US EPA ARCHIVE DOCUMENT

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Soil Gas Data Evaluation
June 2005

National Copper/Sundstrand Heat Transfer Facility, Dowagiac, MI

Prepared by

Earth Tech, Inc.
36133 Schoolcraft Rd.
Livonia, MI 48150

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By FEDERAL EXPRESS

Ms. Bhooma Sundar
Region 5
United States Environmental Protection Agency
77 West Jackson Boulevard
Chicago, IL 60604-3507

RE: Results of Soil Gas Sampling,
National Copper/Sundstrand Heat Transfer Facility, Dowagiac, MI;
MID 005 068 507

Dear Bhooma,

This letter presents the soil gas results from samples collected on February 23, 2005 for the National Copper Products, Inc. property (former Sundstrand Heat Transfer facility) at 415 East Prairie Ronde Street in Dowagiac, Michigan (the "Site"). The objective of this memorandum is to present the soil gas results and facilitate your continued contribution to determining the need for further action at the Site.

Sampling and Analyses

Ten samples soil gas samples plus one blank and a duplicate were collected over an approximately two hour period from the Site vicinity using vapor monitoring probes and pre-evacuated Summa canisters. Figure 1 shows the locations of the vapor monitoring points from which samples were collected. All samples were transported to the laboratory and analyzed for volatile organic compounds (VOCs) according to EPA Method TO-15. The laboratory report of the Summa canister data is attached (Attached). These data are evaluated below.

Evaluation Approach

Data were evaluated using a tiered screening process. First, chemicals of potential concern (COPCs) were identified as all chemicals that were detected in soil gas samples at any vapor sampling location above their respective reporting limits. All detected data were compared directly to USEPA Region 9 preliminary remediation goals (PRGs) for residential air. Nine chemicals with maximum concentrations exceeding these PRGs were retained for subsequent evaluation of the residential indoor air exposure pathway. Chemicals with maximum concentrations less than the PRGs were evaluated no further.

For the retained COPCs, a preliminary evaluation of the indoor air exposure pathway was performed using the soil gas screening module of the most recent EPA Johnson and Ettinger ("J&E") model (EPA 2003)[1]. Potential excess cancer risk and/or non-cancer hazards were determined. The application of the

[1] EPA 2003. U.S. Environmental Protection Agency, User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings, Office of Emergency and Remedial Response. Washington DC.

J&E model is somewhat limited in instances where indoor air is directly exposed to soil (i.e., earthen basements, crawl spaces, etc.). However, even in consideration of such conditions, the J&E model was nonetheless applied to provide a "baseline" evaluation of the potential for exposure to vapors in indoor air.

In order to more completely evaluate the potential for soil gas to pose a realistic health risk to residents in the area, a survey of the basement construction type was conducted by review of city records. These data were categorized into three groups: basements without any indication of the existence of crawl spaces or dirt floors (Group 1), foundations with partial basements and crawl spaces (Group 2), and foundations with crawl spaces alone (Group 3).

This information was then used to determine the applicability of the J&E model to assessing risk and determine the need for further evaluation of potential exposure to indoor air vapors from contaminants.

Evaluation Results

Table 1 compares maximum detected concentrations for COPCs to the EPA Region 9 PRGs for ambient air. From this screening, four chemicals were retained for further analysis. These chemicals are: chloroform, cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene. Of these four chemicals having concentrations exceeding the PRGs, only trichloroethene and cis-1,2 dichloroethene were detected in recent soil and groundwater samples collected at and in the vicinity of the Site during the recent February 2005 field effort as part of the development of the Current Conditions Report. The occurrence of other chemicals in soil gas cannot readily be explained but it is possible that other sources unrelated to the Site may be contributing to the chemical vapor makeup.

Table 2 shows the potential cancer and non-cancer risks calculated using the J&E soil gas module assuming residential exposure to vapors infiltrating through concrete basements. Potential excess cancer risks for this exposure scenario are predicted to be less than 1E-06, and non-cancer hazards expressed as the hazard quotient (HQ) are less than 1.0 (i.e., the health risks are acceptable).

Residential foundation data are presented in Table 3, and are highlighted on the map attached as Figure 1. From the data presented in Table 3, 21 of 33 (sixty four percent) residences evaluated have full basements and do not have associated crawl spaces or dirt floors. Four of 33 residents evaluated have partial basements with crawl spaces, and the remaining residences, or eight of 33, have crawl spaces alone designated in the city records. These data suggest that the majority of residences have structures that are amenable to the use of the J&E model as a screening tool.

Of potentially greater significance are the data presented in Figure 1. This figure shows the residences color coded according to foundation type. Green indicates those homes with basements or no crawl spaces, yellow indicates homes with basements and partial crawl spaces, and red indicates homes with records showing a crawl space alone. As can be seen, most of the residences along Louise Street have basements for which the J&E model results should apply. In fact, those homes along Louise Street and directly east of vapor monitoring points with the highest TCE concentrations (i.e., VMP-7 and VMP-9) are residences with no designated crawl spaces or dirt floors. As noted above, the screening level analyses using the J&E model indicates that risk potentially associated with exposure to indoor vapors

derived from the soil gas associated with VMP-7 and VMP-9 is acceptable (i.e., less than an excess cancer risk of 1E-06 or a hazard quotient of 1.0). Homes that have indicated crawl spaces (Figure 1 and Table 3) are not close to VMP-7 and VMP-9 inferring that they are unlikely to be impacted by site related soil gas vapors.

Conclusion

The screening analyses are a preliminary evaluation of the soil gas data generated from samples collected in February 2005. The data show that several chemicals are detected in soil gas that may not be Site-related. Of those chemicals detected, trichloroethene and cis-1,2 dichloroethene appear to be potentially Site-related chemicals detected at levels in excess of the conservative EPA Region 9 PRGs for ambient air. Nevertheless, the Johnson and Ettinger screening calculation suggests that potential cancer risks and non-cancer hazards from these contaminants are acceptable.

A survey of the foundation construction type for homes directly across from the two vapor monitoring points having the highest concentrations of TCE suggests that potential health risks to residents in these homes is acceptable under EPA guidance. No further evaluation of soil gas exposure is warranted for residents in these homes.

Details of the collection and analytical methods will be provided in the Current Conditions Report. After your review of the data, I would like to discuss with you this assessment of risk to potential receptors in the area.

Respectfully yours,

William Frez, Ph.D.

cc: w/encl
Jill Groboski, U.S. EPA
Tom Fox, National Tube Holding Company
Scott Moyer, United Technology Corporation
R. David Mursch
James Tolbert, Earth Tech
Rick Smith, National Copper Products, Inc.
John Guthrie, National Copper Products, Inc.
Curtis Liles, Maynard, Copper & Gale, P.C.
Bruce Baker, MACTEC
Charles Denton, Varnum, Riddering, Schmidt & Howlett LLP

Table 1

Comparison of Maximum Detected Concentrations of Chemicals in Soil Gas to EPA Region 9 Ambient Air Preliminary Remediation Goals

National Copper, Inc
Dowagiac, MI

Location ID	Chemical Name	CAS No.	Maximum Sample Concentration (ppbV)	R9 Ambient Air PRG (ppbV)	Retain for Further Evaluation
VMP-9	Chloroform	67663	4.80E-01	2.00E-02	Yes
VMP-9	**cis-1,2-Dichloroethene**	156592	3.00E+01	9.34E+00	Yes
VMP-9	**Trichloroethene**	79016	2.10E+03	3.20E-03	Yes
VMP-7	Tetrachloroethene	127184	3.40E+00	5.00E-02	Yes
VMP-9	1,1,1-Trichloroethane	71556	1.70E+01	4.21E+02	No
VMP-9	1,1-Dichloroethane	75343	9.80E+00	1.29E+02	No
VMP-9	trans-1,2-Dichloroethene	156605	1.20E+01	1.84E+01	No
VMP-21	Dichlorodifluoromethane	75718	6.00E-01	4.25E+01	No
VMP-16	Acetone	67641	9.60E+00	1.39E+03	No

Bolding indicates potential site related chemical

Table 2

Results of Johnson and Ettinger Soil Gas Screening Evaluation

National Copper
Dowagiac, MI

COPC	Maximum Detected Concentration (ppbV)	Johnson and Ettinger Screen	
		Cancer Risk	Hazard Quotient (HQ)
Chloroform	4.80E-01	2.25E-10	
cis-1,2-Dichloroethene	3.00E+01		3.20E-05
Tetrachloroethene	2.00E+00	3.13E-11	
Trichloroethene	2.10E+03	7.74E-08	

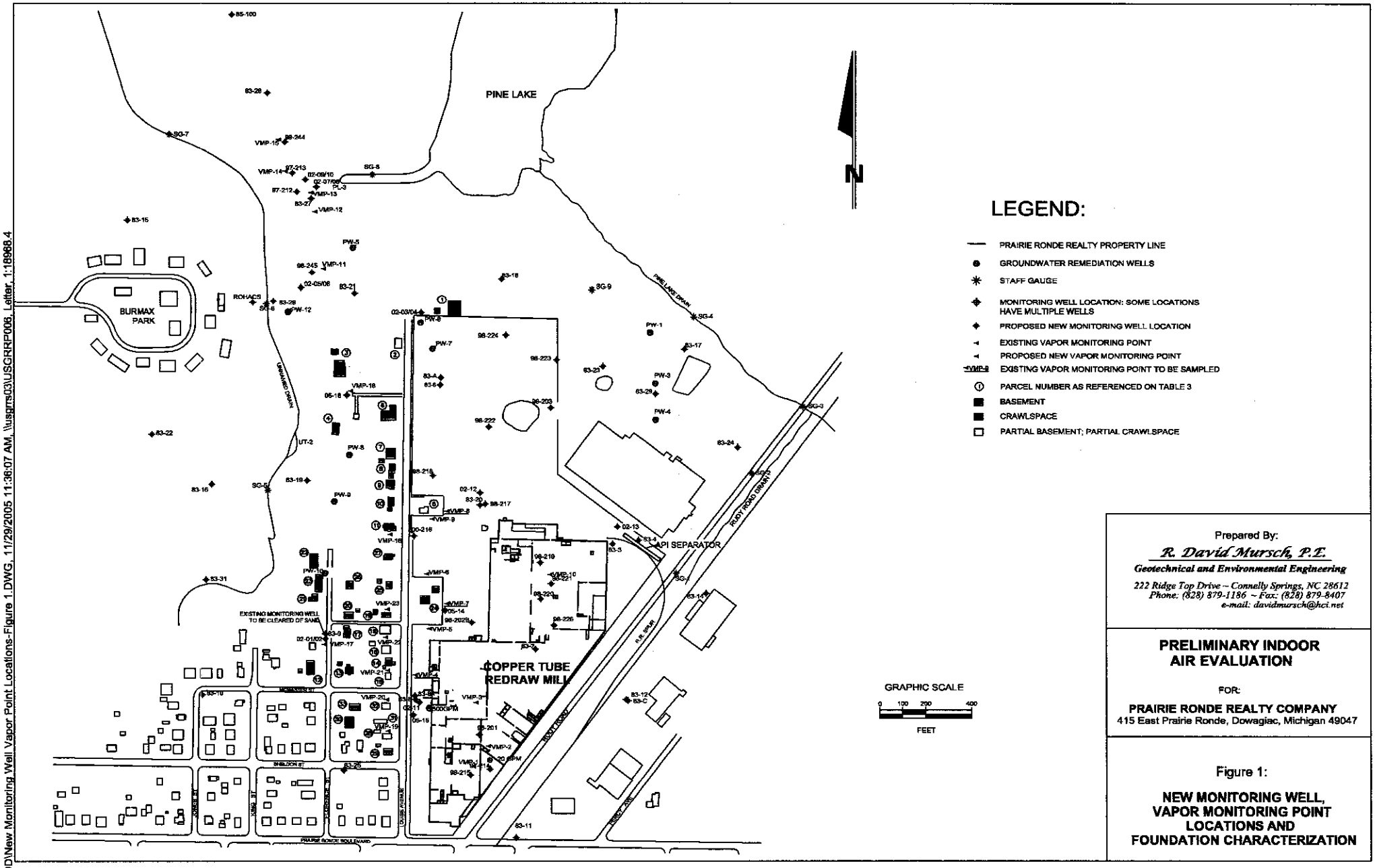
Bolding indicates chemicals are potentially site related.
NA-No chemical or physical data supplied in Johnson and Ettinger model.
Shading indicates no cancer or non-cancer effect is applicable.

TABLE 3
SUMMARY OF RESIDENTIAL FOUNDATION DATA
DOWAGIAC, MI

Fig. 3 Index no.	Parcel #	Resident	Address	Date	Water	Basement	Crawl Space	Height to Joist	Shed	Other
1	200 126 15	Pete Mengel	504 Louise	1938	Septic		660 sf		736 sf	Shop 576 sf (1984)
2	200 126 25	Devern & Dorothy Walker	601 Louise	1940	Septic	MB 480 sf	832 sf	7 ft	96 sf	16" block with concrete floor
3	200 126 25	Devern & Dorothy Walker	700 Louise	1968	Septic	1380 sf		8 ft		16" block with concrete floor
4	200 126 30	Dean & Judy Bussler	413 Louise	1970	Septic	1480 sf		8 ft		in-ground pool
						Poured concrete floor				
5	200 126 40	Carol Ferrel	404 Louise	1937	Septic	MB 384 sf	308 sf	7 ft		concrete block with concrete floor
6	300 972 00	John & Phyllis Valdes	415 Louise	1968	Sewer					looks like concrete poured foundation
7	300 973 00	Katrina Hargreaves	409 Louise	1958	Sewer					looks like concrete foundation
8	300 974 00	Carolyn Jessup	407 Louise	1968	Sewer					looks like concrete foundation
9	300 975 00	Randy & Kathy Melvin	405 Louise	1968	Sewer	864 sf		7 ft		repaired basement walls 10/20/89
										16" concrete block, concrete floor
10	300 976 00	Vincent & Ann Kneller	403 Louise	1958	Sewer					looks like concrete foundation
11	300 977 00	Gerald & Donna Dodd	401 Louise	1944	Sewer					looks like concrete block foundation
12	200 695 00	Kim Fergison	301 Florence	1966	Sewer	1400 sf		7 ft		16" concrete block, concrete floor
13	200 696 00	Fred & Faye Harttung	301 McMaster	1948	Sewer		944 sf			
14	200 697 00	Bradley & Louise Evans	303 Louise	1948	Sewer	850 sf		7 ft		8" concrete block, concrete floor
15	200 698 00	Michael & Charlotte Moore	301 Louise	1940	Sewer	504 sf	135 sf	7 ft		8" concrete block, concrete floor
16	200 699 00	Edwin & Lula Reist	305 Louise	1940	Sewer	377 sf	576 sf	7 ft		16" concrete block, concrete floor
17	200 705 00	Sharon J. Forbes	306 Florence	1958	Sewer	1053 sf		7 ft		8" concrete block, concrete floor
18	200 706 00	Virginia Topping	307 Louise	1942	Sewer	700 sf	231 sf	7 ft		stone wall finish, concrete floor
19	200 709 00	Kennenth & Pauline Schultz	309 Louise	1940	Sewer	880 sf		7 ft		concrete wall/floor
20	200 710 01	Robert & Joyce Felthouse	308 Florence	1940	Sewer	1063 sf		7 ft		looks like stone wall finish/concrete floor
	200 710 00									
21	200 711 01	Charles & Pamela Preis	309 Florence	1946	Sewer	864 sf	32 sf	7 ft		16" concrete block, concrete floor
22	200 713 00	Arthur & Marie Dobos	315 Florence	1950	Sewer		1646 sf			
		Darren Etzel								
23	200 715 00	James & Sharon Heron	313 Florence	1948	Sewer	1008 sf		7 ft		16" concrete block, concrete floor
24	200 718 00	Mary & Charlene Valdes	312 Florence	1940	Sewer	608 sf	64 sf			8" concrete block
25	200 720 00	Louise Ostrowski	313 Louise	1942	Sewer	724 sf, MB		7 ft		16" concrete block, concrete floor

TABLE 3
SUMMARY OF RESIDENTIAL FOUNDATION DATA
DOWAGIAC, MI

26	200 721 01	Jack & Helen Cross	312 Florence	1958	Sewer	644 sf		7 ft		8" concrete block, concrete floor
27	200 723 02	Lyle & Patsy Taylor	317 Louise	1940	Sewer	792 sf	48 sf	7 ft		8" concrete, concrete floor
28	200 675 00	Donald Hartsell	203 Louise	1942	Sewer	594 sf	160 sf	7 ft		16" concrete block, concrete floor
29	200 676 00	Duwane & Carol Hutchings	201 Louise	1944	Sewer	722 sf		7 ft		16" concrete block, concrete floor
30	200 686 00	Marie Thompson	206 Florence	1938	Sewer		1120 sf			
31	200 687 00	Louise & Ruth Gibson	205 Louise	1940	Sewer	72 sf, with 480 sf MB	240 sf	7 ft		16" concrete block, concrete floor
32	200 688 00	Robert & Shirley Linn	207 Louise	1944	Sewer	624 sf	224 sf	7 ft		16" concrete block, concrete floor
33	200 689 00	Douglas Schlipp	302 McMaster	1995	Sewer	1232 sf				full foundation



Prepared By:

R. David Mursch, P.E.

Geotechnical and Environmental Engineering

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PRELIMINARY INDOOR AIR EVALUATION

FOR:

PRAIRIE RONDE REALTY COMPANY
415 East Prairie Ronde, Dowagiac, Michigan 49047

Figure 1:

NEW MONITORING WELL, VAPOR MONITORING POINT LOCATIONS AND FOUNDATION CHARACTERIZATION

I:\L:\work\70999\CADD\New Monitoring Well Vapor Point Locations-Figure 1.DWG, 11/29/2005 11:36:07 AM, \\usgrrs03\USGRRF006, Letter, 1:18968.4

ANALYTICAL REPORT

PROJECT NO. NATIONAL COPPER

NATIONAL COPPER

Lot #: E5C010338

WILLIAM FREZ, Ph.D.

Earth Tech, Inc.

SEVERN TRENT LABORATORIES, INC.

Sabina Sudoko
Project Manager

March 11, 2005

EXECUTIVE SUMMARY - Detection Highlights

E5C010338

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
VMP-9 02/23/05 04:44 001				
Trichloroethene	2100	43	ppb(v/v)	EPA-2 TO-15
Dichlorodifluoromethane	0.59 J	1.3	ppb(v/v)	EPA-2 TO-15
Acetone	3.8 J	5.4	ppb(v/v)	EPA-2 TO-15
trans-1,2-Dichloroethene	12	1.3	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethane	9.8	1.3	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	30	1.3	ppb(v/v)	EPA-2 TO-15
Chloroform	0.48 J	1.3	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	17	1.3	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	2.0	1.3	ppb(v/v)	EPA-2 TO-15
VMP-7 02/23/05 07:30 002				
Trichloroethene	360	6.9	ppb(v/v)	EPA-2 TO-15
Dichlorodifluoromethane	0.52	0.34	ppb(v/v)	EPA-2 TO-15
1,1,2-Trichloro-1,2,2-trifluoroethane	0.60 J	0.68	ppb(v/v)	EPA-2 TO-15
Acetone	3.1	1.4	ppb(v/v)	EPA-2 TO-15
trans-1,2-Dichloroethene	0.15 J	0.34	ppb(v/v)	EPA-2 TO-15
2-Butanone (MEK)	0.95 J	1.7	ppb(v/v)	EPA-2 TO-15
Chloroform	0.11 J	0.34	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	12	0.34	ppb(v/v)	EPA-2 TO-15
Toluene	2.4	0.51	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	3.4	0.34	ppb(v/v)	EPA-2 TO-15
1,4-Dichlorobenzene	0.14 J	0.34	ppb(v/v)	EPA-2 TO-15
VMP-4 02/24/05 10:24 003				
Dichlorodifluoromethane	0.46	0.20	ppb(v/v)	EPA-2 TO-15
Chloromethane	0.083 J	0.40	ppb(v/v)	EPA-2 TO-15
Trichlorofluoromethane	0.20 J	0.40	ppb(v/v)	EPA-2 TO-15
Acetone	2.5 B	0.80	ppb(v/v)	EPA-2 TO-15
2-Butanone (MEK)	0.69 J	1.0	ppb(v/v)	EPA-2 TO-15
Chloroform	0.064 J	0.20	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	0.40	0.20	ppb(v/v)	EPA-2 TO-15
Benzene	0.11 J	0.20	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.82	0.20	ppb(v/v)	EPA-2 TO-15
Toluene	1.2	0.30	ppb(v/v)	EPA-2 TO-15
1,2,4-Trimethylbenzene	0.092 J	0.40	ppb(v/v)	EPA-2 TO-15

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EXECUTIVE SUMMARY - Detection Highlights

E5C010338

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
VMP-20 02/24/05 10:29 004				
Dichlorodifluoromethane	0.47	0.20	ppb(v/v)	EPA-2 TO-15
Chloromethane	0.55	0.40	ppb(v/v)	EPA-2 TO-15
Acetone	1.2	0.80	ppb(v/v)	EPA-2 TO-15
Carbon tetrachloride	0.078 J	0.20	ppb(v/v)	EPA-2 TO-15
Benzene	0.14 J	0.20	ppb(v/v)	EPA-2 TO-15
Toluene	0.10 J	0.30	ppb(v/v)	EPA-2 TO-15
VMP-17 02/24/05 12:52 005				
Dichlorodifluoromethane	0.44	0.20	ppb(v/v)	EPA-2 TO-15
Chloromethane	0.29 J	0.40	ppb(v/v)	EPA-2 TO-15
Acetone	2.3 B	0.80	ppb(v/v)	EPA-2 TO-15
Methylene chloride	0.094 J	0.20	ppb(v/v)	EPA-2 TO-15
2-Butanone (MEK)	0.67 J	1.0	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	1.6	0.20	ppb(v/v)	EPA-2 TO-15
Benzene	0.60	0.20	ppb(v/v)	EPA-2 TO-15
Trichloroethene	11	0.20	ppb(v/v)	EPA-2 TO-15
Toluene	18	0.30	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.35	0.20	ppb(v/v)	EPA-2 TO-15
Ethylbenzene	1.0	0.20	ppb(v/v)	EPA-2 TO-15
m-Xylene & p-Xylene	3.6	0.50	ppb(v/v)	EPA-2 TO-15
o-Xylene	0.62	0.20	ppb(v/v)	EPA-2 TO-15
4-Ethyltoluene	0.44	0.40	ppb(v/v)	EPA-2 TO-15
1,3,5-Trimethylbenzene	0.11 J	0.40	ppb(v/v)	EPA-2 TO-15
1,2,4-Trimethylbenzene	0.38 J	0.40	ppb(v/v)	EPA-2 TO-15
VMP-21 02/24/05 13:10 006				
Dichlorodifluoromethane	0.60	0.20	ppb(v/v)	EPA-2 TO-15
Chloromethane	0.11 J	0.40	ppb(v/v)	EPA-2 TO-15
Trichlorofluoromethane	0.23 J	0.40	ppb(v/v)	EPA-2 TO-15
Acetone	2.6	0.80	ppb(v/v)	EPA-2 TO-15
Methylene chloride	0.090 J	0.20	ppb(v/v)	EPA-2 TO-15
2-Butanone (MEK)	0.98 J	1.0	ppb(v/v)	EPA-2 TO-15
Benzene	0.35	0.20	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.33	0.20	ppb(v/v)	EPA-2 TO-15
Toluene	8.5	0.30	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.14 J	0.20	ppb(v/v)	EPA-2 TO-15
Ethylbenzene	0.63	0.20	ppb(v/v)	EPA-2 TO-15
m-Xylene & p-Xylene	1.7	0.50	ppb(v/v)	EPA-2 TO-15
o-Xylene	0.39	0.20	ppb(v/v)	EPA-2 TO-15
4-Ethyltoluene	0.32 J	0.40	ppb(v/v)	EPA-2 TO-15
1,3,5-Trimethylbenzene	0.11 J	0.40	ppb(v/v)	EPA-2 TO-15

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

E5C010338

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
VMP-21 02/24/05 13:10 006				
1,2,4-Trimethylbenzene	0.40	0.40	ppb(v/v)	EPA-2 TO-15
VMP-23 02/24/05 15:45 007				
Dichlorodifluoromethane	0.46	0.20	ppb(v/v)	EPA-2 TO-15
Chloromethane	0.24 J	0.40	ppb(v/v)	EPA-2 TO-15
Carbon disulfide	0.32 J	1.0	ppb(v/v)	EPA-2 TO-15
Acetone	4.4	0.80	ppb(v/v)	EPA-2 TO-15
Methylene chloride	0.087 J	0.20	ppb(v/v)	EPA-2 TO-15
2-Butanone (MEK)	1.3	1.0	ppb(v/v)	EPA-2 TO-15
Benzene	0.41	0.20	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.25	0.20	ppb(v/v)	EPA-2 TO-15
Toluene	6.8	0.30	ppb(v/v)	EPA-2 TO-15
Ethylbenzene	0.48	0.20	ppb(v/v)	EPA-2 TO-15
m-Xylene & p-Xylene	1.3	0.50	ppb(v/v)	EPA-2 TO-15
o-Xylene	0.33	0.20	ppb(v/v)	EPA-2 TO-15
4-Ethyltoluene	0.26 J	0.40	ppb(v/v)	EPA-2 TO-15
1,2,4-Trimethylbenzene	0.27 J	0.40	ppb(v/v)	EPA-2 TO-15
VMP-16 02/24/05 16:00 008				
Dichlorodifluoromethane	0.46	0.20	ppb(v/v)	EPA-2 TO-15
Chloromethane	0.26 J	0.40	ppb(v/v)	EPA-2 TO-15
1,1,2-Trichloro-1,2,2-trifluoroethane	0.092 J	0.40	ppb(v/v)	EPA-2 TO-15
Acetone	9.6 B	0.80	ppb(v/v)	EPA-2 TO-15
Methylene chloride	0.084 J	0.20	ppb(v/v)	EPA-2 TO-15
2-Butanone (MEK)	3.3	1.0	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	0.85	0.20	ppb(v/v)	EPA-2 TO-15
Benzene	0.43	0.20	ppb(v/v)	EPA-2 TO-15
Trichloroethene	20	0.20	ppb(v/v)	EPA-2 TO-15
Toluene	10	0.30	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.16 J	0.20	ppb(v/v)	EPA-2 TO-15
Ethylbenzene	0.55	0.20	ppb(v/v)	EPA-2 TO-15
m-Xylene & p-Xylene	1.7	0.50	ppb(v/v)	EPA-2 TO-15
o-Xylene	0.39	0.20	ppb(v/v)	EPA-2 TO-15
4-Ethyltoluene	0.25 J	0.40	ppb(v/v)	EPA-2 TO-15
1,2,4-Trimethylbenzene	0.27 J	0.40	ppb(v/v)	EPA-2 TO-15

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EXECUTIVE SUMMARY - Detection Highlights

E5C010338

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
VMP-19 02/24/05 18:04 009				
Dichlorodifluoromethane	0.50	0.20	ppb(v/v)	EPA-2 TO-15
Chloromethane	0.068 J	0.40	ppb(v/v)	EPA-2 TO-15
Carbon disulfide	0.91 J	1.0	ppb(v/v)	EPA-2 TO-15
Acetone	7.4 B	0.80	ppb(v/v)	EPA-2 TO-15
Methylene chloride	0.071 J	0.20	ppb(v/v)	EPA-2 TO-15
2-Butanone (MEK)	0.64 J	1.0	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	0.99	0.20	ppb(v/v)	EPA-2 TO-15
Benzene	0.87	0.20	ppb(v/v)	EPA-2 TO-15
Trichloroethene	1.2	0.20	ppb(v/v)	EPA-2 TO-15
Toluene	8.9	0.30	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.20	0.20	ppb(v/v)	EPA-2 TO-15
Ethylbenzene	0.82	0.20	ppb(v/v)	EPA-2 TO-15
m-Xylene & p-Xylene	2.6	0.50	ppb(v/v)	EPA-2 TO-15
o-Xylene	0.55	0.20	ppb(v/v)	EPA-2 TO-15
Styrene	0.20 JA	0.20	ppb(v/v)	EPA-2 TO-15
4-Ethyltoluene	0.49	0.40	ppb(v/v)	EPA-2 TO-15
1,3,5-Trimethylbenzene	0.19 J	0.40	ppb(v/v)	EPA-2 TO-15
1,2,4-Trimethylbenzene	0.83	0.40	ppb(v/v)	EPA-2 TO-15
1,4-Dichlorobenzene	0.096 J	0.20	ppb(v/v)	EPA-2 TO-15
VMP-18 02/25/05 11:30 010				
Dichlorodifluoromethane	0.45	0.20	ppb(v/v)	EPA-2 TO-15
Carbon disulfide	0.34 J	1.0	ppb(v/v)	EPA-2 TO-15
Acetone	1.2 B	0.80	ppb(v/v)	EPA-2 TO-15
Methylene chloride	0.25	0.20	ppb(v/v)	EPA-2 TO-15
Carbon tetrachloride	0.063 J	0.20	ppb(v/v)	EPA-2 TO-15
Benzene	0.46	0.20	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.63	0.20	ppb(v/v)	EPA-2 TO-15
Toluene	8.3	0.30	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.15 J	0.20	ppb(v/v)	EPA-2 TO-15
Ethylbenzene	0.44	0.20	ppb(v/v)	EPA-2 TO-15
m-Xylene & p-Xylene	1.5	0.50	ppb(v/v)	EPA-2 TO-15
o-Xylene	0.29	0.20	ppb(v/v)	EPA-2 TO-15
4-Ethyltoluene	0.32 J	0.40	ppb(v/v)	EPA-2 TO-15
1,2,4-Trimethylbenzene	0.29 J	0.40	ppb(v/v)	EPA-2 TO-15
VMP-18 DUP 02/25/05 11:30 011				
Dichlorodifluoromethane	0.48	0.20	ppb(v/v)	EPA-2 TO-15
Trichlorofluoromethane	0.20 J	0.40	ppb(v/v)	EPA-2 TO-15
Carbon disulfide	0.29 J	1.0	ppb(v/v)	EPA-2 TO-15
Acetone	0.85 B	0.80	ppb(v/v)	EPA-2 TO-15

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

E5C010338

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
VMP-18 DUP 02/25/05 11:30 011				
Methylene chloride	0.077 J	0.20	ppb(v/v)	EPA-2 TO-15
2-Butanone (MEK)	0.46 J	1.0	ppb(v/v)	EPA-2 TO-15
Carbon tetrachloride	0.067 J	0.20	ppb(v/v)	EPA-2 TO-15
Benzene	0.29	0.20	ppb(v/v)	EPA-2 TO-15
Trichloroethene	0.43	0.20	ppb(v/v)	EPA-2 TO-15
Toluene	7.5	0.30	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	0.26	0.20	ppb(v/v)	EPA-2 TO-15
Ethylbenzene	0.78	0.20	ppb(v/v)	EPA-2 TO-15
m-Xylene & p-Xylene	3.4	0.50	ppb(v/v)	EPA-2 TO-15
o-Xylene	0.64	0.20	ppb(v/v)	EPA-2 TO-15
Styrene	0.14 J,JA	0.20	ppb(v/v)	EPA-2 TO-15
4-Ethyltoluene	0.67	0.40	ppb(v/v)	EPA-2 TO-15
1,3,5-Trimethylbenzene	0.17 J	0.40	ppb(v/v)	EPA-2 TO-15
1,2,4-Trimethylbenzene	0.80	0.40	ppb(v/v)	EPA-2 TO-15

ANALYTICAL METHODS SUMMARY

E5C010338

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

SAMPLE SUMMARY

E5C010338

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
G5CKN	001	VMP-9	02/23/05	04:44
G5CKP	002	VMP-7	02/23/05	07:30
G5CKQ	003	VMP-4	02/24/05	10:24
G5CKR	004	VMP-20	02/24/05	10:29
G5CKT	005	VMP-17	02/24/05	12:52
G5CKW	006	VMP-21	02/24/05	13:10
G5CKX	007	VMP-23	02/24/05	15:45
G5CK0	008	VMP-16	02/24/05	16:00
G5CK1	009	VMP-19	02/24/05	18:04
G5CK2	010	VMP-18	02/25/05	11:30
G5CK3	011	VMP-18 DUP	02/25/05	11:30
G5CK4	012	TRIP BLANK	02/25/05	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Chain of Custody Record

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Earth Tech	Project Manager: Bill Frez	Date: 2/25/05	Chain of Custody Number: 181773
Address: 36133 Schoolcraft Rd	Telephone Number (Area Code)/Fax Number: 734-779-2800	Lab Number: ESC010338	Page 1 of 1
City: Livonia; State: MI; Zip Code: 48150	Site Contact:	Lab Contact:	
Project Name and Location (State): National Copper	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.:			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed): TO15 scan	Special Instructions/ Conditions of Receipt
UMP-9	2/23/05	4:44	X				X						X	
UMP-7	2/23/05	7:30	X				X						X	
UMP-4	2/24/05	10:24	X				X						X	
UMP-20	2/24/05	10:29	X				X						X	
UMP-17	2/24/05	12:52	X				X						X	
UMP-21	2/24/05	1:10	X				X						X	
UMP-23	2/24/05	3:45	X				X						X	
UMP-16	2/24/05	4:00	X				X						X	
UMP-19	2/24/05	6:04	X				X						X	
UMP-18	2/25/05	11:30	X				X						X	
UMP-18 Dup	2/25/05	11:30	X				X						X	
Trip Blank	2/25/05		X				X						X	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: Bradley Howard	2/25/05	4:00	1. Received By:	2/28/05	1030
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments:

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Earth Tech, Inc.

Client Sample ID: VMP-9

GC/MS Volatiles

Lot-Sample #...: E5C010338-001 Work Order #...: G5CKN1AA Matrix.....: AE
Date Sampled...: 02/23/05 04:44 Date Received..: 02/28/05
Prep Date.....: 03/04/05 Analysis Date..: 03/04/05
Prep Batch #...: 5066360 Analysis Time..: 23:00
Dilution Factor: 6.73
Analyst ID.....: 341569 Instrument ID..: MSE
Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	**0.59 J**	**1.3**	**ppb(v/v)**	**0.40**
Chloromethane	ND	2.7	ppb(v/v)	0.34
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.3	ppb(v/v)	0.61
Vinyl chloride	ND	1.3	ppb(v/v)	0.40
Bromomethane	ND	1.3	ppb(v/v)	0.61
Chloroethane	ND	2.7	ppb(v/v)	0.94
Trichlorofluoromethane	ND	2.7	ppb(v/v)	1.3
1,1-Dichloroethene	ND	1.3	ppb(v/v)	0.40
Carbon disulfide	ND	6.7	ppb(v/v)	0.94
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.7	ppb(v/v)	0.47
Acetone	**3.8 J**	**5.4**	**ppb(v/v)**	**1.3**
Methylene chloride	ND	1.3	ppb(v/v)	0.47
trans-1,2-Dichloroethene	**12**	**1.3**	**ppb(v/v)**	**0.47**
1,1-Dichloroethane	**9.8**	**1.3**	**ppb(v/v)**	**0.34**
Vinyl acetate	ND	6.7	ppb(v/v)	0.27
cis-1,2-Dichloroethene	**30**	**1.3**	**ppb(v/v)**	**0.34**
2-Butanone (MEK)	ND	6.7	ppb(v/v)	1.3
Chloroform	**0.48 J**	**1.3**	**ppb(v/v)**	**0.40**
1,1,1-Trichloroethane	**17**	**1.3**	**ppb(v/v)**	**0.54**
Carbon tetrachloride	ND	1.3	ppb(v/v)	0.34
Benzene	ND	1.3	ppb(v/v)	0.54
1,2-Dichloroethane	ND	1.3	ppb(v/v)	0.40
1,2-Dichloropropane	ND	1.3	ppb(v/v)	0.40
Bromodichloromethane	ND	1.3	ppb(v/v)	0.40
cis-1,3-Dichloropropene	ND	1.3	ppb(v/v)	0.40
4-Methyl-2-pentanone (MIBK)	ND	2.7	ppb(v/v)	0.61
Methyl tert-butyl ether (MTBE)	ND	6.7	ppb(v/v)	0.67
Toluene	ND	2.0	ppb(v/v)	0.61
trans-1,3-Dichloropropene	ND	1.3	ppb(v/v)	0.54
1,1,2-Trichloroethane	ND	1.3	ppb(v/v)	0.54
Tetrachloroethene	**2.0**	**1.3**	**ppb(v/v)**	**0.61**
2-Hexanone	ND	2.7	ppb(v/v)	1.3
Dibromochloromethane	ND	1.3	ppb(v/v)	0.54

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Earth Tech, Inc.

Client Sample ID: VMP-9

GC/MS Volatiles

Lot-Sample #...: E5C010338-001 Work Order #...: G5CKN1AA Matrix.....: AE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2-Dibromoethane (EDB)	ND	1.3	ppb(v/v)	0.40
Chlorobenzene	ND	1.3	ppb(v/v)	0.61
Ethylbenzene	ND	1.3	ppb(v/v)	0.47
m-Xylene & p-Xylene	ND	3.4	ppb(v/v)	1.3
o-Xylene	ND	1.3	ppb(v/v)	0.40
Styrene	ND	1.3	ppb(v/v)	0.40
Bromoform	ND	1.3	ppb(v/v)	0.47
1,1,2,2-Tetrachloroethane	ND	1.3	ppb(v/v)	0.54
Benzyl chloride	ND	2.7	ppb(v/v)	0.40
4-Ethyltoluene	ND	2.7	ppb(v/v)	0.47
1,3,5-Trimethylbenzene	ND	2.7	ppb(v/v)	0.61
1,2,4-Trimethylbenzene	ND	2.7	ppb(v/v)	0.54
1,3-Dichlorobenzene	ND	1.3	ppb(v/v)	0.54
1,4-Dichlorobenzene	ND	1.3	ppb(v/v)	0.40
1,2-Dichlorobenzene	ND	1.3	ppb(v/v)	0.47
1,2,4-Trichloro-benzene	ND	5.4	ppb(v/v)	2.2
Hexachlorobutadiene	ND	2.7	ppb(v/v)	1.7

NOTE(S):

J Estimated result. Result is less than RL.

Earth Tech, Inc.

Client Sample ID: VMP-9

GC/MS Volatiles

Lot-Sample #...:	E5C010338-001	Work Order #...:	G5CKN1AE	Matrix.....:	AE
Date Sampled...:	02/23/05 04:44	Date Received..:	02/28/05		
Prep Date.....:	03/07/05	Analysis Date..:	03/07/05		
Prep Batch #...:	5069188	Analysis Time..:	14:13		
Dilution Factor:	21.54				
Analyst ID.....:	101605	Instrument ID..:	MSA		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Trichloroethene	2100	43	ppb(v/v)	11

Earth Tech, Inc.

Client Sample ID: VMP-7

GC/MS Volatiles

Lot-Sample #...: E5C010338-002 Work Order #...: G5CKP1AA Matrix.....: AE
Date Sampled...: 02/23/05 07:30 Date Received..: 02/28/05
Prep Date.....: 03/04/05 Analysis Date..: 03/04/05
Prep Batch #...: 5066360 Analysis Time..: 23:39
Dilution Factor: 1.71
Analyst ID.....: 341569 Instrument ID..: MSE
Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	0.52	0.34	ppb(v/v)	0.10
Chloromethane	ND	0.68	ppb(v/v)	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.34	ppb(v/v)	0.15
Vinyl chloride	ND	0.34	ppb(v/v)	0.10
Bromomethane	ND	0.34	ppb(v/v)	0.15
Chloroethane	ND	0.68	ppb(v/v)	0.24
Trichlorofluoromethane	ND	0.68	ppb(v/v)	0.34
1,1-Dichloroethene	ND	0.34	ppb(v/v)	0.10
Carbon disulfide	ND	1.7	ppb(v/v)	0.24
1,1,2-Trichloro-1,2,2-trifluoroethane	0.60 J	0.68	ppb(v/v)	0.12
Acetone	3.1	1.4	ppb(v/v)	0.34
Methylene chloride	ND	0.34	ppb(v/v)	0.12
trans-1,2-Dichloroethene	0.15 J	0.34	ppb(v/v)	0.12
1,1-Dichloroethane	ND	0.34	ppb(v/v)	0.086
Vinyl acetate	ND	1.7	ppb(v/v)	0.068
cis-1,2-Dichloroethene	ND	0.34	ppb(v/v)	0.086
2-Butanone (MEK)	0.95 J	1.7	ppb(v/v)	0.34
Chloroform	0.11 J	0.34	ppb(v/v)	0.10
1,1,1-Trichloroethane	12	0.34	ppb(v/v)	0.14
Carbon tetrachloride	ND	0.34	ppb(v/v)	0.086
Benzene	ND	0.34	ppb(v/v)	0.14
1,2-Dichloroethane	ND	0.34	ppb(v/v)	0.10
1,2-Dichloropropane	ND	0.34	ppb(v/v)	0.10
Bromodichloromethane	ND	0.34	ppb(v/v)	0.10
cis-1,3-Dichloropropene	ND	0.34	ppb(v/v)	0.10
4-Methyl-2-pentanone (MIBK)	ND	0.68	ppb(v/v)	0.15
Methyl tert-butyl ether (MTBE)	ND	1.7	ppb(v/v)	0.17
Toluene	2.4	0.51	ppb(v/v)	0.15
trans-1,3-Dichloropropene	ND	0.34	ppb(v/v)	0.14
1,1,2-Trichloroethane	ND	0.34	ppb(v/v)	0.14
Tetrachloroethene	3.4	0.34	ppb(v/v)	0.15
2-Hexanone	ND	0.68	ppb(v/v)	0.34
Dibromochloromethane	ND	0.34	ppb(v/v)	0.14

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Earth Tech, Inc.

Client Sample ID: VMP-7

GC/MS Volatiles

Lot-Sample #...: E5C010338-002 Work Order #...: G5CKP1AA Matrix.....: AE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2-Dibromoethane (EDB)	ND	0.34	ppb(v/v)	0.10
Chlorobenzene	ND	0.34	ppb(v/v)	0.15
Ethylbenzene	ND	0.34	ppb(v/v)	0.12
m-Xylene & p-Xylene	ND	0.86	ppb(v/v)	0.34
o-Xylene	ND	0.34	ppb(v/v)	0.10
Styrene	ND	0.34	ppb(v/v)	0.10
Bromoform	ND	0.34	ppb(v/v)	0.12
1,1,2,2-Tetrachloroethane	ND	0.34	ppb(v/v)	0.14
Benzyl chloride	ND	0.68	ppb(v/v)	0.10
4-Ethyltoluene	ND	0.68	ppb(v/v)	0.12
1,3,5-Trimethylbenzene	ND	0.68	ppb(v/v)	0.15
1,2,4-Trimethylbenzene	ND	0.68	ppb(v/v)	0.14
1,3-Dichlorobenzene	ND	0.34	ppb(v/v)	0.14
1,4-Dichlorobenzene	0.14 J	0.34	ppb(v/v)	0.10
1,2-Dichlorobenzene	ND	0.34	ppb(v/v)	0.12
1,2,4-Trichloro-benzene	ND	1.4	ppb(v/v)	0.56
Hexachlorobutadiene	ND	0.68	ppb(v/v)	0.44

NOTE(S):

J Estimated result. Result is less than RL.

Earth Tech, Inc.

Client Sample ID: VMP-7

GC/MS Volatiles

Lot-Sample #...:	E5C010338-002	Work Order #...:	G5CKP1AE	Matrix.....:	AE
Date Sampled...:	02/23/05 07:30	Date Received..:	02/28/05		
Prep Date.....:	03/07/05	Analysis Date..:	03/07/05		
Prep Batch #...:	5069188	Analysis Time..:	15:17		
Dilution Factor:	3.43				
Analyst ID.....:	101605	Instrument ID..:	MSA		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Trichloroethene	360	6.9	ppb(v/v)	1.7

Earth Tech, Inc.

Client Sample ID: VMP-4

GC/MS Volatiles

Lot-Sample #...: E5C010338-003 Work Order #...: G5CKQ1AA Matrix.....: AE
Date Sampled...: 02/24/05 10:24 Date Received..: 02/28/05
Prep Date.....: 03/08/05 Analysis Date..: 03/08/05
Prep Batch #...: 5068339 Analysis Time..: 14:13
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSE
Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	0.46	0.20	ppb(v/v)	0.060
Chloromethane	0.083 J	0.40	ppb(v/v)	0.050
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	0.090
Vinyl chloride	ND	0.20	ppb(v/v)	0.060
Bromomethane	ND	0.20	ppb(v/v)	0.090
Chloroethane	ND	0.40	ppb(v/v)	0.14
Trichlorofluoromethane	0.20 J	0.40	ppb(v/v)	0.20
1,1-Dichloroethene	ND	0.20	ppb(v/v)	0.060
Carbon disulfide	ND	1.0	ppb(v/v)	0.14
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.40	ppb(v/v)	0.070
Acetone	2.5 B	0.80	ppb(v/v)	0.20
Methylene chloride	ND	0.20	ppb(v/v)	0.070
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.070
1,1-Dichloroethane	ND	0.20	ppb(v/v)	0.050
Vinyl acetate	ND	1.0	ppb(v/v)	0.040
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.050
2-Butanone (MEK)	0.69 J	1.0	ppb(v/v)	0.20
Chloroform	0.064 J	0.20	ppb(v/v)	0.060
1,1,1-Trichloroethane	0.40	0.20	ppb(v/v)	0.080
Carbon tetrachloride	ND	0.20	ppb(v/v)	0.050
Benzene	0.11 J	0.20	ppb(v/v)	0.080
1,2-Dichloroethane	ND	0.20	ppb(v/v)	0.060
Trichloroethene	0.82	0.20	ppb(v/v)	0.080
1,2-Dichloropropane	ND	0.20	ppb(v/v)	0.060
Bromodichloromethane	ND	0.20	ppb(v/v)	0.060
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.060
4-Methyl-2-pentanone (MIBK)	ND	0.40	ppb(v/v)	0.090
Methyl tert-butyl ether (MTBE)	ND	1.0	ppb(v/v)	0.10
Toluene	1.2	0.30	ppb(v/v)	0.090
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.080
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Tetrachloroethene	ND	0.20	ppb(v/v)	0.090
2-Hexanone	ND	0.40	ppb(v/v)	0.20

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Earth Tech, Inc.

Client Sample ID: VMP-4

GC/MS Volatiles

Lot-Sample #...: E5C010338-003 Work Order #...: G5CKQ1AA Matrix.....: AE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dibromochloromethane	ND	0.20	ppb(v/v)	0.080
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	0.060
Chlorobenzene	ND	0.20	ppb(v/v)	0.090
Ethylbenzene	ND	0.20	ppb(v/v)	0.070
m-Xylene & p-Xylene	ND	0.50	ppb(v/v)	0.20
o-Xylene	ND	0.20	ppb(v/v)	0.060
Styrene	ND	0.20	ppb(v/v)	0.060
Bromoform	ND	0.20	ppb(v/v)	0.070
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	0.080
Benzyl chloride	ND	0.40	ppb(v/v)	0.060
4-Ethyltoluene	ND	0.40	ppb(v/v)	0.070
1,3,5-Trimethylbenzene	ND	0.40	ppb(v/v)	0.090
1,2,4-Trimethylbenzene	**0.092 J**	**0.40**	**ppb(v/v)**	**0.080**
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	0.080
1,4-Dichlorobenzene	ND	0.20	ppb(v/v)	0.060
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	0.070
1,2,4-Trichloro-benzene	ND	0.80	ppb(v/v)	0.33
Hexachlorobutadiene	ND	0.40	ppb(v/v)	0.26

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Earth Tech, Inc.

Client Sample ID: VMP-20

GC/MS Volatiles

Lot-Sample #...: E5C010338-004 Work Order #...: G5CKR1AA Matrix.....: AE
Date Sampled...: 02/24/05 10:29 Date Received..: 02/28/05
Prep Date.....: 03/05/05 Analysis Date..: 03/05/05
Prep Batch #...: 5066360 Analysis Time..: 01:01
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSE
Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	**0.47**	**0.20**	**ppb(v/v)**	**0.060**
Chloromethane	**0.55**	**0.40**	**ppb(v/v)**	**0.050**
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	0.090
Vinyl chloride	ND	0.20	ppb(v/v)	0.060
Bromomethane	ND	0.20	ppb(v/v)	0.090
Chloroethane	ND	0.40	ppb(v/v)	0.14
Trichlorofluoromethane	ND	0.40	ppb(v/v)	0.20
1,1-Dichloroethene	ND	0.20	ppb(v/v)	0.060
Carbon disulfide	ND	1.0	ppb(v/v)	0.14
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.40	ppb(v/v)	0.070
Acetone	**1.2**	**0.80**	**ppb(v/v)**	**0.20**
Methylene chloride	ND	0.20	ppb(v/v)	0.070
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.070
1,1-Dichloroethane	ND	0.20	ppb(v/v)	0.050
Vinyl acetate	ND	1.0	ppb(v/v)	0.040
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.050
2-Butanone (MEK)	ND	1.0	ppb(v/v)	0.20
Chloroform	ND	0.20	ppb(v/v)	0.060
1,1,1-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Carbon tetrachloride	**0.078 J**	**0.20**	**ppb(v/v)**	**0.050**
Benzene	**0.14 J**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloroethane	ND	0.20	ppb(v/v)	0.060
Trichloroethene	ND	0.20	ppb(v/v)	0.080
1,2-Dichloropropane	ND	0.20	ppb(v/v)	0.060
Bromodichloromethane	ND	0.20	ppb(v/v)	0.060
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.060
4-Methyl-2-pentanone (MIBK)	ND	0.40	ppb(v/v)	0.090
Methyl tert-butyl ether (MTBE)	ND	1.0	ppb(v/v)	0.10
Toluene	**0.10 J**	**0.30**	**ppb(v/v)**	**0.090**
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.080
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Tetrachloroethene	ND	0.20	ppb(v/v)	0.090
2-Hexanone	ND	0.40	ppb(v/v)	0.20

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Earth Tech, Inc.

Client Sample ID: VMP-20

GC/MS Volatiles

Lot-Sample #...: E5C010338-004 Work Order #...: G5CKR1AA Matrix.....: AE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dibromochloromethane	ND	0.20	ppb(v/v)	0.080
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	0.060
Chlorobenzene	ND	0.20	ppb(v/v)	0.090
Ethylbenzene	ND	0.20	ppb(v/v)	0.070
m-Xylene & p-Xylene	ND	0.50	ppb(v/v)	0.20
o-Xylene	ND	0.20	ppb(v/v)	0.060
Styrene	ND	0.20	ppb(v/v)	0.060
Bromoform	ND	0.20	ppb(v/v)	0.070
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	0.080
Benzyl chloride	ND	0.40	ppb(v/v)	0.060
4-Ethyltoluene	ND	0.40	ppb(v/v)	0.070
1,3,5-Trimethylbenzene	ND	0.40	ppb(v/v)	0.090
1,2,4-Trimethylbenzene	ND	0.40	ppb(v/v)	0.080
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	0.080
1,4-Dichlorobenzene	ND	0.20	ppb(v/v)	0.060
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	0.070
1,2,4-Trichloro-benzene	ND	0.80	ppb(v/v)	0.33
Hexachlorobutadiene	ND	0.40	ppb(v/v)	0.26

NOTE(S):

J Estimated result. Result is less than RL.

Earth Tech, Inc.

Client Sample ID: VMP-17

GC/MS Volatiles

Lot-Sample #...:	E5C010338-005	Work Order #...:	G5CKT1AA	Matrix.....:	AE
Date Sampled...:	02/24/05 12:52	Date Received..:	02/28/05		
Prep Date.....:	03/08/05	Analysis Date..:	03/08/05		
Prep Batch #...:	5068339	Analysis Time..:	14:54		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSE		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	**0.44**	**0.20**	**ppb(v/v)**	**0.060**
Chloromethane	**0.29 J**	**0.40**	**ppb(v/v)**	**0.050**
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	0.090
Vinyl chloride	ND	0.20	ppb(v/v)	0.060
Bromomethane	ND	0.20	ppb(v/v)	0.090
Chloroethane	ND	0.40	ppb(v/v)	0.14
Trichlorofluoromethane	ND	0.40	ppb(v/v)	0.20
1,1-Dichloroethene	ND	0.20	ppb(v/v)	0.060
Carbon disulfide	ND	1.0	ppb(v/v)	0.14
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.40	ppb(v/v)	0.070
Acetone	**2.3 B**	**0.80**	**ppb(v/v)**	**0.20**
Methylene chloride	**0.094 J**	**0.20**	**ppb(v/v)**	**0.070**
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.070
1,1-Dichloroethane	ND	0.20	ppb(v/v)	0.050
Vinyl acetate	ND	1.0	ppb(v/v)	0.040
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.050
2-Butanone (MEK)	**0.67 J**	**1.0**	**ppb(v/v)**	**0.20**
Chloroform	ND	0.20	ppb(v/v)	0.060
1,1,1-Trichloroethane	**1.6**	**0.20**	**ppb(v/v)**	**0.080**
Carbon tetrachloride	ND	0.20	ppb(v/v)	0.050
Benzene	**0.60**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloroethane	ND	0.20	ppb(v/v)	0.060
Trichloroethene	**11**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloropropane	ND	0.20	ppb(v/v)	0.060
Bromodichloromethane	ND	0.20	ppb(v/v)	0.060
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.060
4-Methyl-2-pentanone (MIBK)	ND	0.40	ppb(v/v)	0.090
Methyl tert-butyl ether (MTBE)	ND	1.0	ppb(v/v)	0.10
Toluene	**18**	**0.30**	**ppb(v/v)**	**0.090**
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.080
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Tetrachloroethene	**0.35**	**0.20**	**ppb(v/v)**	**0.090**
2-Hexanone	ND	0.40	ppb(v/v)	0.20

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Earth Tech, Inc.

Client Sample ID: VMP-17

GC/MS Volatiles

Lot-Sample #...: E5C010338-005 Work Order #...: G5CKT1AA Matrix.....: AE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dibromochloromethane	ND	0.20	ppb(v/v)	0.080
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	0.060
Chlorobenzene	ND	0.20	ppb(v/v)	0.090
Ethylbenzene	**1.0**	**0.20**	**ppb(v/v)**	**0.070**
m-Xylene & p-Xylene	**3.6**	**0.50**	**ppb(v/v)**	**0.20**
o-Xylene	**0.62**	**0.20**	**ppb(v/v)**	**0.060**
Styrene	ND	0.20	ppb(v/v)	0.060
Bromoform	ND	0.20	ppb(v/v)	0.070
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	0.080
Benzyl chloride	ND	0.40	ppb(v/v)	0.060
4-Ethyltoluene	**0.44**	**0.40**	**ppb(v/v)**	**0.070**
1,3,5-Trimethylbenzene	**0.11 J**	**0.40**	**ppb(v/v)**	**0.090**
1,2,4-Trimethylbenzene	**0.38 J**	**0.40**	**ppb(v/v)**	**0.080**
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	0.080
1,4-Dichlorobenzene	ND	0.20	ppb(v/v)	0.060
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	0.070
1,2,4-Trichloro-benzene	ND	0.80	ppb(v/v)	0.33
Hexachlorobutadiene	ND	0.40	ppb(v/v)	0.26

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Earth Tech, Inc.

Client Sample ID: VMP-21

GC/MS Volatiles

Lot-Sample #...: E5C010338-006 Work Order #...: G5CKW1AA Matrix.....: AE
Date Sampled...: 02/24/05 13:10 Date Received..: 02/28/05
Prep Date.....: 03/05/05 Analysis Date..: 03/05/05
Prep Batch #...: 5066360 Analysis Time..: 02:22
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSE
Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	**0.60**	**0.20**	**ppb(v/v)**	**0.060**
Chloromethane	**0.11 J**	**0.40**	**ppb(v/v)**	**0.050**
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	0.090
Vinyl chloride	ND	0.20	ppb(v/v)	0.060
Bromomethane	ND	0.20	ppb(v/v)	0.090
Chloroethane	ND	0.40	ppb(v/v)	0.14
Trichlorofluoromethane	**0.23 J**	**0.40**	**ppb(v/v)**	**0.20**
1,1-Dichloroethene	ND	0.20	ppb(v/v)	0.060
Carbon disulfide	ND	1.0	ppb(v/v)	0.14
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.40	ppb(v/v)	0.070
Acetone	**2.6**	**0.80**	**ppb(v/v)**	**0.20**
Methylene chloride	**0.090 J**	**0.20**	**ppb(v/v)**	**0.070**
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.070
1,1-Dichloroethane	ND	0.20	ppb(v/v)	0.050
Vinyl acetate	ND	1.0	ppb(v/v)	0.040
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.050
2-Butanone (MEK)	**0.98 J**	**1.0**	**ppb(v/v)**	**0.20**
Chloroform	ND	0.20	ppb(v/v)	0.060
1,1,1-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Carbon tetrachloride	ND	0.20	ppb(v/v)	0.050
Benzene	**0.35**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloroethane	ND	0.20	ppb(v/v)	0.060
Trichloroethene	**0.33**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloropropane	ND	0.20	ppb(v/v)	0.060
Bromodichloromethane	ND	0.20	ppb(v/v)	0.060
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.060
4-Methyl-2-pentanone (MIBK)	ND	0.40	ppb(v/v)	0.090
Methyl tert-butyl ether (MTBE)	ND	1.0	ppb(v/v)	0.10
Toluene	**8.5**	**0.30**	**ppb(v/v)**	**0.090**
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.080
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Tetrachloroethene	**0.14 J**	**0.20**	**ppb(v/v)**	**0.090**
2-Hexanone	ND	0.40	ppb(v/v)	0.20

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Earth Tech, Inc.

Client Sample ID: VMP-21

GC/MS Volatiles

Lot-Sample #...: E5C010338-006 Work Order #...: G5CKW1AA Matrix.....: AE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dibromochloromethane	ND	0.20	ppb(v/v)	0.080
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	0.060
Chlorobenzene	ND	0.20	ppb(v/v)	0.090
Ethylbenzene	**0.63**	**0.20**	**ppb(v/v)**	**0.070**
m-Xylene & p-Xylene	**1.7**	**0.50**	**ppb(v/v)**	**0.20**
o-Xylene	**0.39**	**0.20**	**ppb(v/v)**	**0.060**
Styrene	ND	0.20	ppb(v/v)	0.060
Bromoform	ND	0.20	ppb(v/v)	0.070
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	0.080
Benzyl chloride	ND	0.40	ppb(v/v)	0.060
4-Ethyltoluene	**0.32 J**	**0.40**	**ppb(v/v)**	**0.070**
1,3,5-Trimethylbenzene	**0.11 J**	**0.40**	**ppb(v/v)**	**0.090**
1,2,4-Trimethylbenzene	**0.40**	**0.40**	**ppb(v/v)**	**0.080**
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	0.080
1,4-Dichlorobenzene	ND	0.20	ppb(v/v)	0.060
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	0.070
1,2,4-Trichloro-benzene	ND	0.80	ppb(v/v)	0.33
Hexachlorobutadiene	ND	0.40	ppb(v/v)	0.26

NOTE(S):

J Estimated result. Result is less than RL.

Earth Tech, Inc.

Client Sample ID: VMP-23

GC/MS Volatiles

Lot-Sample #...: E5C010338-007 Work Order #...: G5CKX1AA Matrix.....: AE
Date Sampled...: 02/24/05 15:45 Date Received..: 02/28/05
Prep Date.....: 03/05/05 Analysis Date..: 03/05/05
Prep Batch #...: 5066360 Analysis Time..: 03:03
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSE
Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	**0.46**	**0.20**	**ppb(v/v)**	**0.060**
Chloromethane	**0.24 J**	**0.40**	**ppb(v/v)**	**0.050**
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	0.090
Vinyl chloride	ND	0.20	ppb(v/v)	0.060
Bromomethane	ND	0.20	ppb(v/v)	0.090
Chloroethane	ND	0.40	ppb(v/v)	0.14
Trichlorofluoromethane	ND	0.40	ppb(v/v)	0.20
1,1-Dichloroethene	ND	0.20	ppb(v/v)	0.060
Carbon disulfide	**0.32 J**	**1.0**	**ppb(v/v)**	**0.14**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.40	ppb(v/v)	0.070
Acetone	**4.4**	**0.80**	**ppb(v/v)**	**0.20**
Methylene chloride	**0.087 J**	**0.20**	**ppb(v/v)**	**0.070**
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.070
1,1-Dichloroethane	ND	0.20	ppb(v/v)	0.050
Vinyl acetate	ND	1.0	ppb(v/v)	0.040
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.050
2-Butanone (MEK)	**1.3**	**1.0**	**ppb(v/v)**	**0.20**
Chloroform	ND	0.20	ppb(v/v)	0.060
1,1,1-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Carbon tetrachloride	ND	0.20	ppb(v/v)	0.050
Benzene	**0.41**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloroethane	ND	0.20	ppb(v/v)	0.060
Trichloroethene	**0.25**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloropropane	ND	0.20	ppb(v/v)	0.060
Bromodichloromethane	ND	0.20	ppb(v/v)	0.060
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.060
4-Methyl-2-pentanone (MIBK)	ND	0.40	ppb(v/v)	0.090
Methyl tert-butyl ether (MTBE)	ND	1.0	ppb(v/v)	0.10
Toluene	**6.8**	**0.30**	**ppb(v/v)**	**0.090**
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.080
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Tetrachloroethene	ND	0.20	ppb(v/v)	0.090
2-Hexanone	ND	0.40	ppb(v/v)	0.20

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Earth Tech, Inc.

Client Sample ID: VMP-23

GC/MS Volatiles

Lot-Sample #...: E5C010338-007 Work Order #...: G5CKX1AA Matrix.....: AE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dibromochloromethane	ND	0.20	ppb(v/v)	0.080
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	0.060
Chlorobenzene	ND	0.20	ppb(v/v)	0.090
Ethylbenzene	**0.48**	**0.20**	**ppb(v/v)**	**0.070**
m-Xylene & p-Xylene	**1.3**	**0.50**	**ppb(v/v)**	**0.20**
o-Xylene	**0.33**	**0.20**	**ppb(v/v)**	**0.060**
Styrene	ND	0.20	ppb(v/v)	0.060
Bromoform	ND	0.20	ppb(v/v)	0.070
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	0.080
Benzyl chloride	ND	0.40	ppb(v/v)	0.060
4-Ethyltoluene	**0.26 J**	**0.40**	**ppb(v/v)**	**0.070**
1,3,5-Trimethylbenzene	ND	0.40	ppb(v/v)	0.090
1,2,4-Trimethylbenzene	**0.27 J**	**0.40**	**ppb(v/v)**	**0.080**
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	0.080
1,4-Dichlorobenzene	ND	0.20	ppb(v/v)	0.060
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	0.070
1,2,4-Trichloro-benzene	ND	0.80	ppb(v/v)	0.33
Hexachlorobutadiene	ND	0.40	ppb(v/v)	0.26

NOTE(S):

J Estimated result. Result is less than RL.

Earth Tech, Inc.

Client Sample ID: VMP-16

GC/MS Volatiles

Lot-Sample #...: E5C010338-008 Work Order #...: G5CK01AA Matrix.....: AE
Date Sampled...: 02/24/05 16:00 Date Received..: 02/28/05
Prep Date.....: 03/08/05 Analysis Date..: 03/08/05
Prep Batch #...: 5068339 Analysis Time..: 15:35
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSE
Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	0.46	0.20	ppb(v/v)	0.060
Chloromethane	0.26 J	0.40	ppb(v/v)	0.050
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	0.090
Vinyl chloride	ND	0.20	ppb(v/v)	0.060
Bromomethane	ND	0.20	ppb(v/v)	0.090
Chloroethane	ND	0.40	ppb(v/v)	0.14
Trichlorofluoromethane	ND	0.40	ppb(v/v)	0.20
1,1-Dichloroethene	ND	0.20	ppb(v/v)	0.060
Carbon disulfide	ND	1.0	ppb(v/v)	0.14
1,1,2-Trichloro-1,2,2-trifluoroethane	0.092 J	0.40	ppb(v/v)	0.070
Acetone	9.6 B	0.80	ppb(v/v)	0.20
Methylene chloride	0.084 J	0.20	ppb(v/v)	0.070
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.070
1,1-Dichloroethane	ND	0.20	ppb(v/v)	0.050
Vinyl acetate	ND	1.0	ppb(v/v)	0.040
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.050
2-Butanone (MEK)	3.3	1.0	ppb(v/v)	0.20
Chloroform	ND	0.20	ppb(v/v)	0.060
1,1,1-Trichloroethane	0.85	0.20	ppb(v/v)	0.080
Carbon tetrachloride	ND	0.20	ppb(v/v)	0.050
Benzene	0.43	0.20	ppb(v/v)	0.080
1,2-Dichloroethane	ND	0.20	ppb(v/v)	0.060
Trichloroethene	20	0.20	ppb(v/v)	0.080
1,2-Dichloropropane	ND	0.20	ppb(v/v)	0.060
Bromodichloromethane	ND	0.20	ppb(v/v)	0.060
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.060
4-Methyl-2-pentanone (MIBK)	ND	0.40	ppb(v/v)	0.090
Methyl tert-butyl ether (MTBE)	ND	1.0	ppb(v/v)	0.10
Toluene	10	0.30	ppb(v/v)	0.090
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.080
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Tetrachloroethene	0.16 J	0.20	ppb(v/v)	0.090
2-Hexanone	ND	0.40	ppb(v/v)	0.20

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Earth Tech, Inc.

Client Sample ID: VMP-16

GC/MS Volatiles

Lot-Sample #...: E5C010338-008 Work Order #...: G5CK01AA Matrix.....: AE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dibromochloromethane	ND	0.20	ppb(v/v)	0.080
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	0.060
Chlorobenzene	ND	0.20	ppb(v/v)	0.090
Ethylbenzene	0.55	0.20	ppb(v/v)	0.070
m-Xylene & p-Xylene	1.7	0.50	ppb(v/v)	0.20
o-Xylene	0.39	0.20	ppb(v/v)	0.060
Styrene	ND	0.20	ppb(v/v)	0.060
Bromoform	ND	0.20	ppb(v/v)	0.070
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	0.080
Benzyl chloride	ND	0.40	ppb(v/v)	0.060
4-Ethyltoluene	0.25 J	0.40	ppb(v/v)	0.070
1,3,5-Trimethylbenzene	ND	0.40	ppb(v/v)	0.090
1,2,4-Trimethylbenzene	0.27 J	0.40	ppb(v/v)	0.080
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	0.080
1,4-Dichlorobenzene	ND	0.20	ppb(v/v)	0.060
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	0.070
1,2,4-Trichloro-benzene	ND	0.80	ppb(v/v)	0.33
Hexachlorobutadiene	ND	0.40	ppb(v/v)	0.26

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Earth Tech, Inc.

Client Sample ID: VMP-19

GC/MS Volatiles

Lot-Sample #...: E5C010338-009 Work Order #...: G5CK11AA Matrix.....: AE
Date Sampled...: 02/24/05 18:04 Date Received..: 02/28/05
Prep Date.....: 03/08/05 Analysis Date..: 03/08/05
Prep Batch #...: 5068339 Analysis Time..: 16:16
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSE
Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	**0.50**	**0.20**	**ppb(v/v)**	**0.060**
Chloromethane	**0.068 J**	**0.40**	**ppb(v/v)**	**0.050**
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	0.090
Vinyl chloride	ND	0.20	ppb(v/v)	0.060
Bromomethane	ND	0.20	ppb(v/v)	0.090
Chloroethane	ND	0.40	ppb(v/v)	0.14
Trichlorofluoromethane	ND	0.40	ppb(v/v)	0.20
1,1-Dichloroethene	ND	0.20	ppb(v/v)	0.060
Carbon disulfide	**0.91 J**	**1.0**	**ppb(v/v)**	**0.14**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.40	ppb(v/v)	0.070
Acetone	**7.4 B**	**0.80**	**ppb(v/v)**	**0.20**
Methylene chloride	**0.071 J**	**0.20**	**ppb(v/v)**	**0.070**
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.070
1,1-Dichloroethane	ND	0.20	ppb(v/v)	0.050
Vinyl acetate	ND	1.0	ppb(v/v)	0.040
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.050
2-Butanone (MEK)	**0.64 J**	**1.0**	**ppb(v/v)**	**0.20**
Chloroform	ND	0.20	ppb(v/v)	0.060
1,1,1-Trichloroethane	**0.99**	**0.20**	**ppb(v/v)**	**0.080**
Carbon tetrachloride	ND	0.20	ppb(v/v)	0.050
Benzene	**0.87**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloroethane	ND	0.20	ppb(v/v)	0.060
Trichloroethene	**1.2**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloropropane	ND	0.20	ppb(v/v)	0.060
Bromodichloromethane	ND	0.20	ppb(v/v)	0.060
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.060
4-Methyl-2-pentanone (MIBK)	ND	0.40	ppb(v/v)	0.090
Methyl tert-butyl ether (MTBE)	ND	1.0	ppb(v/v)	0.10
Toluene	**8.9**	**0.30**	**ppb(v/v)**	**0.090**
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.080
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Tetrachloroethene	**0.20**	**0.20**	**ppb(v/v)**	**0.090**
2-Hexanone	ND	0.40	ppb(v/v)	0.20

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Earth Tech, Inc.

Client Sample ID: VMP-19

GC/MS Volatiles

Lot-Sample #...: E5C010338-009 Work Order #...: G5CK11AA Matrix.....: AE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dibromochloromethane	ND	0.20	ppb(v/v)	0.080
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	0.060
Chlorobenzene	ND	0.20	ppb(v/v)	0.090
Ethylbenzene	0.82	0.20	ppb(v/v)	0.070
m-Xylene & p-Xylene	2.6	0.50	ppb(v/v)	0.20
o-Xylene	0.55	0.20	ppb(v/v)	0.060
Styrene	0.20 JA	0.20	ppb(v/v)	0.060
Bromoform	ND	0.20	ppb(v/v)	0.070
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	0.080
Benzyl chloride	ND	0.40	ppb(v/v)	0.060
4-Ethyltoluene	0.49	0.40	ppb(v/v)	0.070
1,3,5-Trimethylbenzene	0.19 J	0.40	ppb(v/v)	0.090
1,2,4-Trimethylbenzene	0.83	0.40	ppb(v/v)	0.080
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	0.080
1,4-Dichlorobenzene	0.096 J	0.20	ppb(v/v)	0.060
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	0.070
1,2,4-Trichloro-benzene	ND	0.80	ppb(v/v)	0.33
Hexachlorobutadiene	ND	0.40	ppb(v/v)	0.26

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

JA The analyte was positively identified, but the quantitation is an estimate.

Earth Tech, Inc.

Client Sample ID: VMP-18

GC/MS Volatiles

Lot-Sample #...: E5C010338-010 Work Order #...: G5CK21AA Matrix.....: AE
Date Sampled...: 02/25/05 11:30 Date Received..: 02/28/05
Prep Date.....: 03/08/05 Analysis Date..: 03/08/05
Prep Batch #...: 5068339 Analysis Time..: 16:57
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSE
Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	**0.45**	**0.20**	**ppb(v/v)**	**0.060**
Chloromethane	ND	0.40	ppb(v/v)	0.050
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	0.090
Vinyl chloride	ND	0.20	ppb(v/v)	0.060
Bromomethane	ND	0.20	ppb(v/v)	0.090
Chloroethane	ND	0.40	ppb(v/v)	0.14
Trichlorofluoromethane	ND	0.40	ppb(v/v)	0.20
1,1-Dichloroethene	ND	0.20	ppb(v/v)	0.060
Carbon disulfide	**0.34 J**	**1.0**	**ppb(v/v)**	**0.14**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.40	ppb(v/v)	0.070
Acetone	**1.2 B**	**0.80**	**ppb(v/v)**	**0.20**
Methylene chloride	**0.25**	**0.20**	**ppb(v/v)**	**0.070**
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.070
1,1-Dichloroethane	ND	0.20	ppb(v/v)	0.050
Vinyl acetate	ND	1.0	ppb(v/v)	0.040
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.050
2-Butanone (MEK)	ND	1.0	ppb(v/v)	0.20
Chloroform	ND	0.20	ppb(v/v)	0.060
1,1,1-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Carbon tetrachloride	**0.063 J**	**0.20**	**ppb(v/v)**	**0.050**
Benzene	**0.46**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloroethane	ND	0.20	ppb(v/v)	0.060
Trichloroethene	**0.63**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloropropane	ND	0.20	ppb(v/v)	0.060
Bromodichloromethane	ND	0.20	ppb(v/v)	0.060
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.060
4-Methyl-2-pentanone (MIBK)	ND	0.40	ppb(v/v)	0.090
Methyl tert-butyl ether (MTBE)	ND	1.0	ppb(v/v)	0.10
Toluene	**8.3**	**0.30**	**ppb(v/v)**	**0.090**
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.080
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Tetrachloroethene	**0.15 J**	**0.20**	**ppb(v/v)**	**0.090**
2-Hexanone	ND	0.40	ppb(v/v)	0.20

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Earth Tech, Inc.

Client Sample ID: VMP-18

GC/MS Volatiles

Lot-Sample #...: E5C010338-010 Work Order #...: G5CK21AA Matrix.....: AE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dibromochloromethane	ND	0.20	ppb(v/v)	0.080
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	0.060
Chlorobenzene	ND	0.20	ppb(v/v)	0.090
Ethylbenzene	0.44	0.20	ppb(v/v)	0.070
m-Xylene & p-Xylene	1.5	0.50	ppb(v/v)	0.20
o-Xylene	0.29	0.20	ppb(v/v)	0.060
Styrene	ND	0.20	ppb(v/v)	0.060
Bromoform	ND	0.20	ppb(v/v)	0.070
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	0.080
Benzyl chloride	ND	0.40	ppb(v/v)	0.060
4-Ethyltoluene	0.32 J	0.40	ppb(v/v)	0.070
1,3,5-Trimethylbenzene	ND	0.40	ppb(v/v)	0.090
1,2,4-Trimethylbenzene	0.29 J	0.40	ppb(v/v)	0.080
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	0.080
1,4-Dichlorobenzene	ND	0.20	ppb(v/v)	0.060
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	0.070
1,2,4-Trichloro-benzene	ND	0.80	ppb(v/v)	0.33
Hexachlorobutadiene	ND	0.40	ppb(v/v)	0.26

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Earth Tech, Inc.

Client Sample ID: VMP-18 DUP

GC/MS Volatiles

Lot-Sample #...: E5C010338-011 Work Order #...: G5CK31AA Matrix.....: AE
Date Sampled...: 02/25/05 11:30 Date Received..: 02/28/05
Prep Date.....: 03/08/05 Analysis Date..: 03/08/05
Prep Batch #...: 5068339 Analysis Time..: 17:38
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSE
Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	**0.48**	**0.20**	**ppb(v/v)**	**0.060**
Chloromethane	ND	0.40	ppb(v/v)	0.050
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	0.090
Vinyl chloride	ND	0.20	ppb(v/v)	0.060
Bromomethane	ND	0.20	ppb(v/v)	0.090
Chloroethane	ND	0.40	ppb(v/v)	0.14
Trichlorofluoromethane	**0.20 J**	**0.40**	**ppb(v/v)**	**0.20**
1,1-Dichloroethene	ND	0.20	ppb(v/v)	0.060
Carbon disulfide	**0.29 J**	**1.0**	**ppb(v/v)**	**0.14**
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.40	ppb(v/v)	0.070
Acetone	**0.85 B**	**0.80**	**ppb(v/v)**	**0.20**
Methylene chloride	**0.077 J**	**0.20**	**ppb(v/v)**	**0.070**
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.070
1,1-Dichloroethane	ND	0.20	ppb(v/v)	0.050
Vinyl acetate	ND	1.0	ppb(v/v)	0.040
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.050
2-Butanone (MEK)	**0.46 J**	**1.0**	**ppb(v/v)**	**0.20**
Chloroform	ND	0.20	ppb(v/v)	0.060
1,1,1-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Carbon tetrachloride	**0.067 J**	**0.20**	**ppb(v/v)**	**0.050**
Benzene	**0.29**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloroethane	ND	0.20	ppb(v/v)	0.060
Trichloroethene	**0.43**	**0.20**	**ppb(v/v)**	**0.080**
1,2-Dichloropropane	ND	0.20	ppb(v/v)	0.060
Bromodichloromethane	ND	0.20	ppb(v/v)	0.060
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.060
4-Methyl-2-pentanone (MIBK)	ND	0.40	ppb(v/v)	0.090
Methyl tert-butyl ether (MTBE)	ND	1.0	ppb(v/v)	0.10
Toluene	**7.5**	**0.30**	**ppb(v/v)**	**0.090**
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.080
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Tetrachloroethene	**0.26**	**0.20**	**ppb(v/v)**	**0.090**
2-Hexanone	ND	0.40	ppb(v/v)	0.20

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Earth Tech, Inc.

Client Sample ID: VMP-18 DUP

GC/MS Volatiles

Lot-Sample #...: E5C010338-011 Work Order #...: G5CK31AA Matrix.....: AE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dibromochloromethane	ND	0.20	ppb(v/v)	0.080
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	0.060
Chlorobenzene	ND	0.20	ppb(v/v)	0.090
Ethylbenzene	**0.78**	**0.20**	**ppb(v/v)**	**0.070**
m-Xylene & p-Xylene	**3.4**	**0.50**	**ppb(v/v)**	**0.20**
o-Xylene	**0.64**	**0.20**	**ppb(v/v)**	**0.060**
Styrene	**0.14 J,JA**	**0.20**	**ppb(v/v)**	**0.060**
Bromoform	ND	0.20	ppb(v/v)	0.070
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	0.080
Benzyl chloride	ND	0.40	ppb(v/v)	0.060
4-Ethyltoluene	**0.67**	**0.40**	**ppb(v/v)**	**0.070**
1,3,5-Trimethylbenzene	**0.17 J**	**0.40**	**ppb(v/v)**	**0.090**
1,2,4-Trimethylbenzene	**0.80**	**0.40**	**ppb(v/v)**	**0.080**
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	0.080
1,4-Dichlorobenzene	ND	0.20	ppb(v/v)	0.060
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	0.070
1,2,4-Trichloro-benzene	ND	0.80	ppb(v/v)	0.33
Hexachlorobutadiene	ND	0.40	ppb(v/v)	0.26

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

JA The analyte was positively identified, but the quantitation is an estimate.

Earth Tech, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...:	E5C010338-012	**Work Order #...:**	G5CK41AA	**Matrix.....:**	AE
Date Sampled...:	02/25/05	**Date Received..:**	02/28/05		
Prep Date.....:	03/08/05	**Analysis Date..:**	03/08/05		
Prep Batch #...:	5068339	**Analysis Time..:**	18:18		
Dilution Factor:	1				
Analyst ID.....:	341569	**Instrument ID..:**	MSE		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	ND	0.20	ppb(v/v)	0.060
Chloromethane	ND	0.40	ppb(v/v)	0.050
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	0.090
Vinyl chloride	ND	0.20	ppb(v/v)	0.060
Bromomethane	ND	0.20	ppb(v/v)	0.090
Chloroethane	ND	0.40	ppb(v/v)	0.14
Trichlorofluoromethane	ND	0.40	ppb(v/v)	0.20
1,1-Dichloroethene	ND	0.20	ppb(v/v)	0.060
Carbon disulfide	ND	1.0	ppb(v/v)	0.14
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.40	ppb(v/v)	0.070
Acetone	ND	0.80	ppb(v/v)	0.20
Methylene chloride	ND	0.20	ppb(v/v)	0.070
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.070
1,1-Dichloroethane	ND	0.20	ppb(v/v)	0.050
Vinyl acetate	ND	1.0	ppb(v/v)	0.040
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	0.050
2-Butanone (MEK)	ND	1.0	ppb(v/v)	0.20
Chloroform	ND	0.20	ppb(v/v)	0.060
1,1,1-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Carbon tetrachloride	ND	0.20	ppb(v/v)	0.050
Benzene	ND	0.20	ppb(v/v)	0.080
1,2-Dichloroethane	ND	0.20	ppb(v/v)	0.060
Trichloroethene	ND	0.20	ppb(v/v)	0.080
1,2-Dichloropropane	ND	0.20	ppb(v/v)	0.060
Bromodichloromethane	ND	0.20	ppb(v/v)	0.060
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.060
4-Methyl-2-pentanone (MIBK)	ND	0.40	ppb(v/v)	0.090
Methyl tert-butyl ether (MTBE)	ND	1.0	ppb(v/v)	0.10
Toluene	ND	0.30	ppb(v/v)	0.090
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	0.080
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	0.080
Tetrachloroethene	ND	0.20	ppb(v/v)	0.090
2-Hexanone	ND	0.40	ppb(v/v)	0.20

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Earth Tech, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: E5C010338-012 Work Order #...: G5CK41AA Matrix.....: AE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dibromochloromethane	ND	0.20	ppb(v/v)	0.080
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	0.060
Chlorobenzene	ND	0.20	ppb(v/v)	0.090
Ethylbenzene	ND	0.20	ppb(v/v)	0.070
m-Xylene & p-Xylene	ND	0.50	ppb(v/v)	0.20
o-Xylene	ND	0.20	ppb(v/v)	0.060
Styrene	ND	0.20	ppb(v/v)	0.060
Bromoform	ND	0.20	ppb(v/v)	0.070
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	0.080
Benzyl chloride	ND	0.40	ppb(v/v)	0.060
4-Ethyltoluene	ND	0.40	ppb(v/v)	0.070
1,3,5-Trimethylbenzene	ND	0.40	ppb(v/v)	0.090
1,2,4-Trimethylbenzene	ND	0.40	ppb(v/v)	0.080
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	0.080
1,4-Dichlorobenzene	ND	0.20	ppb(v/v)	0.060
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	0.070
1,2,4-Trichloro-benzene	ND	0.80	ppb(v/v)	0.33
Hexachlorobutadiene	ND	0.40	ppb(v/v)	0.26

SEVERN TRENT STL

QA/QC

QC DATA ASSOCIATION SUMMARY

E5C010338

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	AE	EPA-2 TO-15		5069188	
	AE	EPA-2 TO-15		5066360	
002	AE	EPA-2 TO-15		5069188	
	AE	EPA-2 TO-15		5066360	
003	AE	EPA-2 TO-15		5068339	
004	AE	EPA-2 TO-15		5066360	
005	AE	EPA-2 TO-15		5068339	
006	AE	EPA-2 TO-15		5066360	
007	AE	EPA-2 TO-15		5066360	
008	AE	EPA-2 TO-15		5068339	
009	AE	EPA-2 TO-15		5068339	
010	AE	EPA-2 TO-15		5068339	
011	AE	EPA-2 TO-15		5068339	
012	AE	EPA-2 TO-15		5068339	

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E5C010338
MB Lot-Sample #: M5C070000-360

Analysis Date..: 03/04/05
Dilution Factor: 1

Work Order #...: G5NWJ1AA

Prep Date.....: 03/04/05
Prep Batch #...: 5066360

Analyst ID.....: 341569

Matrix.....: AIR

Analysis Time..: 11:15
Instrument ID..: MSE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Dichlorodifluoromethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chloromethane	ND	0.40	ppb(v/v)	EPA-2 TO-15
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Vinyl chloride	ND	0.20	ppb(v/v)	EPA-2 TO-15
Bromomethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chloroethane	ND	0.40	ppb(v/v)	EPA-2 TO-15
Trichlorofluoromethane	ND	0.40	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Carbon disulfide	ND	1.0	ppb(v/v)	EPA-2 TO-15
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.40	ppb(v/v)	EPA-2 TO-15
Acetone	ND	0.80	ppb(v/v)	EPA-2 TO-15
Methylene chloride	ND	0.20	ppb(v/v)	EPA-2 TO-15
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Vinyl acetate	ND	1.0	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
2-Butanone (MEK)	ND	1.0	ppb(v/v)	EPA-2 TO-15
Chloroform	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Carbon tetrachloride	ND	0.20	ppb(v/v)	EPA-2 TO-15
Benzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Trichloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2-Dichloropropane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Bromodichloromethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	EPA-2 TO-15
4-Methyl-2-pentanone (MIBK)	ND	0.40	ppb(v/v)	EPA-2 TO-15
Methyl tert-butyl ether (MTBE)	ND	1.0	ppb(v/v)	EPA-2 TO-15
Toluene	ND	0.30	ppb(v/v)	EPA-2 TO-15
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
2-Hexanone	ND	0.40	ppb(v/v)	EPA-2 TO-15
Dibromochloromethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chlorobenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E5C010338 Work Order #...: G5NWJ1AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Ethylbenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
m-Xylene & p-Xylene	ND	0.50	ppb(v/v)	EPA-2 TO-15
o-Xylene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Styrene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Bromoform	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Benzyl chloride	ND	0.40	ppb(v/v)	EPA-2 TO-15
4-Ethyltoluene	ND	0.40	ppb(v/v)	EPA-2 TO-15
1,3,5-Trimethylbenzene	ND	0.40	ppb(v/v)	EPA-2 TO-15
1,2,4-Trimethylbenzene	ND	0.40	ppb(v/v)	EPA-2 TO-15
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,4-Dichlorobenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2,4-Trichloro-benzene	ND	0.80	ppb(v/v)	EPA-2 TO-15
Hexachlorobutadiene	ND	0.40	ppb(v/v)	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E5C010338
MB Lot-Sample #: M5C090000-339

Work Order #...: G5T691AA
Prep Date.....: 03/08/05
Prep Batch #...: 5068339
Analyst ID.....: 341569

Matrix.....: AIR
Analysis Time..: 13:32
Instrument ID..: MSE

Analysis Date..: 03/08/05
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Dichlorodifluoromethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chloromethane	ND	0.40	ppb(v/v)	EPA-2 TO-15
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Vinyl chloride	ND	0.20	ppb(v/v)	EPA-2 TO-15
Bromomethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chloroethane	ND	0.40	ppb(v/v)	EPA-2 TO-15
Trichlorofluoromethane	ND	0.40	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Carbon disulfide	ND	1.0	ppb(v/v)	EPA-2 TO-15
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.40	ppb(v/v)	EPA-2 TO-15
Acetone	0.21 J	0.80	ppb(v/v)	EPA-2 TO-15
Methylene chloride	ND	0.20	ppb(v/v)	EPA-2 TO-15
trans-1,2-Dichloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1-Dichloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Vinyl acetate	ND	1.0	ppb(v/v)	EPA-2 TO-15
cis-1,2-Dichloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
2-Butanone (MEK)	ND	1.0	ppb(v/v)	EPA-2 TO-15
Chloroform	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1,1-Trichloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Carbon tetrachloride	ND	0.20	ppb(v/v)	EPA-2 TO-15
Benzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2-Dichloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Trichloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2-Dichloropropane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Bromodichloromethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
cis-1,3-Dichloropropene	ND	0.20	ppb(v/v)	EPA-2 TO-15
4-Methyl-2-pentanone (MIBK)	ND	0.40	ppb(v/v)	EPA-2 TO-15
Methyl tert-butyl ether (MTBE)	ND	1.0	ppb(v/v)	EPA-2 TO-15
Toluene	ND	0.30	ppb(v/v)	EPA-2 TO-15
trans-1,3-Dichloropropene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1,2-Trichloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Tetrachloroethene	ND	0.20	ppb(v/v)	EPA-2 TO-15
2-Hexanone	ND	0.40	ppb(v/v)	EPA-2 TO-15
Dibromochloromethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2-Dibromoethane (EDB)	ND	0.20	ppb(v/v)	EPA-2 TO-15
Chlorobenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E5C010338 Work Order #...: G5T691AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Ethylbenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
m-Xylene & p-Xylene	ND	0.50	ppb(v/v)	EPA-2 TO-15
o-Xylene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Styrene	ND	0.20	ppb(v/v)	EPA-2 TO-15
Bromoform	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	ND	0.20	ppb(v/v)	EPA-2 TO-15
Benzyl chloride	ND	0.40	ppb(v/v)	EPA-2 TO-15
4-Ethyltoluene	ND	0.40	ppb(v/v)	EPA-2 TO-15
1,3,5-Trimethylbenzene	ND	0.40	ppb(v/v)	EPA-2 TO-15
1,2,4-Trimethylbenzene	ND	0.40	ppb(v/v)	EPA-2 TO-15
1,3-Dichlorobenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,4-Dichlorobenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2-Dichlorobenzene	ND	0.20	ppb(v/v)	EPA-2 TO-15
1,2,4-Trichloro-benzene	ND	0.80	ppb(v/v)	EPA-2 TO-15
Hexachlorobutadiene	ND	0.40	ppb(v/v)	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E5C010338
MB Lot-Sample #: M5C100000-188

Analysis Date..: 03/07/05
Dilution Factor: 1

Work Order #...: G5XED1AA

Prep Date.....: 03/07/05
Prep Batch #...: 5069188

Analyst ID.....: 101605

Matrix.....: AIR

Analysis Time..: 11:53
Instrument ID..: MSA

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Trichloroethene	ND	2.0	ppb(v/v)	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E5C010338 Work Order #...: G5NWJ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M5C070000-360 G5NWJ1AD-LCSD
Prep Date.....: 03/04/05 Analysis Date..: 03/04/05
Prep Batch #...: 5066360 Analysis Time..: 09:57
Dilution Factor: 1 Instrument ID..: MSE
Analyst ID.....: 341569

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	99	(70 - 130)			EPA-2 TO-15
	88	(70 - 130)	11	(0-30)	EPA-2 TO-15
Methylene chloride	90	(65 - 125)			EPA-2 TO-15
	86	(65 - 125)	5.3	(0-30)	EPA-2 TO-15
Trichloroethene	99	(65 - 135)			EPA-2 TO-15
	96	(65 - 135)	2.7	(0-30)	EPA-2 TO-15
Toluene	80	(65 - 135)			EPA-2 TO-15
	81	(65 - 135)	0.28	(0-30)	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	93	(55 - 135)			EPA-2 TO-15
	95	(55 - 135)	1.3	(0-30)	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E5C010338 Work Order #...: G5NWJ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M5C070000-360 G5NWJ1AD-LCSD
Prep Date.....: 03/04/05 Analysis Date..: 03/04/05
Prep Batch #...: 5066360 Analysis Time..: 09:57
Dilution Factor: 1 Instrument ID..: MSE
Analyst ID.....: 341569

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
1,1-Dichloroethene	10.0	9.88	ppb(v/v)	99		EPA-2 TO-15
	10.0	8.83	ppb(v/v)	88	11	EPA-2 TO-15
Methylene chloride	10.0	9.02	ppb(v/v)	90		EPA-2 TO-15
	10.0	8.55	ppb(v/v)	86	5.3	EPA-2 TO-15
Trichloroethene	10.0	9.91	ppb(v/v)	99		EPA-2 TO-15
	10.0	9.65	ppb(v/v)	96	2.7	EPA-2 TO-15
Toluene	10.0	8.05	ppb(v/v)	80		EPA-2 TO-15
	10.0	8.07	ppb(v/v)	81	0.28	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	10.0	9.33	ppb(v/v)	93		EPA-2 TO-15
	10.0	9.45	ppb(v/v)	95	1.3	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E5C010338 Work Order #...: G5T691AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M5C090000-339 G5T691AD-LCSD
Prep Date.....: 03/08/05 Analysis Date..: 03/08/05
Prep Batch #...: 5068339 Analysis Time..: 10:55
Dilution Factor: 1 Instrument ID..: MSE
Analyst ID.....: 341569

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	115	(70 - 130)			EPA-2 TO-15
	102	(70 - 130)	12	(0-30)	EPA-2 TO-15
Methylene chloride	93	(65 - 125)			EPA-2 TO-15
	83	(65 - 125)	12	(0-30)	EPA-2 TO-15
Trichloroethene	82	(65 - 135)			EPA-2 TO-15
	77	(65 - 135)	5.4	(0-30)	EPA-2 TO-15
Toluene	82	(65 - 135)			EPA-2 TO-15
	68	(65 - 135)	19	(0-30)	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	95	(55 - 135)			EPA-2 TO-15
	84	(55 - 135)	12	(0-30)	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E5C010338 Work Order #...: G5T691AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M5C090000-339 G5T691AD-LCSD
Prep Date.....: 03/08/05 Analysis Date..: 03/08/05
Prep Batch #...: 5068339 Analysis Time..: 10:55
Dilution Factor: 1 Instrument ID..: MSE
Analyst ID.....: 341569

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
1,1-Dichloroethene	10.0	11.5	ppb(v/v)	115		EPA-2 TO-15
	10.0	10.2	ppb(v/v)	102	12	EPA-2 TO-15
Methylene chloride	10.0	9.30	ppb(v/v)	93		EPA-2 TO-15
	10.0	8.27	ppb(v/v)	83	12	EPA-2 TO-15
Trichloroethene	10.0	8.16	ppb(v/v)	82		EPA-2 TO-15
	10.0	7.73	ppb(v/v)	77	5.4	EPA-2 TO-15
Toluene	10.0	8.15	ppb(v/v)	82		EPA-2 TO-15
	10.0	6.76	ppb(v/v)	68	19	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	10.0	9.49	ppb(v/v)	95		EPA-2 TO-15
	10.0	8.39	ppb(v/v)	84	12	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E5C010338 Work Order #...: G5XED1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M5C100000-188 G5XED1AD-LCSD
Prep Date.....: 03/07/05 Analysis Date..: 03/07/05
Prep Batch #...: 5069188 Analysis Time..: 10:53
Dilution Factor: 1 Instrument ID..: MSA
Analyst ID.....: 101605

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Trichloroethene	99	(70 - 125)			EPA-2 TO-15
	99	(70 - 125)	0.40	(0-20)	EPA-2 TO-15
1,1-Dichloroethene	101	(70 - 125)			EPA-2 TO-15
	100	(70 - 125)	1.8	(0-20)	EPA-2 TO-15
Methylene chloride	97	(75 - 120)			EPA-2 TO-15
	95	(75 - 120)	1.6	(0-20)	EPA-2 TO-15
Toluene	99	(75 - 125)			EPA-2 TO-15
	97	(75 - 125)	1.9	(0-20)	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	86	(65 - 130)			EPA-2 TO-15
	92	(65 - 130)	6.3	(0-20)	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E5C010338 Work Order #...: G5XED1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M5C100000-188 G5XED1AD-LCSD
Prep Date.....: 03/07/05 Analysis Date..: 03/07/05
Prep Batch #...: 5069188 Analysis Time..: 10:53
Dilution Factor: 1 Instrument ID..: MSA
Analyst ID.....: 101605

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Trichloroethene	49.5	48.9	ppb(v/v)	99		EPA-2 TO-15
	49.5	49.1	ppb(v/v)	99	0.40	EPA-2 TO-15
1,1-Dichloroethene	50.5	51.2	ppb(v/v)	101		EPA-2 TO-15
	50.5	50.3	ppb(v/v)	100	1.8	EPA-2 TO-15
Methylene chloride	54.5	52.6	ppb(v/v)	97		EPA-2 TO-15
	54.5	51.8	ppb(v/v)	95	1.6	EPA-2 TO-15
Toluene	49.5	48.8	ppb(v/v)	99		EPA-2 TO-15
	49.5	47.9	ppb(v/v)	97	1.9	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	50.0	43.1	ppb(v/v)	86		EPA-2 TO-15
	50.0	45.9	ppb(v/v)	92	6.3	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Earth Tech	Project Manager: Bill Frez	Date: 2/25/05	Chain of Custody Number: 181773
Address: 36133 Schoolcraft Rd	Telephone Number (Area Code)/Fax Number: 734-779-2800	Lab Number: ESC010338	Page 1 of 1
City: Livonia; State: MI; Zip Code: 48150	Site Contact:	Lab Contact:	
Project Name and Location (State): National Copper	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.:			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Analysis (Attach list if more space is needed): TO15 scan	Special Instructions/ Conditions of Receipt
UMP-9	2/23/05	4:44	X					X							X	
UMP-7	2/23/05	7:30	X					X							X	
UMP-4	2/24/05	10:24	X					X							X	
UMP-20	2/24/05	10:29	X					X							X	
UMP-17	2/24/05	12:52	X					X							X	
UMP-21	2/24/05	1:10	X					X							X	
UMP-23	2/24/05	3:45	X					X							X	
UMP-16	2/24/05	4:00	X					X							X	
UMP-19	2/24/05	6:04	X					X							X	
UMP-18	2/25/05	11:30	X					X							X	
UMP-18 Dup	2/25/05	11:30	X					X							X	
Trip Blank	2/25/05		X					X							X	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: Bradley Howard	2/25/05	4:00	1. Received By:	2/28/05	1030
2. Relinquished By:			2. Received By:		
3. Relinquished By:			3. Received By:		

Comments:

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: 2346
DATE CLEANED: 7-1-04C, 12-17-04A, 2-8-05A
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HF-15
Duration of comp. : 2 (hrs.)/ mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	11.00	3-2-05	[illegible]
FINAL PRESSURE (PSIA)	23.73	3-2-05	[illegible]

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: 1213
DATE CLEANED: 7-1-04C, 12-17-04A, 2-8-05A
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HF-17
Duration of comp. : 2 (hrs.)/ mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	13.69	3-2-05	"
FINAL PRESSURE (PSIA)	23.48	3-2-05	"

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: 2325
DATE CLEANED: 7-1-04C, 12-17-04A, 2-8-05A
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HF-14
Duration of comp. : 2 (hrs.) / mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	13.25	3-2-05	"
FINAL PRESSURE (PSIA)	23.80	3-2-05	"

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: 3058
DATE CLEANED: 7-1-04C, 12-17-04A, 2-8-05A
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HF-38
Duration of comp. : 2 (hrs.) / mins.
Flow setting: 39.6 41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	13-15	3-2-05	a
FINAL PRESSURE (PSIA)	23-93	3-2-05	a

Pressurization Gas: al

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: 3118
DATE CLEANED: 7-1-04C, 12-17-04A, 2-8-05A
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HF-40
Duration of comp.: 2 (hrs.)/ mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	12.32	3-2-05	"
FINAL PRESSURE (PSIA)	24.10	3-2-05	"

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: 3472
DATE CLEANED: 7-1-04C, 12-17-04A, 2-8-05A
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HF-22
Duration of comp.: 2 (hrs.)/ mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	12.37	3-2-05	"
FINAL PRESSURE (PSIA)	24.15	3-2-05	"

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: 22249
DATE CLEANED: 7-1-04C, 12-17-04A, 2-8-05A
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HF-45
Duration of comp. : 2 hrs. / mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	13.04	3-2-05	"
FINAL PRESSURE (PSIA)	24.11	3-2-05	"

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: 2322
DATE CLEANED: 7-1-04C, 12-17-04A, 2-8-05A
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HF-25
Duration of comp. : 2 (hrs.)/ mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (Inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	12.79	3-2-05	"
FINAL PRESSURE (PSIA)	23.68	3-2-05	"

Pressurization Gas: N

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: 0160
DATE CLEANED: 2-14-05B
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HE-10
Duration of comp. : 2 (hrs.)/ mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	12.02	3-2-05	"
FINAL PRESSURE (PSIA)	24.30	3-2-05	"

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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TRENT SIL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: A-283
DATE CLEANED: 2-14-05B
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HF-
Duration of comp. : 2 (hrs.) mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	11-35	2-2-05	"
FINAL PRESSURE (PSIA)	24-40	3-2-05	"

Pressurization Gas: N

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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TRENT SIL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: 930617
DATE CLEANED: 2-14-05B
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HE-18
Duration of comp. : 2 (hrs.)/ mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	16.90	3-2-05	"
FINAL PRESSURE (PSIA)	24.70	3-2-05	"

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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TRENT SIL 1C

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: A-288
DATE CLEANED: 2-14-05B
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HE-
Duration of comp. : 2 hrs. / mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	-0.12	3-2-05	a
FINAL PRESSURE (PSIA)	24.56	3-2-05	a

Pressurization Gas: N

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: 3329
DATE CLEANED: 7-1-04C, 12-17-04A, 2-8-05A
CLIENT SAMPLE #: _____
SITE LOCATION: _____

VFR ID: HF-16
Duration of comp. : 2 (hrs.)/ mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: National Copper Products, Inc.
CANISTER SERIAL #: 3445
DATE CLEANED: 7-1-04C, 12-17-04A, 2-8-05A
CLIENT SAMPLE #:
SITE LOCATION:

VFR ID: HF-01
Duration of comp. : 2 (hrs.)/ mins.
Flow setting: 39.6-41.7 ml/min
Initials: RB

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	2-16-05	RB
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SCAN

Date Cleaned/Batch 2.8.05 A

Date of QC 2/15/05

Data File Number MB02145 (MSE)

Canister ID Numbers

* 3445 ✓	3077
2325	1090c
2346 ✓	3118 ✓
2328 ✓	3058 ✓
2645	3329 ✓
3364	1213 ✓

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

LR
Reviewed By:

2/15/05
Date:

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STL - Los Angeles

AIR LOW LEVEL TO-14A / TO-15

Data file : \\LAPC062\MSE_D\chem\gcmse.i\050214.b\MB02145.D
Lab Smp Id: BLANK Client Smp ID: BLANK
Inj Date : 15-FEB-2005 03:14
Operator : LR Inst ID: gcmse.i
Smp Info : BLANK,BLANK,3445
Misc Info : 1,1,250,250,3,,BLANK,BLANK.SUB,0
Comment :
Method : \\LAPC062\MSE_D\chem\gcmse.i\050214.b\TO15.m
Meth Date : 14-Feb-2005 16:28 kammererd Quant Type: ISTD
Cal Date : 01-FEB-2005 15:06 Cal File: IC02015.D
Als bottle: 14 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BLANK.SUB
Target Version: 4.12
Processing Host: LAPC062

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	Final Pressure
InitPres	1.000	Initial Pressure
CalVol	250.000	Calibration Volume
SmpVol	250.000	Sample Volume
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
24 Acetone	43	8.664	8.397	(0.728)	16385	0.73656	0.7366(a)
* 48 Bromochloromethane	49	11.893	11.881	(1.000)	70968	4.00000	
$ 54 1,2-Dichloroethane-d4	65	12.677	12.659	(0.957)	64903	3.98342	3.983
* 60 1,4-Difluorobenzene	114	13.250	13.231	(1.000)	176968	4.00000	
$ 71 Toluene-d8	98	15.359	15.347	(0.891)	135852	3.97245	3.972
* 81 Chlorobenzene-d5	117	17.245	17.239	(1.000)	130702	4.00000	
$ 92 4-Bromofluorobenzene	95	18.564	18.558	(1.076)	79319	3.67993	3.680

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\LAPC062\MSE_D\chem\gomse.i\050214.b\MB02145.D

Date : 15-FEB-2005 03:14

Client ID: BLANK

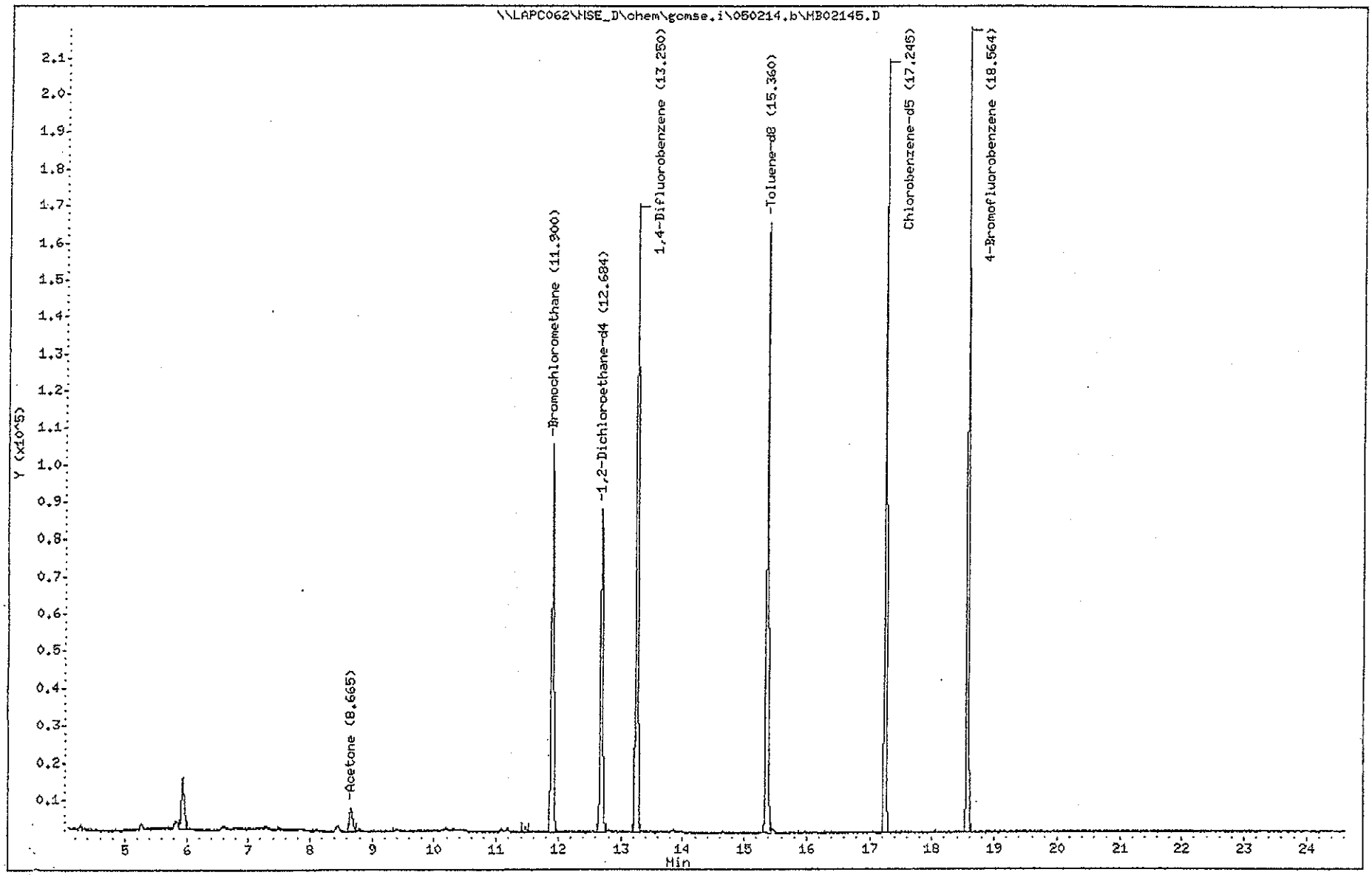
Sample Info: BLANK,BLANK,3445

Column phase: J&W DB-5ms

Instrument: gomse.i

Operator: LR

Column diameter: 0.32



CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SCAN

Date Cleaned/Batch: 2.14.05 B

Date of QC: 2/16/05

Data File Number: MB02162(MSE)

Canister ID Numbers

* A-134	A-315
0160 ✓	0101
A-288 ✓	12590
93258	9350B
A-283 ✓	0110
12277	93067 ✓

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

LR
Reviewed By:

2/16/05
Date:

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STL - Los Angeles

AIR LOW LEVEL TO-14A / TO-15

Data file : \\LAPC062\MSE_D\chem\gcmse.i\050216.b\MB02162.D
Lab Smp Id: BLANK Client Smp ID: BLANK
Inj Date : 16-FEB-2005 16:34
Operator : LR Inst ID: gcmse.i
Smp Info : BLANK,BLANK,A-134
Misc Info : 1,1,250,250,3,,BLANK,BLANK.SUB,0
Comment :
Method : \\LAPC062\MSE_D\chem\gcmse.i\050216.b\TO15.m
Meth Date : 16-Feb-2005 14:54 kammererd Quant Type: ISTD
Cal Date : 01-FEB-2005 15:06 Cal File: IC02015.D
Als bottle: 15 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BLANK.SUB
Target Version: 4.12
Processing Host: LAPC062

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	Final Pressure
InitPres	1.000	Initial Pressure
CalVol	250.000	Calibration Volume
SmpVol	250.000	Sample Volume
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
24 Acetone	43	8.533	8.477	(0.718)	5640	0.24999	0.2500(a)
* 48 Bromochloromethane	49	11.881	11.881	(1.000)	71975	4.00000	
$ 54 1,2-Dichloroethane-d4	65	12.671	12.659	(0.957)	66392	3.71513	3.715
* 60 1,4-Difluorobenzene	114	13.237	13.237	(1.000)	194101	4.00000	
$ 71 Toluene-d8	98	15.353	15.347	(0.890)	147978	4.01351	4.014
* 81 Chlorobenzene-d5	117	17.244	17.238	(1.000)	140912	4.00000	
$ 92 4-Bromofluorobenzene	95	18.563	18.557	(1.076)	84422	3.63289	3.633

QC Flag Legend

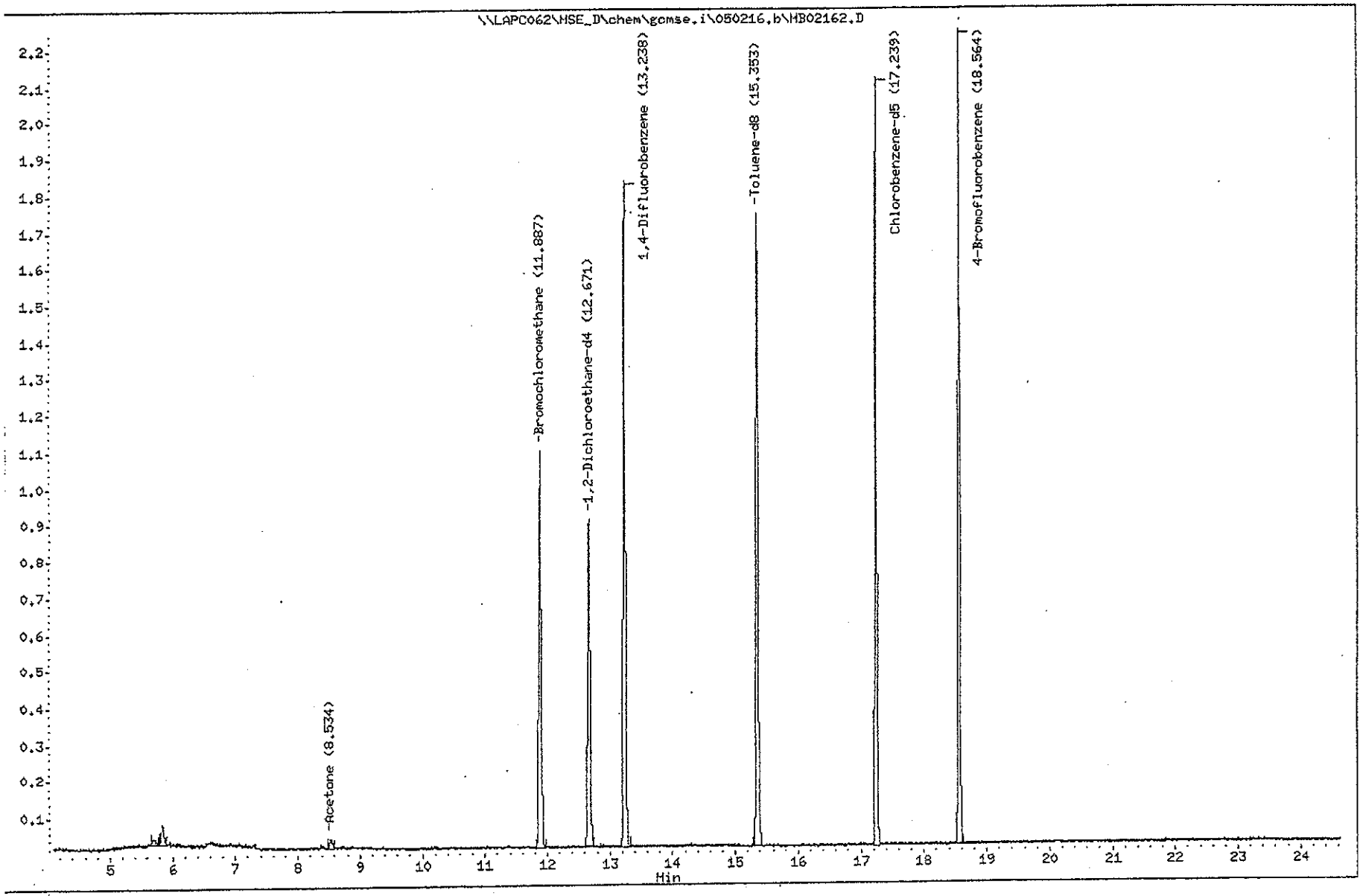
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\LAPC062\MSE_D\chem\gcmse.i\050216.b\MB02162.D
Date : 16-FEB-2005 16:34
Client ID: BLANK
Sample Info: BLANK,BLANK,A-134

Column phase: J&W DB-5ms

Instrument: gcmse.i

Operator: LR
Column diameter: 0.32



CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: E-GROUP TO-15 SIM/SCAN

Date Cleaned/Batch 7-1-04 C

Date of QC 07-08-04 07-08-04

Data File Number MB070872(SIM-MSD) MB070871(SIM-MSD)

Canister ID Numbers

* 3367	3482
2772	3249
3341	2244
2249	2322
2678	3210
2347	2220

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

Reviewed By: 7-8-04 Date:

N:\COI\DOCS\Can QC Cert (012103).doc

STL LOS ANGELES

AIR TOXICS - TO-14A/TO-15 MEDIUM LEVEL

Data file : \\LAPC063\MSA_DD\chem\gcmsa.i\040707.b\MB07072.D
Lab Smp Id: BLANK Client Smp ID: BLANK
Inj Date : 08-JUL-2004 02:30
Operator : AA Inst ID: gcmsa.i
Smp Info : BLANK,BLANK,3367
Misc Info : 1,1,500,500,3,,BLANK,TO14ALONG.sub,0,
Comment :
Method : \\LAPC063\MSA_DD\chem\gcmsa.i\040707.b\TO14A.m
Meth Date : 07-Jul-2004 16:59 almagroa Quant Type: ISTD
Cal Date : 17-JUN-2004 13:38 Cal File: IC06177.D
Als bottle: 6 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: TO14ALONG.sub
Target Version: 4.04
Processing Host: LAPC063

Concentration Formula: Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol)

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol

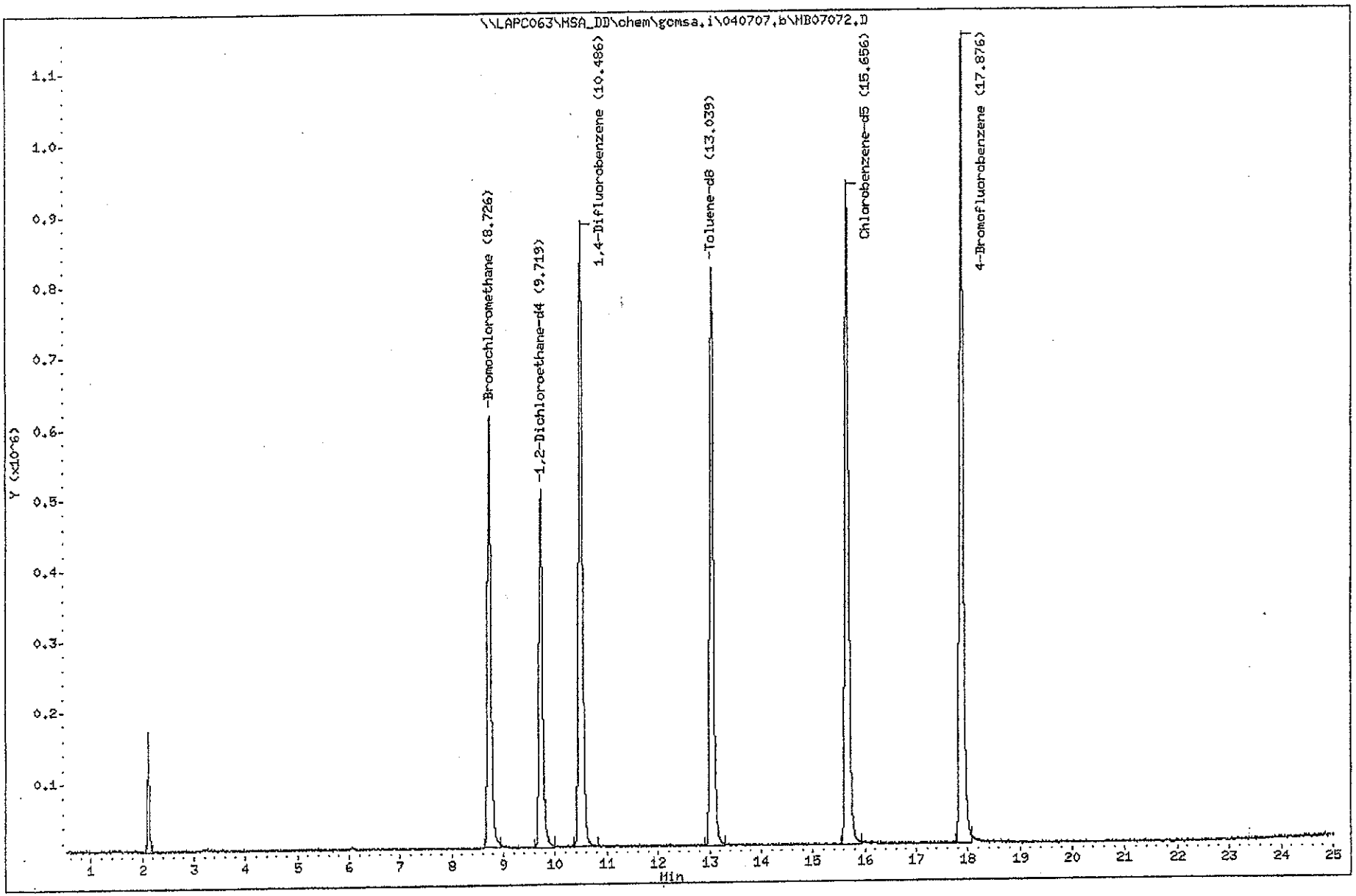
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
* 56 Bromochloromethane	49	8.717	8.693	(1.000)	673936	50.0000	
$ 65 1,2-Dichloroethane-d4	65	9.719	9.686	(0.927)	765908	51.9763	51.98
* 72 1,4-Difluorobenzene	114	10.485	10.462	(1.000)	1769429	50.0000	
$ 87 Toluene-d8	100	13.039	13.024	(1.244)	849617	46.8642	46.86
* 99 Chlorobenzene-d5	117	15.655	15.650	(1.000)	1365298	50.0000	
$ 113 4-Bromofluorobenzene	95	17.875	17.869	(1.142)	1151370	39.3415	39.34

Data File: \\LAPC063\MSA_DD\chem\gcmsa.i\040707.b\MB07072.D
Date : 08-JUL-2004 02:30
Client ID: BLANK
Sample Info: BLANK,BLANK,3367

Column phase: J&W DB-624

Instrument: gcmsa.i

Operator: AA
Column diameter: 0.53



SSB010338

STL - Los Angeles

TO-15 SIM Report

Data file : \\LAPC064\MSD_C\chem\gcmsd.i\040708.B\MB07081.D
Lab Smp Id: BLANK Client Smp ID: 3153
Inj Date : 08-JUL-2004 10:56
Operator : DLK Inst ID: gcmsd.i
Smp Info : BLANK,3153
Misc Info : 1,1,500,500,3,,BLANK,SIM33.sub,0,,1000
Comment :
Method : \\LAPC064\MSD_C\chem\gcmsd.i\040708.B\SIM33.m
Meth Date : 08-Jul-2004 09:29 kammererd Quant Type: ISTD
Cal Date : 28-JUN-2004 12:10 Cal File: IC06289.D
Als bottle: 3 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM33.sub
Target Version: 4.12
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

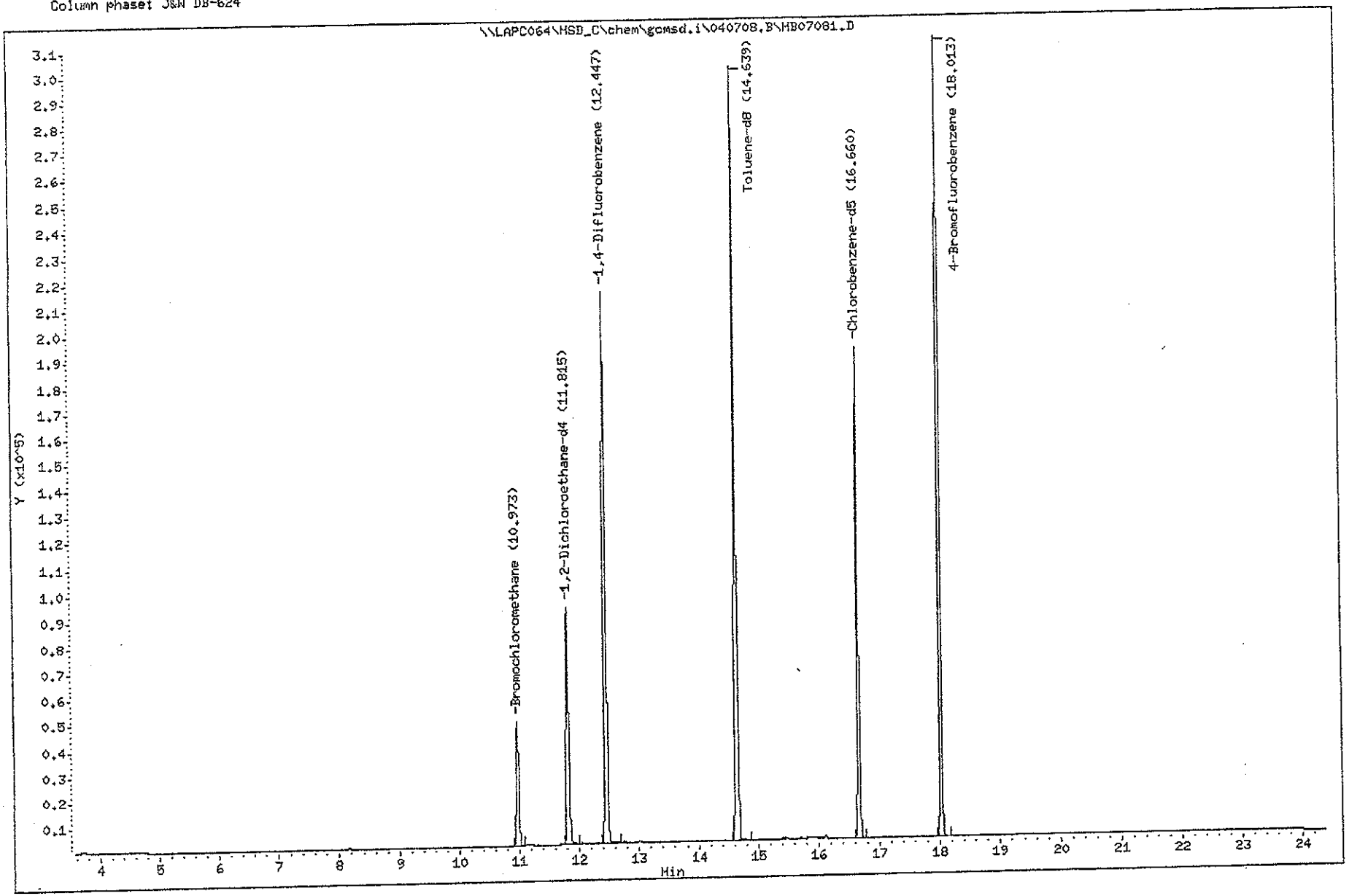
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
* 11 Bromochloromethane	130	10.973	10.981	(1.000)	125619	2000.00	
$ 13 1,2-Dichloroethane-d4	65	11.815	11.815	(1.077)	240252	1956.53	1956
* 17 1,4-Difluorobenzene	114	12.446	12.446	(1.000)	406617	2000.00	
$ 22 Toluene-d8	98	14.639	14.639	(0.879)	368862	1887.29	1887
* 27 Chlorobenzene-d5	117	16.660	16.668	(1.000)	371794	2000.00	
$ 34 4-Bromofluorobenzene	95	18.012	18.012	(1.081)	297161	1995.06	1995

Data File: \\LAPC064\MSD_C\chem\gcmsd.i\040708.B\MB07081.D
Date : 08-JUL-2004 10:56
Client ID: 3153
Sample Info: BLANK,3153

Instrument: gcmsd.i

Operator: DLK
Column diameter: 0.53

Column phase: J&W DB-624



X2

CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SCAN

Date Cleaned/Batch 12.17.04 A

Date of QC 1/5/05

Data File Number MB01042 (MSE)

Canister ID Numbers

*3479	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

LR
Reviewed By:

1/5/05
Date:

N:\COI\DOCS\Can QC Cert (012103).doc

STL - Los Angeles

AIR LOW LEVEL TO-14A / TO-15

Data file : \\LAPC062\MSE_D\chem\gcmse.i\050104.b\MB01042.D
Lab Smp Id: BLANK Client Smp ID: BLANK
Inj Date : 05-JAN-2005 03:48
Operator : LR Inst ID: gcmse.i
Smp Info : BLANK,BLANK,3479
Misc Info : 1,1,250,250,3,,BLANK,BLANK.SUB,0
Comment :
Method : \\LAPC062\MSE_D\chem\gcmse.i\050104.b\TO15.m
Meth Date : 05-Jan-2005 11:16 rongl Quant Type: ISTD
Cal Date : 04-JAN-2005 19:28 Cal File: IC0104A.D
Als bottle: 16 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: BLANK.SUB
Target Version: 4.12
Processing Host: LAPC062

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	Final Pressure
InitPres	1.000	Initial Pressure
CalVol	250.000	Calibration Volume
SmpVol	250.000	Sample Volume
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
22 Acetone	43	8.403	8.210	(0.708)	6229	0.36144	0.3614(a)
* 44 Bromochloromethane	49	11.875	11.881	(1.000)	65545	4.00000	
50 2,2,4-Trimethylpentane	57	12.609	12.603	(0.953)	2376	0.05984	0.05984(a)
$ 51 1,2-Dichloroethane-d4	65	12.665	12.653	(0.957)	63705	3.77831	3.778
* 57 1,4-Difluorobenzene	114	13.231	13.237	(1.000)	187513	4.00000	
$ 68 Toluene-d8	98	15.347	15.341	(0.890)	166358	3.90186	3.902
* 78 Chlorobenzene-d5	117	17.238	17.238	(1.000)	165182	4.00000	
$ 89 4-Bromofluorobenzene	95	18.558	18.564	(1.077)	95641	3.80294	3.803

QC Flag Legend

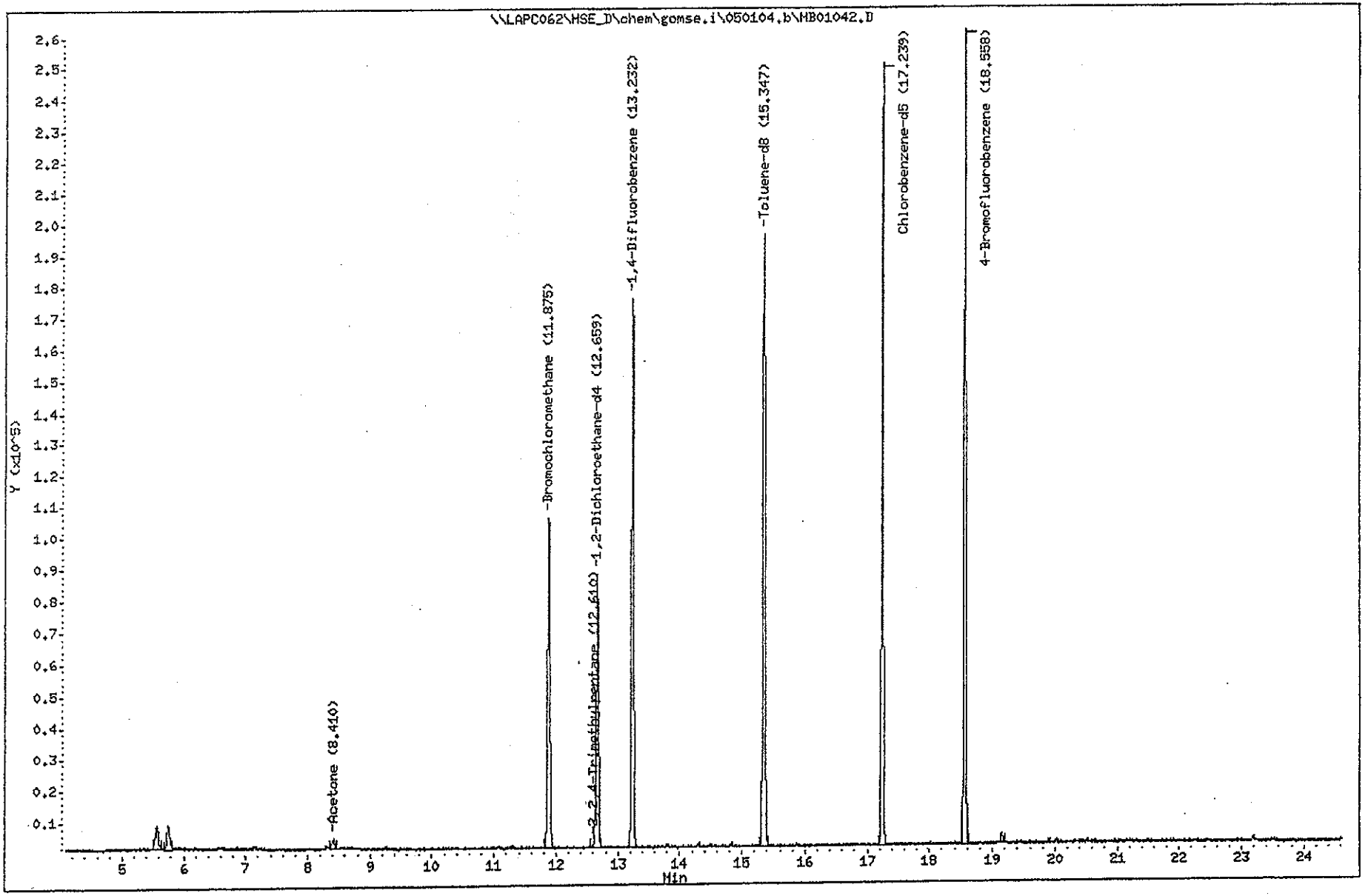
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\LAPC062\HSE_D\chem\gcmse.i\050104.b\HB01042.D
Date : 05-JAN-2005 03:48
Client ID: BLANK
Sample Info: BLANK,BLANK,3479

Column phase: J&W DB-5ms

Instrument: gcmse.i

Operator: LR
Column diameter: 0.32



SEVERN TRENT STL

Analytical Report