
75-27-4	Bromodichloromethane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
75-25-2	Bromoform	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
74-83-9	Bromomethane	BRL	43.0 µg/kg wet	50	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
104-51-8	n-Butylbenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
135-98-8	sec-Butylbenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
98-06-6	tert-Butylbenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
75-15-0	Carbon disulfide	BRL	108 µg/kg wet	50	"	"	"	"	"	
56-23-5	Carbon tetrachloride	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
108-90-7	Chlorobenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
75-00-3	Chloroethane	BRL	43.0 µg/kg wet	50	"	"	"	"	"	
67-66-3	Chloroform	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
74-87-3	Chloromethane	BRL	43.0 µg/kg wet	50	"	"	"	"	"	
95-49-8	2-Chlorotoluene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
106-43-4	4-Chlorotoluene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	BRL	43.0 µg/kg wet	50	"	"	"	"	"	
124-48-1	Dibromochloromethane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
74-95-3	Dibromomethane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	BRL	43.0 µg/kg wet	50	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
100-41-4	Ethylbenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
98-82-8	Isopropylbenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
99-87-6	4-Isopropyltoluene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	

Sample Identification

SB-4 (0-4)
28712-03

Client Project

4445

Matrix

Soil

Collection Date/Time

25-May-05 10:00

Received

27-May-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
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Volatile Organic Compounds

Volatile Organic Compounds by SW846 8260B

Prepared by method SW846 5030 Soil (high level)

VOC10

1634-04-4	Methyl tert-butyl ether	BRL	21.5 µg/kg wet	50	SW846 8260B	28-May-05	28-May-05	5051941	tim	
108-10-1	4-Methyl-2-pentanone (MIBK)	BRL	215 µg/kg wet	50	"	"	"	"	"	
75-09-2	Methylene chloride	BRL	215 µg/kg wet	50	"	"	"	"	"	
91-20-3	Naphthalene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
103-65-1	n-Propylbenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
100-42-5	Styrene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
127-18-4	Tetrachloroethene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
108-88-3	Toluene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
79-01-6	Trichloroethene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
63-6	1,2,4-Trimethylbenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
6-67-8	1,3,5-Trimethylbenzene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
75-01-4	Vinyl chloride	BRL	21.5 µg/kg wet	50	"	"	"	"	"	
1330-20-7	m,p-Xylene	BRL	43.0 µg/kg wet	50	"	"	"	"	"	
95-47-6	o-Xylene	BRL	21.5 µg/kg wet	50	"	"	"	"	"	

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	107	70-130 %	"	"	"	"	"	"
2037-26-5	Toluene-d8	93.2	70-130 %	"	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	108	70-130 %	"	"	"	"	"	"
1868-53-7	Dibromofluoromethane	106	70-130 %	"	"	"	"	"	"

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5051941 - SW846 5030 Soil (high level)									
Blank (5051941-BLK1)			Prepared & Analyzed: 28-May-05						
Acetone	BRL	20.0 µg/kg wet							
Acrylonitrile	BRL	1.0 µg/kg wet							
Benzene	BRL	1.0 µg/kg wet							
Bromobenzene	BRL	1.0 µg/kg wet							
Bromochloromethane	BRL	1.0 µg/kg wet							
Bromodichloromethane	BRL	1.0 µg/kg wet							
Bromoform	BRL	1.0 µg/kg wet							
Bromomethane	BRL	2.0 µg/kg wet							
2-Butanone (MEK)	BRL	10.0 µg/kg wet							
n-Butylbenzene	BRL	1.0 µg/kg wet							
sec-Butylbenzene	BRL	1.0 µg/kg wet							
tert-Butylbenzene	BRL	1.0 µg/kg wet							
Carbon disulfide	BRL	5.0 µg/kg wet							
Carbon tetrachloride	BRL	1.0 µg/kg wet							
Chlorobenzene	BRL	1.0 µg/kg wet							
Chloroethane	BRL	2.0 µg/kg wet							
Chloroform	BRL	1.0 µg/kg wet							
Chloromethane	BRL	2.0 µg/kg wet							
2-Chlorotoluene	BRL	1.0 µg/kg wet							
4-Chlorotoluene	BRL	1.0 µg/kg wet							
1,2-Dibromo-3-chloropropane	BRL	2.0 µg/kg wet							
Dibromochloromethane	BRL	1.0 µg/kg wet							
1,2-Dibromoethane (EDB)	BRL	1.0 µg/kg wet							
Dibromomethane	BRL	1.0 µg/kg wet							
1,2-Dichlorobenzene	BRL	1.0 µg/kg wet							
1,3-Dichlorobenzene	BRL	1.0 µg/kg wet							
1,4-Dichlorobenzene	BRL	1.0 µg/kg wet							
Dichlorodifluoromethane (Freon12)	BRL	2.0 µg/kg wet							
1,1-Dichloroethane	BRL	1.0 µg/kg wet							
1,2-Dichloroethane	BRL	1.0 µg/kg wet							
1,1-Dichloroethene	BRL	1.0 µg/kg wet							
cis-1,2-Dichloroethene	BRL	1.0 µg/kg wet							
trans-1,2-Dichloroethene	BRL	1.0 µg/kg wet							
1,2-Dichloropropane	BRL	1.0 µg/kg wet							
1,3-Dichloropropane	BRL	1.0 µg/kg wet							
2,2-Dichloropropane	BRL	1.0 µg/kg wet							
1,1-Dichloropropene	BRL	1.0 µg/kg wet							
cis-1,3-Dichloropropene	BRL	1.0 µg/kg wet							
trans-1,3-Dichloropropene	BRL	1.0 µg/kg wet							
Ethylbenzene	BRL	1.0 µg/kg wet							
Hexachlorobutadiene	BRL	1.0 µg/kg wet							
2-Hexanone (MBK)	BRL	10.0 µg/kg wet							
Isopropylbenzene	BRL	1.0 µg/kg wet							
4-Isopropyltoluene	BRL	1.0 µg/kg wet							
Methyl tert-butyl ether	BRL	1.0 µg/kg wet							
4-Methyl-2-pentanone (MIBK)	BRL	10.0 µg/kg wet							
Methylene chloride	BRL	10.0 µg/kg wet							
Naphthalene	BRL	1.0 µg/kg wet							
n-Propylbenzene	BRL	1.0 µg/kg wet							
Styrene	BRL	1.0 µg/kg wet							
1,1,1,2-Tetrachloroethane	BRL	1.0 µg/kg wet							
1,1,2,2-Tetrachloroethane	BRL	1.0 µg/kg wet							
Tetrachloroethene	BRL	1.0 µg/kg wet							
Toluene	BRL	1.0 µg/kg wet							

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5051941 - SW846 5030 Soil (high level)									
Blank (5051941-BLK1)					Prepared & Analyzed: 28-May-05				
1,2,3-Trichlorobenzene	BRL	1.0 µg/kg wet							
1,2,4-Trichlorobenzene	BRL	1.0 µg/kg wet							
1,1,1-Trichloroethane	BRL	1.0 µg/kg wet							
1,1,2-Trichloroethane	BRL	1.0 µg/kg wet							
Trichloroethene	BRL	1.0 µg/kg wet							
Trichlorofluoromethane (Freon 11)	BRL	1.0 µg/kg wet							
1,2,3-Trichloropropane	BRL	1.0 µg/kg wet							
1,2,4-Trimethylbenzene	BRL	1.0 µg/kg wet							
1,3,5-Trimethylbenzene	BRL	1.0 µg/kg wet							
Vinyl chloride	BRL	1.0 µg/kg wet							
m,p-Xylene	BRL	2.0 µg/kg wet							
o-Xylene	BRL	1.0 µg/kg wet							
Surrogate: 4-Bromofluorobenzene	53.7	µg/kg wet	50.0		107	70-130			
Surrogate: Toluene-d8	46.9	µg/kg wet	50.0		93.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	46.7	µg/kg wet	50.0		93.4	70-130			
Surrogate: Dibromofluoromethane	49.7	µg/kg wet	50.0		99.4	70-130			
LCS (5051941-BS1)					Prepared & Analyzed: 28-May-05				
Acetone	14.2	µg/kg wet	20.0		71.0	19.4-217			
Acrylonitrile	16.3	µg/kg wet	20.0		81.5	70-130			
Benzene	19.5	µg/kg wet	20.0		97.5	70-130			
nobenzene	20.6	µg/kg wet	20.0		103	70-130			
Bromochloromethane	20.0	µg/kg wet	20.0		100	70-130			
Bromodichloromethane	20.0	µg/kg wet	20.0		100	70-130			
Bromoform	21.4	µg/kg wet	20.0		107	70-130			
Bromomethane	18.2	µg/kg wet	20.0		91.0	48.6-171			
2-Butanone (MEK)	8.6	µg/kg wet	20.0		43.0	16.5-153			
n-Butylbenzene	20.4	µg/kg wet	20.0		102	70-130			
sec-Butylbenzene	20.6	µg/kg wet	20.0		103	70-130			
tert-Butylbenzene	20.9	µg/kg wet	20.0		104	70-130			
Carbon disulfide	19.0	µg/kg wet	20.0		95.0	70-130			
Carbon tetrachloride	20.4	µg/kg wet	20.0		102	70-130			
Chlorobenzene	19.7	µg/kg wet	20.0		98.5	70-130			
Chloroethane	18.6	µg/kg wet	20.0		93.0	68.8-140			
Chloroform	19.5	µg/kg wet	20.0		97.5	70-130			
Chloromethane	21.8	µg/kg wet	20.0		109	70-130			
2-Chlorotoluene	19.8	µg/kg wet	20.0		99.0	70-130			
4-Chlorotoluene	19.7	µg/kg wet	20.0		98.5	70-130			
1,2-Dibromo-3-chloropropane	18.2	µg/kg wet	20.0		91.0	70-130			
Dibromochloromethane	15.2	µg/kg wet	20.0		76.0	53.9-173			
1,2-Dibromoethane (EDB)	17.1	µg/kg wet	20.0		85.5	70-130			
Dibromomethane	20.3	µg/kg wet	20.0		102	70-130			
1,2-Dichlorobenzene	20.8	µg/kg wet	20.0		104	70-130			
1,3-Dichlorobenzene	20.5	µg/kg wet	20.0		102	70-130			
1,4-Dichlorobenzene	20.3	µg/kg wet	20.0		102	70-130			
Dichlorodifluoromethane (Freon12)	23.9	µg/kg wet	20.0		120	59.6-150			
1,1-Dichloroethane	19.3	µg/kg wet	20.0		96.5	70-130			
1,2-Dichloroethane	18.9	µg/kg wet	20.0		94.5	70-130			
1,1-Dichloroethene	19.2	µg/kg wet	20.0		96.0	70-130			
cis-1,2-Dichloroethene	20.1	µg/kg wet	20.0		100	70-130			
trans-1,2-Dichloroethene	19.0	µg/kg wet	20.0		95.0	70-130			
1,2-Dichloropropane	20.0	µg/kg wet	20.0		100	70-130			
1,3-Dichloropropane	19.3	µg/kg wet	20.0		96.5	70-130			
2,2-Dichloropropane	19.2	µg/kg wet	20.0		96.0	70-130			
1,1-Dichloropropene	19.4	µg/kg wet	20.0		97.0	70-130			

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5051941 - SW846 5030 Soil (high level)									
LCS (5051941-BS1)			Prepared & Analyzed: 28-May-05						
cis-1,3-Dichloropropene	19.7	µg/kg wet	20.0		98.5	70-130			
trans-1,3-Dichloropropene	19.2	µg/kg wet	20.0		96.0	70-130			
Ethylbenzene	19.7	µg/kg wet	20.0		98.5	70-130			
Hexachlorobutadiene	21.4	µg/kg wet	20.0		107	67.9-157			
2-Hexanone (MBK)	11.8	µg/kg wet	20.0		59.0	70-130			QC-1
Isopropylbenzene	19.3	µg/kg wet	20.0		96.5	70-130			
4-Isopropyltoluene	21.5	µg/kg wet	20.0		108	70-130			
Methyl tert-butyl ether	19.4	µg/kg wet	20.0		97.0	70-130			
4-Methyl-2-pentanone (MIBK)	12.2	µg/kg wet	20.0		61.0	43.9-154			
Methylene chloride	19.3	µg/kg wet	20.0		96.5	70-130			
Naphthalene	20.7	µg/kg wet	20.0		104	70-130			
n-Propylbenzene	20.2	µg/kg wet	20.0		101	70-130			
Styrene	20.8	µg/kg wet	20.0		104	70-130			
1,1,1,2-Tetrachloroethane	20.0	µg/kg wet	20.0		100	70-130			
1,1,2,2-Tetrachloroethane	25.8	µg/kg wet	20.0		129	70-130			
Tetrachloroethene	19.0	µg/kg wet	20.0		95.0	70-130			
Toluene	19.4	µg/kg wet	20.0		97.0	70-130			
1,2,3-Trichlorobenzene	22.2	µg/kg wet	20.0		111	70-130			
1,2,4-Trichlorobenzene	21.6	µg/kg wet	20.0		108	70-130			
1,1,1-Trichloroethane	19.4	µg/kg wet	20.0		97.0	70-130			
1,1,2-Trichloroethane	20.0	µg/kg wet	20.0		100	70-130			
Trichloroethene	15.9	µg/kg wet	20.0		79.5	70-130			
Trichlorofluoromethane (Freon 11)	19.9	µg/kg wet	20.0		99.5	70-138			
1,2,3-Trichloropropane	18.9	µg/kg wet	20.0		94.5	70-130			
1,2,4-Trimethylbenzene	20.9	µg/kg wet	20.0		104	70-130			
1,3,5-Trimethylbenzene	20.6	µg/kg wet	20.0		103	70-130			
Vinyl chloride	21.6	µg/kg wet	20.0		108	70-130			
m,p-Xylene	40.4	µg/kg wet	40.0		101	70-130			
o-Xylene	23.9	µg/kg wet	20.0		120	70-130			
Surrogate: 4-Bromofluorobenzene	52.5	µg/kg wet	50.0		105	70-130			
Surrogate: Toluene-d8	48.1	µg/kg wet	50.0		96.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	48.8	µg/kg wet	50.0		97.6	70-130			
Surrogate: Dibromofluoromethane	51.5	µg/kg wet	50.0		103	70-130			
LCS Dup (5051941-BSD1)			Prepared & Analyzed: 28-May-05						
Acetone	22.8	µg/kg wet	20.0		114	19.4-217	46.5	50	
Acrylonitrile	20.0	µg/kg wet	20.0		100	70-130	20.4	25	
Benzene	19.9	µg/kg wet	20.0		99.5	70-130	2.03	25	
Bromobenzene	21.2	µg/kg wet	20.0		106	70-130	2.87	25	
Bromochloromethane	20.0	µg/kg wet	20.0		100	70-130	0.00	25	
Bromodichloromethane	19.7	µg/kg wet	20.0		98.5	70-130	1.51	25	
Bromoform	22.8	µg/kg wet	20.0		114	70-130	6.33	25	
Bromomethane	18.7	µg/kg wet	20.0		93.5	48.6-171	2.71	50	
2-Butanone (MEK)	16.4	µg/kg wet	20.0		82.0	16.5-153	62.4	50	QR-05
n-Butylbenzene	21.3	µg/kg wet	20.0		106	70-130	3.85	25	
sec-Butylbenzene	21.5	µg/kg wet	20.0		108	70-130	4.74	25	
tert-Butylbenzene	21.7	µg/kg wet	20.0		108	70-130	3.77	25	
Carbon disulfide	19.8	µg/kg wet	20.0		99.0	70-130	4.12	25	
Carbon tetrachloride	21.6	µg/kg wet	20.0		108	70-130	5.71	25	
Chlorobenzene	20.6	µg/kg wet	20.0		103	70-130	4.47	25	
Chloroethane	19.6	µg/kg wet	20.0		98.0	68.8-140	5.24	50	
Chloroform	20.1	µg/kg wet	20.0		100	70-130	2.53	25	
Chloromethane	21.5	µg/kg wet	20.0		108	70-130	0.922	25	
2-Chlorotoluene	20.6	µg/kg wet	20.0		103	70-130	3.96	25	
4-Chlorotoluene	20.2	µg/kg wet	20.0		101	70-130	2.51	25	

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Volatile Organic Compounds - Quality Control

anlyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5051941 - SW846 5030 Soil (high level)									
LCS Dup (5051941-BSD1)			Prepared & Analyzed: 28-May-05						
1,2-Dibromo-3-chloropropane	18.7	µg/kg wet	20.0		93.5	70-130	2.71	25	
Dibromochloromethane	16.0	µg/kg wet	20.0		80.0	53.9-173	5.13	50	
1,2-Dibromoethane (EDB)	17.5	µg/kg wet	20.0		87.5	70-130	2.31	25	
Dibromomethane	20.4	µg/kg wet	20.0		102	70-130	0.00	25	
1,2-Dichlorobenzene	21.9	µg/kg wet	20.0		110	70-130	5.61	25	
1,3-Dichlorobenzene	21.1	µg/kg wet	20.0		106	70-130	3.85	25	
1,4-Dichlorobenzene	21.0	µg/kg wet	20.0		105	70-130	2.90	25	
Dichlorodifluoromethane (Freon12)	26.0	µg/kg wet	20.0		130	59.6-150	8.00	50	
1,1-Dichloroethane	20.3	µg/kg wet	20.0		102	70-130	5.54	25	
1,2-Dichloroethane	19.3	µg/kg wet	20.0		96.5	70-130	2.09	25	
1,1-Dichloroethene	19.8	µg/kg wet	20.0		99.0	70-130	3.08	25	
cis-1,2-Dichloroethene	20.7	µg/kg wet	20.0		104	70-130	3.92	25	
trans-1,2-Dichloroethene	19.7	µg/kg wet	20.0		98.5	70-130	3.62	25	
1,2-Dichloropropane	20.3	µg/kg wet	20.0		102	70-130	1.98	25	
1,3-Dichloropropane	20.0	µg/kg wet	20.0		100	70-130	3.56	25	
2,2-Dichloropropane	19.7	µg/kg wet	20.0		98.5	70-130	2.57	25	
1,1-Dichloropropene	20.2	µg/kg wet	20.0		101	70-130	4.04	25	
cis-1,3-Dichloropropene	20.4	µg/kg wet	20.0		102	70-130	3.49	25	
trans-1,3-Dichloropropene	19.9	µg/kg wet	20.0		99.5	70-130	3.58	25	
Ethylbenzene	20.6	µg/kg wet	20.0		103	70-130	4.47	25	
Hexachlorobutadiene	23.2	µg/kg wet	20.0		116	67.9-157	8.07	50	
2-Hexanone (MBK)	15.4	µg/kg wet	20.0		77.0	70-130	26.5	25	QR-05
opropylbenzene	20.3	µg/kg wet	20.0		102	70-130	5.54	25	
4-Isopropyltoluene	22.2	µg/kg wet	20.0		111	70-130	2.74	25	
Methyl tert-butyl ether	20.0	µg/kg wet	20.0		100	70-130	3.05	25	
4-Methyl-2-pentanone (MIBK)	13.9	µg/kg wet	20.0		69.5	43.9-154	13.0	50	
Methylene chloride	20.1	µg/kg wet	20.0		100	70-130	3.56	25	
Naphthalene	21.3	µg/kg wet	20.0		106	70-130	1.90	25	
n-Propylbenzene	20.8	µg/kg wet	20.0		104	70-130	2.93	25	
Styrene	21.7	µg/kg wet	20.0		108	70-130	3.77	25	
1,1,1,2-Tetrachloroethane	21.2	µg/kg wet	20.0		106	70-130	5.83	25	
1,1,2,2-Tetrachloroethane	25.9	µg/kg wet	20.0		130	70-130	0.772	25	
Tetrachloroethene	20.2	µg/kg wet	20.0		101	70-130	6.12	25	
Toluene	19.9	µg/kg wet	20.0		99.5	70-130	2.54	25	
1,2,3-Trichlorobenzene	22.7	µg/kg wet	20.0		114	70-130	2.67	25	
1,2,4-Trichlorobenzene	22.4	µg/kg wet	20.0		112	70-130	3.64	25	
1,1,1-Trichloroethane	20.6	µg/kg wet	20.0		103	70-130	6.00	25	
1,1,2-Trichloroethane	20.2	µg/kg wet	20.0		101	70-130	0.995	25	
Trichloroethene	16.7	µg/kg wet	20.0		83.5	70-130	4.91	25	
Trichlorofluoromethane (Freon 11)	21.2	µg/kg wet	20.0		106	70-138	6.33	50	
1,2,3-Trichloropropane	19.3	µg/kg wet	20.0		96.5	70-130	2.09	25	
1,2,4-Trimethylbenzene	21.6	µg/kg wet	20.0		108	70-130	3.77	25	
1,3,5-Trimethylbenzene	21.5	µg/kg wet	20.0		108	70-130	4.74	25	
Vinyl chloride	22.2	µg/kg wet	20.0		111	70-130	2.74	25	
m,p-Xylene	42.5	µg/kg wet	40.0		106	70-130	4.83	25	
o-Xylene	25.2	µg/kg wet	20.0		126	70-130	4.88	25	
Surrogate: 4-Bromofluorobenzene	52.3	µg/kg wet	50.0		105	70-130			
Surrogate: Toluene-d8	47.5	µg/kg wet	50.0		95.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	48.5	µg/kg wet	50.0		97.0	70-130			
Surrogate: Dibromofluoromethane	50.8	µg/kg wet	50.0		102	70-130			
Matrix Spike (5051941-MS1)			Source: SA28579-02		Prepared & Analyzed: 28-May-05				
Benzene	18.3	µg/kg dry	20.0	BRL	91.5	70-130			
Chlorobenzene	19.7	µg/kg dry	20.0	BRL	98.5	70-130			
1,1-Dichloroethene	17.1	µg/kg dry	20.0	BRL	85.5	70-130			

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Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5051941 - SW846 5030 Soil (high level)									
Matrix Spike (5051941-MS1)		Source: SA28579-02		Prepared & Analyzed: 28-May-05					
Toluene	18.6	µg/kg dry	20.0	BRL	93.0	70-130			
Trichloroethene	15.9	µg/kg dry	20.0	0.773	75.6	70-130			
Surrogate: 4-Bromofluorobenzene	51.3	µg/kg dry	50.0		103	70-130			
Surrogate: Toluene-d8	47.3	µg/kg dry	50.0		94.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	52.3	µg/kg dry	50.0		105	70-130			
Surrogate: Dibromofluoromethane	53.3	µg/kg dry	50.0		107	70-130			
Matrix Spike Dup (5051941-MSD1)		Source: SA28579-02		Prepared & Analyzed: 28-May-05					
Benzene	19.4	µg/kg dry	20.0	BRL	97.0	70-130	5.84	30	
Chlorobenzene	20.9	µg/kg dry	20.0	BRL	104	70-130	5.43	30	
1,1-Dichloroethene	18.4	µg/kg dry	20.0	BRL	92.0	70-130	7.32	30	
Toluene	19.4	µg/kg dry	20.0	BRL	97.0	70-130	4.21	30	
Trichloroethene	16.7	µg/kg dry	20.0	0.773	79.6	70-130	5.15	30	
Surrogate: 4-Bromofluorobenzene	53.1	µg/kg dry	50.0		106	70-130			
Surrogate: Toluene-d8	47.2	µg/kg dry	50.0		94.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	53.2	µg/kg dry	50.0		106	70-130			
Surrogate: Dibromofluoromethane	54.6	µg/kg dry	50.0		109	70-130			

Notes and Definitions

-1	Analyte out of acceptance range.
QR-05	RPD out of acceptance range.
vext2	Field extracted
VOC10	The VOC field preserved soil sample is not within the 1:1 weight to volume ratio as recommended by SW846 methods 5030 and 5035 but may be within the 1:1 volume to volume ratio.
BRL	Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

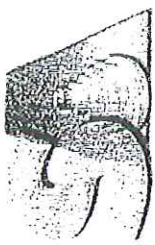
Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Validated by:
Hanibal C. Tayeh, Ph.D.
Nicole Brown



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Special Handling:

- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 5/25/05
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Geo Insight
25 Sandial Ave Suite 515
Manchester, NH 03103

Page 1 of 1

Invoice To: Geo Insight
25 Sandial Ave Suite 515
Manchester, NH 03103

Project No.: 4445
Site Name: Rockport
Location: Rockport, ME State: ME
Sampler(s): Patrick S. Atton

Project Mgr.: Peter Frank

P.O. No.: _____ RQN: _____

1=Na₂S₂O₄ 2=HCl 3=H₂SO₄ 4=HNO₃ 5=NaOH 6=Ascorbic Acid
7=CH₃OH 8=NaHSO₄ 9=_____ 10=_____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix
28112-01	SB-1(0-4)	5/25/05	800	G	So
02	SB-3(0-4)	↓	945	G	So
03	SB-4(0-4)	↓	1000	G	So

Containers:

of VOA Vials
of Amber Glass
of Clear Glass
of Plastic

8260B
XX
XX
XX

Analyses:

QA Reporting Notes:
(check if needed)

State specific reporting standards
if applicable, please list below

- ☐ Provide MCP CAM Report
- Were all field QC requirements met as per MADEP CAM Section 2.0?
- ☐ Yes ☐ No
- (Response required for CAM report)

Run wet basis
See attached

☐ Fax results when available to (_____)

E-mail to PDFrank@GeoInsight.com

EDD Format

Condition upon receipt: ☒ Cold ☐ Ambient ☐ °C

Relinquished by:

Patrick S. Atton
See X

Received by:

cooler FedEx
UK Animals

Date:

Time:

5/25/05 1400
5/27/05 911