Appendix C

Laboratory Analytical Report and Chain-of-Custody Form – Split Samples by DEQ

059602l.16

Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.mt.gov

July 3, 2005

Mr. David Smith
Burlington Northern and Santa Fe Railway Company
139 North Last Chance Gulch
Helena, Montana 59601

Re: DEQ Split Groundwater Sample Results – June 2005 Sampling Event, BN Livingston Shop Complex

Dear Mr. Smith:

Please find enclosed one complete copy of DEQ split sample analytical results for the June 2005 groundwater sampling event at the Livingston Shop Complex Facility.

If you have any questions, please call me at 9406) 841-5068/.

Sincerely,

Amy Sivers
Project Officer

Enc.

cc: Laura Vachowski, DEQ Legal (without attachment)
John Norris, Kennedy/Jenks, 32001 32nd Avenue South, Suite 100, Federal Way, WA 98001 (with attachment)

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ANALYTICAL SUMMARY REPORT

July 07, 2005

Amy Sivers
MT DEQ
PO Box 200901
Helena, MT 59620

Workorder No.: H05060258

Project Name: BN Livingston

Energy Laboratories Inc received the following 3 samples from MT DEQ on 6/28/2005 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H05060258-001	89-4	06/26/05 15:40	06/28/05	Aqueous	8260-Volatile Organic Compounds-Short List
H05060258-002	89-8	06/27/05 12:50	06/28/05	Aqueous	524-Purgeable Organics, SDWA
H05060258-003	Trip Blank	06/27/05 12:50	06/28/05	Aqueous	Same As Above

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative or Report.

If you have any questions regarding these tests results, please call.

Report Approved By: Wanda Johnson

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CASE NARRATIVE

The following Case Narrative contains exceptions or comments pertaining to the analysis of samples submitted by MT DEQ on 6/28/2005 2:06:00 PM. These samples were assigned ELI Workorder Number H05060258.

The trip blank sample was not analyzed since all the analytes in the sample(s) were below the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: MT DEQ
Project: BN Livingston
Lab ID: H05060258-001
Client Sample ID: 89-4

Report Date: 07/07/05
Collection Date: 06/26/05 15:40
Date Received: 06/28/05
Matrix: Aqueous

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Bromobenzene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Bromochloromethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Bromodichloromethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Bromoform	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Bromomethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Chlorobenzene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Chloroethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
2-Chloroethyl vinyl ether	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Chloroform	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Chloromethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
2-Chlorotoluene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
4-Chlorotoluene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Dibromomethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,3-Dichlorobenzene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
cis-1,2-Dichloroethene	4.5	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,3-Dichloropropane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
2,2-Dichloropropane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,1-Dichloropropene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Ethylbenzene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Methyl ethyl ketone	ND	ug/L		20		SW8260B	07/01/05 18:02 / trr
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Methylene chloride	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Styrene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Tetrachloroethene	65	ug/L		10		SW8260B	07/06/05 12:36 / trr
Toluene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr

Report Definitions: RL - Analyte reporting limit. QCL - Quality control limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: MT DEQ
Project: BN Livingston
Lab ID: H05060258-001
Client Sample ID: 89-4

Report Date: 07/07/05
Collection Date: 06/26/05 15:40
Date Received: 06/28/05
Matrix: Aqueous

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Trichloroethene	1.1	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Vinyl chloride	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
m+p-Xylenes	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
o-Xylene	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Xylenes, Total	ND	ug/L		1.0		SW8260B	07/01/05 18:02 / trr
Surr: Dibromofluoromethane	97.6	%REC			77-126	SW8260B	07/01/05 18:02 / trr
Surr: 1,2-Dichloroethane-d4	100	%REC			70-130	SW8260B	07/01/05 18:02 / trr
Surr: Toluene-d8	103	%REC			79-122	SW8260B	07/01/05 18:02 / trr
Surr: p-Bromofluorobenzene	104	%REC			76-127	SW8260B	07/01/05 18:02 / trr

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LABORATORY ANALYTICAL REPORT

Client: MT DEQ
Project: BN Livingston
Lab ID: H05060258-002
Client Sample ID: 89-8

Report Date: 07/07/05
Collection Date: 06/27/05 12:50
Date Received: 06/28/05
Matrix: Aqueous

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	ug/L		0.50	5	E524.2	07/01/05 16:53 / hjc
Bromobenzene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Bromochloromethane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Bromodichloromethane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Bromoform	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Bromomethane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
n-Butylbenzene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
sec-Butylbenzene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
tert-Butylbenzene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Carbon tetrachloride	ND	ug/L		0.50	5	E524.2	07/01/05 16:53 / hjc
1,2-Dichloroethane	ND	ug/L		0.50	5	E524.2	07/01/05 16:53 / hjc
Chlorobenzene	ND	ug/L		0.50	100	E524.2	07/01/05 16:53 / hjc
Chlorodibromomethane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Chloroethane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Chloroform	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Chloromethane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
2-Chlorotoluene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
4-Chlorotoluene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
1,2-Dibromo-3-chloropropane	ND	ug/L		1.0	0.2	E524.2	07/01/05 16:53 / hjc
Dibromomethane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
1,2-Dichlorobenzene	ND	ug/L		0.50	600	E524.2	07/01/05 16:53 / hjc
1,3-Dichlorobenzene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
1,4-Dichlorobenzene	ND	ug/L		0.50	75	E524.2	07/01/05 16:53 / hjc
Dichlorodifluoromethane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
1,1-Dichloroethane	ND	ug/L		0.50	5	E524.2	07/01/05 16:53 / hjc
1,2-Dibromoethane	ND	ug/L		0.50	0.05	E524.2	07/01/05 16:53 / hjc
1,1-Dichloroethene	ND	ug/L		0.50	7	E524.2	07/01/05 16:53 / hjc
cis-1,2-Dichloroethene	ND	ug/L		0.50	70	E524.2	07/01/05 16:53 / hjc
trans-1,2-Dichloroethene	ND	ug/L		0.50	100	E524.2	07/01/05 16:53 / hjc
1,2-Dichloropropane	ND	ug/L		0.50	5	E524.2	07/01/05 16:53 / hjc
1,3-Dichloropropane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
2,2-Dichloropropane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
1,1-Dichloropropene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
cis-1,3-Dichloropropene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
trans-1,3-Dichloropropene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Ethylbenzene	ND	ug/L		0.50	700	E524.2	07/01/05 16:53 / hjc
Hexachlorobutadiene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Isopropylbenzene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
p-Isopropyltoluene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Methyl tert-butyl ether (MTBE)	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Methylene chloride	ND	ug/L		0.50	5	E524.2	07/01/05 16:53 / hjc

Report Definitions: RL - Analyte reporting limit. QCL - Quality control limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: MT DEQ
Project: BN Livingston
Lab ID: H05060258-002
Client Sample ID: 89-8

Report Date: 07/07/05
Collection Date: 06/27/05 12:50
Date Received: 06/28/05
Matrix: Aqueous

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Naphthalene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
n-Propylbenzene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Styrene	ND	ug/L		0.50	100	E524.2	07/01/05 16:53 / hjc
1,1,1,2-Tetrachloroethane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
1,1,2,2-Tetrachloroethane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Tetrachloroethene	ND	ug/L		0.50	5	E524.2	07/01/05 16:53 / hjc
Toluene	ND	ug/L		0.50	1000	E524.2	07/01/05 16:53 / hjc
1,2,3-Trichlorobenzene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
1,2,4-Trichlorobenzene	ND	ug/L		0.50	70	E524.2	07/01/05 16:53 / hjc
1,1,1-Trichloroethane	ND	ug/L		0.50	200	E524.2	07/01/05 16:53 / hjc
1,1,2-Trichloroethane	ND	ug/L		0.50	5	E524.2	07/01/05 16:53 / hjc
Trichloroethene	ND	ug/L		0.50	5	E524.2	07/01/05 16:53 / hjc
Trichlorofluoromethane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
1,2,3-Trichloropropane	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Trihalomethanes, Total	ND	ug/L		0.50	80	E524.2	07/01/05 16:53 / hjc
1,2,4-Trimethylbenzene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
1,3,5-Trimethylbenzene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Vinyl chloride	ND	ug/L		0.50	2	E524.2	07/01/05 16:53 / hjc
m+p-Xylenes	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
o-Xylene	ND	ug/L		0.50		E524.2	07/01/05 16:53 / hjc
Xylenes, Total	ND	ug/L		0.50	10000	E524.2	07/01/05 16:53 / hjc
Surr: p-Bromofluorobenzene	97.2	%REC			80-120	E524.2	07/01/05 16:53 / hjc
Surr: 1,2-Dichloroethane-d4	106	%REC			74-127	E524.2	07/01/05 16:53 / hjc
Surr: Toluene-d8	108	%REC			80-120	E524.2	07/01/05 16:53 / hjc

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QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: MT DEQ
Project: BN Livingston

Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2									Analytical Run: SUB-B61200
Sample ID: CCV	Continuing Calibration Verification								07/01/05 10:26
Benzene	5.36	ug/L	0.50	107	70	130			
Bromobenzene	5.28	ug/L	0.50	106	70	130			
Bromochloromethane	5.16	ug/L	0.50	103	70	130			
Bromodichloromethane	5.60	ug/L	0.50	112	70	130			
Bromoform	5.44	ug/L	0.50	109	70	130			
Bromomethane	5.44	ug/L	0.50	109	70	130			
n-Butylbenzene	5.68	ug/L	0.50	114	70	130			
sec-Butylbenzene	5.76	ug/L	0.50	115	70	130			
tert-Butylbenzene	5.32	ug/L	0.50	106	70	130			
Carbon tetrachloride	5.36	ug/L	0.50	107	70	130			
1,2-Dichloroethane	5.12	ug/L	0.50	102	70	130			
Chlorobenzene	5.48	ug/L	0.50	110	70	130			
Chlorodibromomethane	5.32	ug/L	0.50	106	70	130			
Chloroethane	4.72	ug/L	0.50	94.4	70	130			
Chloroform	5.04	ug/L	0.50	101	70	130			
Chloromethane	4.76	ug/L	0.50	95.2	70	130			
2-Chlorotoluene	5.32	ug/L	0.50	106	70	130			
4-Chlorotoluene	4.72	ug/L	0.50	94.4	70	130			
1,2-Dibromo-3-chloropropane	5.32	ug/L	1.0	106	70	130			
Dibromomethane	5.60	ug/L	0.50	112	70	130			
1,2-Dichlorobenzene	5.32	ug/L	0.50	106	70	130			
1,3-Dichlorobenzene	5.88	ug/L	0.50	118	70	130			
1,4-Dichlorobenzene	5.52	ug/L	0.50	110	70	130			
Dichlorodifluoromethane	4.52	ug/L	0.50	90.4	70	130			
1,1-Dichloroethane	5.48	ug/L	0.50	110	70	130			
1,2-Dibromoethane	5.24	ug/L	0.50	105	70	130			
1,1-Dichloroethene	5.36	ug/L	0.50	107	70	130			
cis-1,2-Dichloroethene	5.20	ug/L	0.50	104	70	130			
trans-1,2-Dichloroethene	5.36	ug/L	0.50	107	70	130			
1,2-Dichloropropane	5.52	ug/L	0.50	110	70	130			
1,3-Dichloropropane	5.64	ug/L	0.50	113	70	130			
2,2-Dichloropropane	5.72	ug/L	0.50	114	70	130			
1,1-Dichloropropene	5.32	ug/L	0.50	106	70	130			
cis-1,3-Dichloropropene	5.60	ug/L	0.50	112	70	130			
trans-1,3-Dichloropropene	5.68	ug/L	0.50	114	70	130			
Ethylbenzene	5.64	ug/L	0.50	113	70	130			
Hexachlorobutadiene	5.40	ug/L	0.50	108	70	130			
Isopropylbenzene	5.64	ug/L	0.50	113	70	130			
p-Isopropyltoluene	5.64	ug/L	0.50	113	70	130			
Methyl tert-butyl ether (MTBE)	4.76	ug/L	0.50	95.2	70	130			

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Remediation Division

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: MT DEQ
Project: BN Livingston

Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2								Analytical Run: SUB-B61200	
Sample ID: CCV	Continuing Calibration Verification							07/01/05 10:26	
Methylene chloride	5.24	ug/L	0.50	105	70	130			
Naphthalene	4.84	ug/L	0.50	96.8	70	130			
n-Propylbenzene	5.68	ug/L	0.50	114	70	130			
Styrene	5.36	ug/L	0.50	107	70	130			
1,1,1,2-Tetrachloroethane	5.60	ug/L	0.50	112	70	130			
1,1,2,2-Tetrachloroethane	4.60	ug/L	0.50	92	70	130			
Tetrachloroethene	5.80	ug/L	0.50	116	70	130			
Toluene	5.72	ug/L	0.50	114	70	130			
1,2,3-Trichlorobenzene	5.16	ug/L	0.50	103	70	130			
1,2,4-Trichlorobenzene	5.12	ug/L	0.50	102	70	130			
1,1,1-Trichloroethane	5.52	ug/L	0.50	110	70	130			
1,1,2-Trichloroethane	5.08	ug/L	0.50	102	70	130			
Trichloroethene	5.60	ug/L	0.50	112	70	130			
Trichlorofluoromethane	5.28	ug/L	0.50	106	70	130			
1,2,3-Trichloropropane	6.16	ug/L	0.50	123	70	130			
1,2,4-Trimethylbenzene	5.60	ug/L	0.50	112	70	130			
1,3,5-Trimethylbenzene	5.68	ug/L	0.50	114	70	130			
Vinyl chloride	4.80	ug/L	0.50	96	70	130			
m+p-Xylenes	11.2	ug/L	0.50	112	70	130			
o-Xylene	5.64	ug/L	0.50	113	70	130			
Trihalomethanes, Total	21.4	ug/L	0.50	0	0	0			
Xylenes, Total	16.8	ug/L	0.50	0	0	0			
Surr: p-Bromofluorobenzene			0.50	103	80	120			
Surr: 1,2-Dichloroethane-d4			0.50	96	74	127			
Surr: Toluene-d8			0.50	114	80	120			
Method: E524.2								Batch: B_R61200	
Sample ID: LCS	Laboratory Control Spike							07/01/05 10:59	
Benzene	5.24	ug/L	0.50	105	70	130			
Bromobenzene	5.20	ug/L	0.50	104	70	130			
Bromochloromethane	5.20	ug/L	0.50	104	70	130			
Bromodichloromethane	5.00	ug/L	0.50	100	70	130			
Bromoform	5.52	ug/L	0.50	110	70	130			
Bromomethane	6.08	ug/L	0.50	122	70	130			
n-Butylbenzene	5.44	ug/L	0.50	109	70	130			
sec-Butylbenzene	5.40	ug/L	0.50	108	70	130			
tert-Butylbenzene	5.28	ug/L	0.50	106	70	130			
Carbon tetrachloride	5.24	ug/L	0.50	105	70	130			
1,2-Dichloroethane	5.04	ug/L	0.50	101	70	130			
Chlorobenzene	5.20	ug/L	0.50	104	70	130			

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QA/QC Summary Report

Client: MT DEQ
Project: BN Livingston

Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2									Batch: B_R61200
Sample ID: LCS	Laboratory Control Spike								07/01/05 10:59
Chlorodibromomethane	5.04	ug/L	0.50	101	70	130			
Chloroethane	5.12	ug/L	0.50	102	70	130			
Chloroform	4.96	ug/L	0.50	99.2	70	130			
Chloromethane	5.56	ug/L	0.50	111	70	130			
2-Chlorotoluene	5.28	ug/L	0.50	106	70	130			
4-Chlorotoluene	5.36	ug/L	0.50	107	70	130			
1,2-Dibromo-3-chloropropane	5.36	ug/L	1.0	107	70	130			
Dibromomethane	5.40	ug/L	0.50	108	70	130			
1,2-Dichlorobenzene	5.32	ug/L	0.50	106	70	130			
1,3-Dichlorobenzene	5.36	ug/L	0.50	107	70	130			
1,4-Dichlorobenzene	5.24	ug/L	0.50	105	70	130			
Dichlorodifluoromethane	5.52	ug/L	0.50	110	70	130			
1,1-Dichloroethane	4.80	ug/L	0.50	96	70	130			
1,2-Dibromoethane	4.72	ug/L	0.50	94.4	70	130			
1,1-Dichloroethene	4.88	ug/L	0.50	97.6	70	130			
cis-1,2-Dichloroethene	4.92	ug/L	0.50	98.4	70	130			
trans-1,2-Dichloroethene	5.12	ug/L	0.50	102	70	130			
1,2-Dichloropropane	5.28	ug/L	0.50	106	70	130			
1,3-Dichloropropane	5.28	ug/L	0.50	106	70	130			
2,2-Dichloropropane	5.32	ug/L	0.50	106	70	130			
1,1-Dichloropropene	5.40	ug/L	0.50	108	70	130			
cis-1,3-Dichloropropene	5.40	ug/L	0.50	108	70	130			
trans-1,3-Dichloropropene	5.40	ug/L	0.50	108	70	130			
Ethylbenzene	5.28	ug/L	0.50	106	70	130			
Hexachlorobutadiene	5.24	ug/L	0.50	105	70	130			
Isopropylbenzene	5.56	ug/L	0.50	111	70	130			
p-Isopropyltoluene	5.56	ug/L	0.50	111	70	130			
Methyl tert-butyl ether (MTBE)	4.60	ug/L	0.50	92	70	130			
Methylene chloride	5.04	ug/L	0.50	101	70	130			
Naphthalene	5.16	ug/L	0.50	103	70	130			
n-Propylbenzene	5.48	ug/L	0.50	110	70	130			
Styrene	5.12	ug/L	0.50	102	70	130			
1,1,1,2-Tetrachloroethane	5.36	ug/L	0.50	107	70	130			
1,1,2,2-Tetrachloroethane	4.96	ug/L	0.50	99.2	70	130			
Tetrachloroethene	5.16	ug/L	0.50	103	70	130			
Toluene	5.28	ug/L	0.50	106	70	130			
1,2,3-Trichlorobenzene	5.28	ug/L	0.50	106	70	130			
1,2,4-Trichlorobenzene	5.40	ug/L	0.50	108	70	130			
1,1,1-Trichloroethane	5.08	ug/L	0.50	102	70	130			
1,1,2-Trichloroethane	4.96	ug/L	0.50	99.2	70	130			

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QA/QC Summary Report

Client: MT DEQ
Project: BN Livingston

Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2									Batch: B_R61200
Sample ID: LCS	Laboratory Control Spike								07/01/05 10:59
Trichloroethene	5.36	ug/L	0.50	107	70	130			
Trichlorofluoromethane	5.20	ug/L	0.50	104	70	130			
1,2,3-Trichloropropane	5.76	ug/L	0.50	115	70	130			
1,2,4-Trimethylbenzene	5.40	ug/L	0.50	108	70	130			
1,3,5-Trimethylbenzene	5.56	ug/L	0.50	111	70	130			
Vinyl chloride	4.56	ug/L	0.50	91.2	70	130			
m+p-Xylenes	10.8	ug/L	0.50	108	70	130			
o-Xylene	5.12	ug/L	0.50	102	70	130			
Surr: p-Bromofluorobenzene			0.50	102	80	120			
Surr: 1,2-Dichloroethane-d4			0.50	99.6	74	127			
Surr: Toluene-d8			0.50	108	80	120			
Sample ID: BLK	Method Blank								07/01/05 11:31
Benzene	ND	ug/L	0.50						
Bromobenzene	ND	ug/L	0.50						
Bromochloromethane	ND	ug/L	0.50						
Bromodichloromethane	ND	ug/L	0.50						
Bromoform	ND	ug/L	0.50						
Bromomethane	ND	ug/L	0.50						
n-Butylbenzene	ND	ug/L	0.50						
sec-Butylbenzene	ND	ug/L	0.50						
tert-Butylbenzene	ND	ug/L	0.50						
Carbon tetrachloride	ND	ug/L	0.50						
1,2-Dichloroethane	ND	ug/L	0.50						
Chlorobenzene	ND	ug/L	0.50						
Chlorodibromomethane	ND	ug/L	0.50						
Chloroethane	ND	ug/L	0.50						
Chloroform	ND	ug/L	0.50						
Chloromethane	ND	ug/L	0.50						
2-Chlorotoluene	ND	ug/L	0.50						
4-Chlorotoluene	ND	ug/L	0.50						
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0						
Dibromomethane	ND	ug/L	0.50						
1,2-Dichlorobenzene	ND	ug/L	0.50						
1,3-Dichlorobenzene	ND	ug/L	0.50						
1,4-Dichlorobenzene	ND	ug/L	0.50						
Dichlorodifluoromethane	ND	ug/L	0.50						
1,1-Dichloroethane	ND	ug/L	0.50						
1,2-Dibromoethane	ND	ug/L	0.50						
1,1-Dichloroethene	ND	ug/L	0.50						
cis-1,2-Dichloroethene	ND	ug/L	0.50						

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QA/QC Summary Report

Client: MT DEQ
Project: BN Livingston

Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E524.2									Batch: B_R61200
Sample ID: BLK	Method Blank								07/01/05 11:31
trans-1,2-Dichloroethene	ND	ug/L	0.50						
1,2-Dichloropropane	ND	ug/L	0.50						
1,3-Dichloropropane	ND	ug/L	0.50						
2,2-Dichloropropane	ND	ug/L	0.50						
1,1-Dichloropropene	ND	ug/L	0.50						
cis-1,3-Dichloropropene	ND	ug/L	0.50						
trans-1,3-Dichloropropene	ND	ug/L	0.50						
Ethylbenzene	ND	ug/L	0.50						
Hexachlorobutadiene	ND	ug/L	0.50						
Isopropylbenzene	ND	ug/L	0.50						
p-Isopropyltoluene	ND	ug/L	0.50						
Methyl tert-butyl ether (MTBE)	ND	ug/L	0.50						
Methylene chloride	ND	ug/L	0.50						
Naphthalene	ND	ug/L	0.50						
n-Propylbenzene	ND	ug/L	0.50						
Styrene	ND	ug/L	0.50						
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50						
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50						
Tetrachloroethene	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
1,2,3-Trichlorobenzene	ND	ug/L	0.50						
1,2,4-Trichlorobenzene	ND	ug/L	0.50						
1,1,1-Trichloroethane	ND	ug/L	0.50						
1,1,2-Trichloroethane	ND	ug/L	0.50						
Trichloroethene	ND	ug/L	0.50						
Trichlorofluoromethane	ND	ug/L	0.50						
1,2,3-Trichloropropane	ND	ug/L	0.50						
1,2,4-Trimethylbenzene	ND	ug/L	0.50						
1,3,5-Trimethylbenzene	ND	ug/L	0.50						
Vinyl chloride	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Trihalomethanes, Total	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: p-Bromofluorobenzene			0.50	97.6	80	120			
Surr: 1,2-Dichloroethane-d4			0.50	105	74	127			
Surr: Toluene-d8			0.50	118	80	120			

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QA/QC Summary Report

Client: MT DEQ
Project: BN Livingston

Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B								Analytical Run: SUB-B61267	
Sample ID: CCV	Continuing Calibration Verification							07/06/05 09:29	
Tetrachloroethene	5.52	ug/L	1.0	110	70	130			
Surr: 1,2-Dichloroethane-d4			1.0	94	60	136			
Surr: Dibromofluoromethane			1.0	98.4	70	132			
Surr: p-Bromofluorobenzene			1.0	105	78	160			
Surr: Toluene-d8			1.0	100	75	138			
Method: SW8260B								Batch: B_R61267	
Sample ID: BLANK	Method Blank							07/06/05 10:53	
Tetrachloroethene	ND	ug/L	1.0						
Surr: 1,2-Dichloroethane-d4			1.0	104	70	130			
Surr: Dibromofluoromethane			1.0	102	77	126			
Surr: p-Bromofluorobenzene			1.0	105	76	127			
Surr: Toluene-d8			1.0	102	79	122			
Sample ID: LCS	Laboratory Control Spike							07/06/05 20:34	
Tetrachloroethene	5.28	ug/L	1.0	106	78	137			
Surr: 1,2-Dichloroethane-d4			1.0	113	70	130			
Surr: Dibromofluoromethane			1.0	112	77	126			
Surr: p-Bromofluorobenzene			1.0	104	76	127			
Surr: Toluene-d8			1.0	103	79	122			
Sample ID: LCS	Laboratory Control Spike							07/06/05 21:08	
Surr: 1,2-Dichloroethane-d4			1.0	112	70	130			
Surr: Dibromofluoromethane			1.0	110	77	126			
Surr: p-Bromofluorobenzene			1.0	107	76	127			
Surr: Toluene-d8			1.0	102	79	122			

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QA/QC Summary Report

Client: MT DEQ
Project: BN Livingston

Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B								Analytical Run: SUB-B61271	
Sample ID: CCV	Continuing Calibration Verification							07/01/05 12:12	
Benzene	5.04	ug/L	1.0	101	70	130			
Bromobenzene	5.36	ug/L	1.0	107	70	130			
Bromochloromethane	4.88	ug/L	1.0	97.6	70	130			
Bromodichloromethane	4.88	ug/L	1.0	97.6	70	130			
Bromoform	4.60	ug/L	1.0	92	70	130			
Bromomethane	5.84	ug/L	1.0	117	70	130			
Carbon tetrachloride	4.88	ug/L	1.0	97.6	70	130			
Chlorobenzene	5.20	ug/L	1.0	104	70	130			
Chlorodibromomethane	4.44	ug/L	1.0	88.8	70	130			
Chloroethane	5.72	ug/L	1.0	114	70	130			
2-Chloroethyl vinyl ether	4.88	ug/L	1.0	97.6	70	130			
Chloroform	4.88	ug/L	1.0	97.6	80	120			
Chloromethane	4.80	ug/L	1.0	96	70	130			
1,2-Dibromoethane	5.24	ug/L	1.0	105	70	130			
2-Chlorotoluene	5.48	ug/L	1.0	110	70	130			
4-Chlorotoluene	5.44	ug/L	1.0	109	70	130			
Dibromomethane	5.12	ug/L	1.0	102	70	130			
1,2-Dichlorobenzene	5.24	ug/L	1.0	105	70	130			
1,3-Dichlorobenzene	5.28	ug/L	1.0	106	70	130			
1,4-Dichlorobenzene	5.20	ug/L	1.0	104	70	130			
Dichlorodifluoromethane	4.16	ug/L	1.0	83.2	70	130			
1,1-Dichloroethane	4.92	ug/L	1.0	98.4	70	130			
1,2-Dichloroethane	4.80	ug/L	1.0	96	70	130			
1,1-Dichloroethene	5.00	ug/L	1.0	100	80	120			
cis-1,2-Dichloroethene	5.04	ug/L	1.0	101	70	130			
trans-1,2-Dichloroethene	5.04	ug/L	1.0	101	70	130			
1,2-Dichloropropane	5.32	ug/L	1.0	106	80	120			
1,3-Dichloropropane	5.04	ug/L	1.0	101	70	130			
2,2-Dichloropropane	5.88	ug/L	1.0	118	70	130			
1,1-Dichloropropene	5.04	ug/L	1.0	101	70	130			
cis-1,3-Dichloropropene	5.20	ug/L	1.0	104	70	130			
trans-1,3-Dichloropropene	4.72	ug/L	1.0	94.4	70	130			
Ethylbenzene	5.28	ug/L	1.0	106	80	120			
Methyl ethyl ketone	47.6	ug/L	20	95.2	70	130			
Methyl tert-butyl ether (MTBE)	5.20	ug/L	1.0	104	70	130			
Methylene chloride	4.64	ug/L	1.0	92.8	70	130			
Styrene	5.32	ug/L	1.0	106	70	130			
1,1,1,2-Tetrachloroethane	5.12	ug/L	1.0	102	70	130			
1,1,2,2-Tetrachloroethane	5.28	ug/L	1.0	106	70	130			
Toluene	5.28	ug/L	1.0	106	80	120			

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QA/QC Summary Report

Client: MT DEQ
Project: BN Livingston

Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B								Analytical Run: SUB-B61271	
Sample ID: CCV	Continuing Calibration Verification							07/01/05 12:12	
1,1,1-Trichloroethane	5.04	ug/L	1.0	101	70	130			
1,1,2-Trichloroethane	5.04	ug/L	1.0	101	70	130			
Trichloroethene	5.68	ug/L	1.0	114	70	130			
Trichlorofluoromethane	4.92	ug/L	1.0	98.4	70	130			
1,2,3-Trichloropropane	5.40	ug/L	1.0	108	70	130			
Vinyl chloride	4.92	ug/L	1.0	98.4	80	120			
m+p-Xylenes	10.7	ug/L	1.0	107	70	130			
o-Xylene	5.32	ug/L	1.0	106	70	130			
Xylenes, Total	16.0	ug/L	1.0	0	70	130			
Surr: Dibromofluoromethane			1.0	103	77	126			
Surr: 1,2-Dichloroethane-d4			1.0	101	70	130			
Surr: Toluene-d8			1.0	111	79	122			
Surr: p-Bromofluorobenzene			1.0	116	76	127			
Method: SW8260B								Batch: B_R61271	
Sample ID: LCS	Laboratory Control Spike							07/01/05 12:55	
Benzene	5.00	ug/L	1.0	100	71	133			
Bromobenzene	5.32	ug/L	1.0	106	78	133			
Bromochloromethane	5.00	ug/L	1.0	100	68	131			
Bromodichloromethane	4.56	ug/L	1.0	91.2	67	138			
Bromoform	4.68	ug/L	1.0	93.6	64	136			
Bromomethane	6.80	ug/L	1.0	136	60	138			
Carbon tetrachloride	4.88	ug/L	1.0	97.6	61	144			
Chlorobenzene	5.20	ug/L	1.0	104	78	136			
Chlorodibromomethane	4.36	ug/L	1.0	87.2	72	136			
Chloroethane	6.00	ug/L	1.0	120	64	136			
2-Chloroethyl vinyl ether	5.20	ug/L	1.0	104	64	132			
Chloroform	4.88	ug/L	1.0	97.6	69	133			
Chloromethane	5.80	ug/L	1.0	116	63	149			
1,2-Dibromoethane	5.24	ug/L	1.0	105	75	131			
2-Chlorotoluene	5.28	ug/L	1.0	106	74	135			
4-Chlorotoluene	5.36	ug/L	1.0	107	79	135			
Dibromomethane	5.12	ug/L	1.0	102	72	133			
1,2-Dichlorobenzene	5.20	ug/L	1.0	104	78	129			
1,3-Dichlorobenzene	5.28	ug/L	1.0	106	79	132			
1,4-Dichlorobenzene	5.12	ug/L	1.0	102	78	132			
Dichlorodifluoromethane	4.92	ug/L	1.0	98.4	55	141			
1,1-Dichloroethane	4.96	ug/L	1.0	99.2	72	130			
1,2-Dichloroethane	4.92	ug/L	1.0	98.4	57	146			
1,1-Dichloroethene	4.56	ug/L	1.0	91.2	66	142			

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Client: MT DEQ
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Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: B_R61271
Sample ID: LCS	Laboratory Control Spike								07/01/05 12:55
cis-1,2-Dichloroethene	4.80	ug/L	1.0	96	74	133			
trans-1,2-Dichloroethene	5.08	ug/L	1.0	102	76	138			
1,2-Dichloropropane	5.16	ug/L	1.0	103	72	135			
1,3-Dichloropropane	5.04	ug/L	1.0	101	75	134			
2,2-Dichloropropane	5.68	ug/L	1.0	114	42	167			
1,1-Dichloropropene	5.04	ug/L	1.0	101	72	140			
cis-1,3-Dichloropropene	5.32	ug/L	1.0	106	75	132			
trans-1,3-Dichloropropene	5.16	ug/L	1.0	103	77	145			
Ethylbenzene	5.28	ug/L	1.0	106	78	131			
Methyl ethyl ketone	45.6	ug/L	20	91.2	55	145			
Methyl tert-butyl ether (MTBE)	5.08	ug/L	1.0	102	58	151			
Methylene chloride	4.56	ug/L	1.0	91.2	73	126			
Styrene	5.36	ug/L	1.0	107	76	134			
1,1,1,2-Tetrachloroethane	5.16	ug/L	1.0	103	75	135			
1,1,2,2-Tetrachloroethane	5.20	ug/L	1.0	104	72	132			
Toluene	5.24	ug/L	1.0	105	78	134			
1,1,1-Trichloroethane	5.04	ug/L	1.0	101	64	141			
1,1,2-Trichloroethane	5.04	ug/L	1.0	101	72	133			
Trichloroethene	5.68	ug/L	1.0	114	75	138			
Trichlorofluoromethane	5.08	ug/L	1.0	102	58	139			
1,2,3-Trichloropropane	5.24	ug/L	1.0	105	67	133			
Vinyl chloride	5.04	ug/L	1.0	101	66	140			
m+p-Xylenes	10.6	ug/L	1.0	106	78	133			
o-Xylene	5.32	ug/L	1.0	106	79	136			
Xylenes, Total	16.0	ug/L	1.0	106	70	130			
Surr: Dibromofluoromethane			1.0	97.6	77	126			
Surr: 1,2-Dichloroethane-d4			1.0	98	70	130			
Surr: Toluene-d8			1.0	102	79	122			
Surr: p-Bromofluorobenzene			1.0	102	76	127			
Sample ID: BLANK	Method Blank								07/01/05 13:29
Benzene	ND	ug/L	1.0						
Bromobenzene	ND	ug/L	1.0						
Bromochloromethane	ND	ug/L	1.0						
Bromodichloromethane	ND	ug/L	1.0						
Bromoform	ND	ug/L	1.0						
Bromomethane	ND	ug/L	1.0						
Carbon tetrachloride	ND	ug/L	1.0						
Chlorobenzene	ND	ug/L	1.0						
Chlorodibromomethane	ND	ug/L	1.0						
Chloroethane	ND	ug/L	1.0						

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Remediation Division

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: MT DEQ
Project: BN Livingston

Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: B_R61271
Sample ID: BLANK	Method Blank								07/01/05 13:29
2-Chloroethyl vinyl ether	ND	ug/L	1.0						
Chloroform	ND	ug/L	1.0						
Chloromethane	ND	ug/L	1.0						
1,2-Dibromoethane	ND	ug/L	1.0						
2-Chlorotoluene	ND	ug/L	1.0						
4-Chlorotoluene	ND	ug/L	1.0						
Dibromomethane	ND	ug/L	1.0						
1,2-Dichlorobenzene	ND	ug/L	1.0						
1,3-Dichlorobenzene	ND	ug/L	1.0						
1,4-Dichlorobenzene	ND	ug/L	1.0						
Dichlorodifluoromethane	ND	ug/L	1.0						
1,1-Dichloroethane	ND	ug/L	1.0						
1,2-Dichloroethane	ND	ug/L	1.0						
1,1-Dichloroethene	ND	ug/L	1.0						
cis-1,2-Dichloroethene	ND	ug/L	1.0						
trans-1,2-Dichloroethene	ND	ug/L	1.0						
1,2-Dichloropropane	ND	ug/L	1.0						
1,3-Dichloropropane	ND	ug/L	1.0						
2,2-Dichloropropane	ND	ug/L	1.0						
1,1-Dichloropropene	ND	ug/L	1.0						
cis-1,3-Dichloropropene	ND	ug/L	1.0						
trans-1,3-Dichloropropene	ND	ug/L	1.0						
Ethylbenzene	ND	ug/L	1.0						
Methyl ethyl ketone	ND	ug/L	20						
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Methylene chloride	ND	ug/L	1.0						
Styrene	ND	ug/L	1.0						
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0						
Toluene	ND	ug/L	1.0						
1,1,1-Trichloroethane	ND	ug/L	1.0						
1,1,2-Trichloroethane	ND	ug/L	1.0						
Trichloroethene	ND	ug/L	1.0						
Trichlorofluoromethane	ND	ug/L	1.0						
1,2,3-Trichloropropane	ND	ug/L	1.0						
Vinyl chloride	ND	ug/L	1.0						
m+p-Xylenes	ND	ug/L	1.0						
o-Xylene	ND	ug/L	1.0						
Xylenes, Total	ND	ug/L	1.0						
Surr: Dibromofluoromethane			1.0	96.8	77	126			

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Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: MT DEQ
Project: BN Livingston

Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B								Batch: B_R61271	
Sample ID: BLANK	Method Blank							07/01/05 13:29	
Surr: 1,2-Dichloroethane-d4			1.0	97.6	70	130			
Surr: Toluene-d8			1.0	102	79	122			
Surr: p-Bromofluorobenzene			1.0	104	76	127			
Sample ID: H05060258-001A	Sample Matrix Spike							07/05/05 22:57	
Benzene	56.8	ug/L	10	114	71	133	0	20	
Bromobenzene	55.2	ug/L	10	110	78	133	0	20	
Bromochloromethane	56.8	ug/L	10	114	68	131	0	20	
Bromodichloromethane	50.0	ug/L	10	100	67	138	0	20	
Bromoform	52.0	ug/L	10	104	64	136	0	20	
Bromomethane	67.2	ug/L	10	134	60	138	0	20	
Carbon tetrachloride	58.8	ug/L	10	118	61	144	0	20	
Chlorobenzene	52.8	ug/L	10	106	78	136	0	20	
Chlorodibromomethane	48.4	ug/L	10	96.8	72	136	0	20	
Chloroethane	58.0	ug/L	10	116	64	136	0	20	
2-Chloroethyl vinyl ether	4.60	ug/L	10	9.2	64	132	0	20	S
Chloroform	57.2	ug/L	10	114	69	133	0	20	
Chloromethane	65.6	ug/L	10	131	63	149	0	20	
1,2-Dibromoethane	52.0	ug/L	10	104	75	131	0	20	
2-Chlorotoluene	54.4	ug/L	10	109	74	135	0	20	
4-Chlorotoluene	56.4	ug/L	10	113	79	135	0	20	
Dibromomethane	53.6	ug/L	10	107	72	133	0	20	
1,2-Dichlorobenzene	53.6	ug/L	10	107	78	129	0	20	
1,3-Dichlorobenzene	55.2	ug/L	10	110	79	132	0	20	
1,4-Dichlorobenzene	53.2	ug/L	10	106	78	132	0	20	
Dichlorodifluoromethane	64.8	ug/L	10	130	55	141	0	20	
1,1-Dichloroethane	56.4	ug/L	10	113	72	130	0	20	
1,2-Dichloroethane	59.6	ug/L	10	119	57	146	0	20	
1,1-Dichloroethene	52.4	ug/L	10	105	66	142	0	20	
cis-1,2-Dichloroethene	59.2	ug/L	10	118	74	133	0	20	
trans-1,2-Dichloroethene	57.2	ug/L	10	114	76	138	0	20	
1,2-Dichloropropane	51.6	ug/L	10	103	72	135	0	20	
1,3-Dichloropropane	51.6	ug/L	10	103	75	134	0	20	
2,2-Dichloropropane	53.6	ug/L	10	107	42	167	0	20	
1,1-Dichloropropene	58.4	ug/L	10	117	72	140	0	20	
cis-1,3-Dichloropropene	52.0	ug/L	10	104	75	132	0	20	
trans-1,3-Dichloropropene	52.0	ug/L	10	104	77	145	0	20	
Ethylbenzene	54.8	ug/L	10	110	78	131	0	20	
Methyl ethyl ketone	472	ug/L	200	94.4	55	145	0	20	
Methyl tert-butyl ether (MTBE)	58.8	ug/L	10	118	58	151	0	20	
Methylene chloride	54.8	ug/L	10	110	73	126	0	20	

Qualifiers:

RL - Analyte reporting limit.
S - Spike recovery outside of advisory limits.
ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: MT DEQ
Project: BN Livingston

Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B								Batch: B_R61271	
Sample ID: H05060258-001A	Sample Matrix Spike							07/05/05 22:57	
Styrene	55.2	ug/L	10	110	76	134	0	20	
1,1,1,2-Tetrachloroethane	56.0	ug/L	10	112	75	135	0	20	
1,1,2,2-Tetrachloroethane	53.2	ug/L	10	106	72	132	0	20	
Toluene	54.4	ug/L	10	109	78	134	0	20	
1,1,1-Trichloroethane	60.0	ug/L	10	120	64	141	0	20	
1,1,2-Trichloroethane	52.4	ug/L	10	105	72	133	0	20	
Trichloroethene	54.4	ug/L	10	109	75	138	0	20	
Trichlorofluoromethane	60.4	ug/L	10	121	58	139	0	20	
1,2,3-Trichloropropane	53.6	ug/L	10	107	67	133	0	20	
Vinyl chloride	56.4	ug/L	10	113	66	140	0	20	
m+p-Xylenes	108	ug/L	10	108	78	133	0	20	
o-Xylene	54.4	ug/L	10	109	79	136	0	20	
Xylenes, Total	163	ug/L	10	109	70	130	0	20	
Surr: Dibromofluoromethane			10	113	77	126			
Surr: 1,2-Dichloroethane-d4			10	113	70	130			
Surr: Toluene-d8			10	104	79	122			
Surr: p-Bromofluorobenzene			10	105	76	127			
Sample ID: H05060258-001A	Sample Matrix Spike Duplicate							07/05/05 23:31	
Benzene	54.8	ug/L	10	110	71	133	3.6	20	
Bromobenzene	53.2	ug/L	10	106	78	133	3.7	20	
Bromochloromethane	54.0	ug/L	10	108	68	131	5.1	20	
Bromodichloromethane	48.4	ug/L	10	96.8	67	138	3.3	20	
Bromoform	51.2	ug/L	10	102	64	136	1.6	20	
Bromomethane	68.0	ug/L	10	136	60	138	1.2	20	
Carbon tetrachloride	56.8	ug/L	10	114	61	144	3.5	20	
Chlorobenzene	50.8	ug/L	10	102	78	136	3.9	20	
Chlorodibromomethane	46.8	ug/L	10	93.6	72	136	3.4	20	
Chloroethane	56.4	ug/L	10	113	64	136	2.8	20	
2-Chloroethyl vinyl ether	4.00	ug/L	10	8	64	132	0	20	S
Chloroform	54.8	ug/L	10	110	69	133	4.3	20	
Chloromethane	66.0	ug/L	10	132	63	149	0.6	20	
1,2-Dibromoethane	51.2	ug/L	10	102	75	131	1.6	20	
2-Chlorotoluene	54.4	ug/L	10	109	74	135	0	20	
4-Chlorotoluene	54.8	ug/L	10	110	79	135	2.9	20	
Dibromomethane	49.2	ug/L	10	98.4	72	133	8.6	20	
1,2-Dichlorobenzene	52.8	ug/L	10	106	78	129	1.5	20	
1,3-Dichlorobenzene	53.2	ug/L	10	106	79	132	3.7	20	
1,4-Dichlorobenzene	52.0	ug/L	10	104	78	132	2.3	20	
Dichlorodifluoromethane	64.4	ug/L	10	129	55	141	0.6	20	
1,1-Dichloroethane	54.0	ug/L	10	108	72	130	4.3	20	

Qualifiers:

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S - Spike recovery outside of advisory limits.

ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: MT DEQ
Project: BN Livingston

Report Date: 07/07/05
Work Order: H05060258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B								Batch: B_R61271	
Sample ID: H05060258-001A	Sample Matrix Spike Duplicate							07/05/05 23:31	
1,2-Dichloroethane	55.2	ug/L	10	110	57	146	7.7	20	
1,1-Dichloroethene	50.8	ug/L	10	102	66	142	3.1	20	
cis-1,2-Dichloroethene	58.0	ug/L	10	116	74	133	2.0	20	
trans-1,2-Dichloroethene	55.2	ug/L	10	110	76	138	3.6	20	
1,2-Dichloropropane	49.2	ug/L	10	98.4	72	135	4.8	20	
1,3-Dichloropropane	49.6	ug/L	10	99.2	75	134	4.0	20	
2,2-Dichloropropane	51.2	ug/L	10	102	42	167	4.6	20	
1,1-Dichloropropene	55.2	ug/L	10	110	72	140	5.6	20	
cis-1,3-Dichloropropene	50.8	ug/L	10	102	75	132	2.3	20	
trans-1,3-Dichloropropene	51.2	ug/L	10	102	77	145	1.6	20	
Ethylbenzene	52.4	ug/L	10	105	78	131	4.5	20	
Methyl ethyl ketone	484	ug/L	200	96.8	55	145	2.5	20	
Methyl tert-butyl ether (MTBE)	56.8	ug/L	10	114	58	151	3.5	20	
Methylene chloride	53.6	ug/L	10	107	73	126	2.2	20	
Styrene	52.4	ug/L	10	105	76	134	5.2	20	
1,1,1,2-Tetrachloroethane	53.6	ug/L	10	107	75	135	4.4	20	
1,1,2,2-Tetrachloroethane	52.4	ug/L	10	105	72	132	1.5	20	
Toluene	52.0	ug/L	10	104	78	134	4.5	20	
1,1,1-Trichloroethane	57.6	ug/L	10	115	64	141	4.1	20	
1,1,2-Trichloroethane	50.0	ug/L	10	100	72	133	4.7	20	
Trichloroethene	52.8	ug/L	10	106	75	138	3.0	20	
Trichlorofluoromethane	58.0	ug/L	10	116	58	139	4.1	20	
1,2,3-Trichloropropane	51.2	ug/L	10	102	67	133	4.6	20	
Vinyl chloride	56.0	ug/L	10	112	66	140	0.7	20	
m+p-Xylenes	105	ug/L	10	105	78	133	3.4	20	
o-Xylene	52.8	ug/L	10	106	79	136	3.0	20	
Surr: Dibromofluoromethane			10	113	77	126			
Surr: 1,2-Dichloroethane-d4			10	112	70	130			
Surr: Toluene-d8			10	103	79	122			
Surr: p-Bromofluorobenzene			10	106	76	127			

Qualifiers:
RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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Energy Laboratories Inc

Sample Receipt Checklist

Client Name MT DEQ

Date and Time Received: 6/28/2005 2:06:00 PM

Work Order Number H05060258

Received by: skr

Checklist completed by: Lorene Randall 6/28/05 (Signature / Date)

Reviewed by HBB 6/30/05 (Initials / Date)

Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☐	No ☑	4.5 °C On Ice
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments:

Corrective Action

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Remediation Division

ENERGY LABORATORIES

Chain of Custody and Analytical Request Record

PLEASE PRINT, provide as much information as possible. Refer to corresponding notes on reverse side.

Company Name: MDEQ

Project Name, PWS #, Permit #, Etc.: BN Livingston

Report Mail Address: PO BOX 200901 Helena MT 59620

Contact Name, Phone, Fax, E-mail: Amy Sivers 841-5068 asivers@mt.gov

Sampler Name if other than Contact:

Invoice Address: As above

Invoice Contact & Phone #: As above

Purchase Order #: 483720

ELI Quote #:

Report Required For: POTW/WWTP ☐ DW ☒ Other _____

Special Report Formats - ELI must be notified prior to sample submittal for the following:

NELAC ☐ A2LA ☐ Level IV ☐

Other _____

EDD/EDT ☐ Format _____

Notify ELI prior to RUSH sample submittal for additional charges and scheduling

Shipped by: hand

Cooler ID(s): yes

Receipt Temp: 4.5 °C

Custody Seal Y N

Intact Y N

Signature Match Y N

Lab ID

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX (Number of Containers; Sample Type: A W S V B O; Air Water Soils/Solids Vegetation Bioassay Other)	8260B VOCs	524.2 VOCs								SEE ATTACHED	Normal Turnaround (TAT)	RUSH Turnaround (TAT)	Comments:	LABORATORY USE ONLY
1	89-4	6/26/05	3:40	2 W	X										X			1050600258-a
2	89-8	6/27/05	12:50	2 W		X									X			-a
3	TRIP BLANK	—	—	2W		X									X			-a
4																		
5																		
6																		
7																		
8																		
9																		
10																		

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Custody Record MUST be Signed

Relinquished by (print): ASW Date/Time: 6/28/05 3PM Signature: ASW

Received by (print): Serena Randall Date/Time: 6/28/05 14:56 Signature: Serena Randall

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Sample Disposal: Return to client: _____ Lab Disposal: _____

LABORATORY USE ONLY

Sample Type: _____ # of fractions _____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

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