



FOSTER WHEELER ENVIRONMENTAL CORPORATION



July 20, 2000
TERC-009.001-00X-004

Mr. Sanford Hutsell
Cannon Air Force Base
Attn: 27 CES/CEV
506 North D.L. Ingram Blvd.
Cannon AFB, NM 88103-5136

Subject: TERC No. DACW45-94-D-003, Delivery Order 9, Work Authorization Directive 1; Transmittal of Groundwater Monitoring Data for Melrose Air Force Range; Cannon Air Force Base, New Mexico

Dear Mr. Hutsell:

Enclosed in this transmittal are field sampling information and the analytical results from the supplemental groundwater monitoring program at Melrose Air Force Range (AFR) which took place in May 2000. Groundwater samples were collected at Melrose AFR to supplement the existing RCRA Facility Investigation (RFI) in response to comments received from the New Mexico Environment Department.

The supplemental RFI groundwater monitoring program took place at Melrose AFR May 8-11. A total of 15 wells were gauged at five sites, and only 9 wells contained enough water to permit sampling. Attachment 1 presents a summary of information obtained during the supplemental field program. The analytical data, presented in Attachment 2, have been provided to facilitate the disposition of presample purge water generated during sampling activities at Melrose AFR in May.

If you have any questions or comments please contact me at (505) 878-8924.

Sincerely,
Foster Wheeler Environmental Corporation

Carol L. Bieniulis
Delivery Order Manager

CLB

Enclosures

Mr. Sanford Hutsell
July 20, 2000
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cc: T. Zink/USACE, Omaha (2 copies)
J. Pike/USAF, Cannon AFB (1 copy)
P. Moss/FWENC, Denver (1 copy)
S. Seyedian/FWENC, Denver
TERC-4 Program File (1 copy)



Well ID	Total Depth (ft TOC)	Stick-up (ft)	Screened Interval Depth (ft TOC)	May 2000 Water Level (ft TOC)	Comments
SWMU 114					
M114MW001	182.0	2.1	161.6 - 181.6	151.1	50% recharge within 24 hours
M114MW002	184.0	2.0	163.6 - 183.6	149.9	50% recharge within 24 hours
M114MW003	183.8	2.2	163.4 - 183.4	151.2	50% recharge within 24 hours
M114MW004	185.4	2.0	163.0 - 183.0	148.5	50% recharge within 24 hours
SWMU 117					
M117MW001	43.2	2.3	22.7 - 42.7	42.8	Wet sediment at the bottom of well; no sample collected
M117MW002	43.0	2.2	22.6 - 42.6	42.8	Wet sediment at the bottom of well; no sample collected
M117MW003	43.0	2.2	22.6 - 42.6	42.6	Wet sediment at the bottom of well; no sample collected
M117MW004	43.3	2.1	22.9 - 42.9	Dry	Dry at the time of sampling
AOC 1					
MAO1MW001	162.4	1.7	142.0 - 162.0	144.6	50% recharge within 24 hours
MAO1MW002	157.0	1.6	146.8 - 156.8	143.1	50% recharge within 24 hours
MAO1MW003	161.0	2.3	140.6 - 160.6	145.0	50% recharge within 24 hours
MAO1MW004	162	2.6	141 - 161	143.2	50% recharge within 24 hours
AOC 2					
MAO2MW001S	49.6	2.2	39.2 - 49.2	Dry	Dry at the time of installation/development and sampling
MAO2MW001D	184.5	2.5	163.1 - 183.1	108.1	80% recharge within 24 hours
AOC 3					
MAO3MW001	42.1	-0.7	21.7 - 41.7	Dry	Dry at the time of installation/development and sampling

AOC - Area of concern

ft - feet

ID - identification

SWMU - Solid waste management unit

TOC - Top of casing

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

Submitted to:

Foster Wheeler Environmental Corp

Attention: Pam Moss

143 Union Blvd. Ste 1010

Lakewood CA 80228

Tel: (303)980-3519 Fax: (303)980-3539

APCL Analytical Report

Service ID #: 801-002985

Collected by: C.B.

Collected on: 05/10-11/00

Received: 05/15/00

Extracted: 05/16/00

Tested: 05/15-17/00

Reported: 05/23/00

Sample Description: Water from Cannon AFB

Project Description: 5155.0009.0001.CZZ00 Melrose RFI GW

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result			Trip Blank
				M114MW004 00-02985-1	MA01MW001 00-02985-2	MA01MW002 00-02985-3	
CYANIDE, TOTAL	335.2	mg/L	0.05	<0.05	<0.05	<0.05	-
Dilution Factor				1000	125	100	1
CHLORIDE CL⁻	300.0	mg/L	0.2	4,000	619	515	-
FLUORIDE, F⁻	300.0	mg/L	0.1	<100	<13	<10	-
NITRATE AS N	300.0	mg/L	0.1	<100	<13	<10	-
SULFATE	300.0	mg/L	0.5	2,500	690	560	-
METALS, TOTAL							
Dilution Factor				5	1	1	1
ALUMINUM	6010	µg/L	100	4,440	18,600	2,330	-
ANTIMONY	6010	µg/L	10	<50	<10	<10	-
ARSENIC	6010	µg/L	5	<25	2.7J	<5	-
BARIUM	6010	µg/L	10	88.6	447	60.2	-
BERYLLIUM	6010	µg/L	2	<10	<2	<2	-
CADMIUM	6010	µg/L	2	<10	<2	<2	-
CALCIUM	6010	µg/L	200	377,000	97,600	45,900	-
CHROMIUM	6010	µg/L	5	14.2J	66.3	18.8	-
COBALT	6010	µg/L	5	5.2J	13.3	2.3J	-
COPPER	6010	µg/L	10	<50	21.5	6.8J	-
IRON	6010	µg/L	50	3,400	17,300	1,680	-
LEAD	6010	µg/L	5	<25	9.0	<5	-
MAGNESIUM	6010	µg/L	100	311,000	55,000	38,100	-
MANGANESE	6010	µg/L	5	79.4	966	83.0	-
Dilution Factor				1	1	1	1
MERCURY	7470	µg/L	0.5	<0.5	0.59	0.53	-
Dilution Factor				5	1	1	1
MOLYBDENUM	6010	µg/L	5	5.3J	10.9	11.5	-
NICKEL	6010	µg/L	5	10.4J	49.0	15.2	-
POTASSIUM	6010	µg/L	400	28,400	13,800	11,100	-
SELENIUM	6010	µg/L	10	15.5J	5.9J	2.2J	-
SILVER	6010	µg/L	10	<50	<10	<10	-
SODIUM	6010	µg/L	2000	2,450,000	601,000	535,000	-
THALLIUM	6010	µg/L	10	<50	<10	<10	-
VANADIUM	6010	µg/L	10	12.5J	45.7	14.2	-
ZINC	6010	µg/L	10	26.4J	69.5	13.3	-

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result			
				M114MW004 00-02985-1	MA01MW001 00-02985-2	MA01MW002 00-02985-3	Trip Blank 00-02985-4
VOLATILE ORGANICS							
Dilution Factor				1	1	1	1
ACETONE	8260	µg/L	100	<100	<100	<100	25J
BENZENE	8260	µg/L	5	<5	<5	<5	<5
BROMOBENZENE	8260	µg/L	5	<5	<5	<5	<5
BROMOCHLOROMETHANE	8260	µg/L	5	<5	<5	<5	<5
BROMODICHLOROMETHANE	8260	µg/L	5	<5	<5	<5	<5
BROMOFORM	8260	µg/L	5	<5	<5	<5	<5
BROMOMETHANE	8260	µg/L	5	<5	<5	<5	<5
2-BUTANONE (MEK)	8260	µg/L	100	<100	<100	<100	5J
N-BUTYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
SEC-BUTYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
TERT-BUTYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
CARBON DISULFIDE	8260	µg/L	5	<5	<5	<5	<5
CARBON TETRACHLORIDE	8260	µg/L	5	<5	<5	<5	<5
CHLOROBENZENE	8260	µg/L	5	<5	<5	<5	<5
DIBROMOCHLOROMETHANE	8260	µg/L	5	<5	<5	<5	<5
CHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
CHLOROFORM	8260	µg/L	5	<5	<5	<5	<5
CHLOROMETHANE	8260	µg/L	5	<5	<5	<5	<5
2-CHLOROTOLUENE	8260	µg/L	5	<5	<5	<5	<5
4-CHLOROTOLUENE	8260	µg/L	5	<5	<5	<5	<5
1,2-DIBROMO-3-CHLOROPROPANE (DB)	8260	µg/L	5	<5	<5	<5	<5
1,2-DIBROMOETHANE (EDB)	8260	µg/L	5	<5	<5	<5	<5
DIBROMOMETHANE	8260	µg/L	5	<5	<5	<5	<5
1,2-DICHLOROBENZENE	8260	µg/L	5	<5	<5	<5	<5
1,3-DICHLOROBENZENE	8260	µg/L	5	<5	<5	<5	<5
1,4-DICHLOROBENZENE	8260	µg/L	5	<5	<5	<5	<5
DICHLORODIFLUOROMETHANE	8260	µg/L	5	<5	<5	<5	<5
1,1-DICHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
1,2-DICHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
1,1-DICHLOROETHENE	8260	µg/L	5	<5	<5	<5	<5
CIS-1,2-DICHLOROETHENE	8260	µg/L	5	<5	<5	<5	<5
TRANS-1,2-DICHLOROETHENE	8260	µg/L	5	<5	<5	<5	<5
1,2-DICHLOROPROPANE	8260	µg/L	5	<5	<5	<5	<5
1,3-DICHLOROPROPANE	8260	µg/L	5	<5	<5	<5	<5
2,2-DICHLOROPROPANE	8260	µg/L	5	<5	<5	<5	<5
1,1-DICHLOROPROPENE	8260	µg/L	5	<5	<5	<5	<5
CIS-1,3-DICHLOROPROPENE	8260	µg/L	5	<5	<5	<5	<5
TRANS-1,3-DICHLOROPROPENE	8260	µg/L	5	<5	<5	<5	<5
ETHYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
HEXACHLOROBUTADIENE	8260	µg/L	5	<5	<5	<5	<5
ISOPROPYLBENZENE (CUMENE)	8260	µg/L	5	<5	<5	<5	<5
P-ISOPROPYLTOLUENE	8260	µg/L	5	<5	<5	<5	<5
METHYLENE CHLORIDE	8260	µg/L	5	0.7J	0.5J	0.4J	1J
4-METHYL-2-PENTANONE (MIBK)	8260	µg/L	50	<50	<50	<50	<50
METHYL TERT-BUTYL ETHER	8260	µg/L	10	<10	<10	<10	<10

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result			
				M114MW004 00-02985-1	MA01MW001 00-02985-2	MA01MW002 00-02985-3	Trip Blank 00-02985-4
NAPHTHALENE	8260	µg/L	5	<5	<5	<5	<5
N-PROPYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
STYRENE	8260	µg/L	5	<5	<5	<5	<5
1,1,1,2-TETRACHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
TETRACHLOROETHENE	8260	µg/L	5	<5	<5	<5	<5
TOLUENE	8260	µg/L	5	<5	<5	<5	<5
1,2,3-TRICHLOROBENZENE	8260	µg/L	5	<5	<5	<5	<5
1,2,4-TRICHLOROBENZENE	8260	µg/L	5	<5	<5	<5	<5
1,1,1-TRICHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
1,1,2-TRICHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
TRICHLOROETHENE	8260	µg/L	5	<5	<5	<5	<5
TRICHLOROFLUOROMETHANE	8260	µg/L	5	<5	<5	<5	<5
1,2,3-TRICHLOROPROPANE	8260	µg/L	5	<5	<5	<5	<5
1,2,4-TRIMETHYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
1,3,5-TRIMETHYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
VINYL CHLORIDE	8260	µg/L	5	<5	<5	<5	<5
XYLENES (TOTAL)	8260	µg/L	15	<15	<15	<15	<15
NITROAROMATICS AND NITROAMINES							
Dilution Factor				1	1	1	1
4-AMINO-2,6-DINITROTOLUENE	8330	µg/L	1	<1	<1	<1	-
2-AMINO-4,6-DINITROTOLUENE	8330	µg/L	1	<1	<1	<1	-
1,3-DINITROBENZENE	8330	µg/L	1	<1	<1	<1	-
2,4-DINITROTOLUENE	8330	µg/L	1	<1	<1	<1	-
2,6-DINITROTOLUENE	8330	µg/L	1	<1	<1	<1	-
HMX	8330	µg/L	1	<1	<1	<1	-
NITROBENZENE	8330	µg/L	1	<1	<1	<1	-
3-NITROTOLUENE	8330	µg/L	1	<1	<1	<1	-
RDX	8330	µg/L	1	<1	<1	<1	-
TETRYL	8330	µg/L	1	<1	<1	<1	-
1,3,5-TRINITROBENZENE (TNB)	8330	µg/L	1	<1	<1	<1	-
2,4,6-TRINITROTOLUENE (TNT)	8330	µg/L	1	<1	<1	<1	-
2-NITROTOLUENE (a)	8330	µg/L	0.5	<0.5	<0.5	<0.5	-
4-NITROTOLUENE (a)	8330	µg/L	0.5	<0.5	<0.5	<0.5	-

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit.

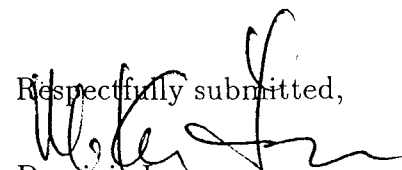
"-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

(a) Co-elution observed during analysis. Unable to separate.

Respectfully submitted,



Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Submitted to:
 Foster Wheeler Environmental Corp
 Attention: Pam Moss
 143 Union Blvd. Ste 1010
 Lakewood CO 80228
 Tel: (303)980-3519 Fax: (303)980-3539

APCL Analytical Report

Service ID #: 801-002969 Received: 05/12/00
 Collected by: C.B. Extracted: 05/16/00
 Collected on: 05/10-11/00 Tested: 05/12-16/00
 Reported: 05/19/00
 Sample Description: Water from Cannon AFB
 Project Description: 5155.0009.0001.CZZ00 Melrose RFI GW

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result			
				M114MW001 00-02969-1	M114MW002 00-02969-2	M114MW003 00-02969-3	MA01MW003 00-02969-4
CYANIDE, TOTAL	9010B	mg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dilution Factor				1000	1000	1000	125
CHLORIDE CL⁻,	300.0	mg/L	0.2	4,110	4,230	4,090	639
FLUORIDE	300.0	mg/L	0.1	< 100	< 100	< 100	< 13
NITRATE (NO₃⁻) AS N	300.0	mg/L	0.04	< 40	< 40	< 40	< 5
SULFATE	300.0	mg/L	0.5	2,100	2,000	2,000	670
METALS, TOTAL							
Dilution Factor				5	5	5	1
ALUMINUM	6010	µg/L	100	3,050	22,600	1,520	3,200
ANTIMONY	6010	µg/L	10	< 50	< 50	< 50	< 10
ARSENIC	6010	µg/L	5	< 25	< 25	< 25	< 5
BARIUM	6010	µg/L	10	101	401	45.2J	84.4
BERYLLIUM	6010	µg/L	2	< 10	0.52J	< 10	< 2
CADMIUM	6010	µg/L	2	< 10	< 10	< 10	< 2
CALCIUM	6010	µg/L	200	369,000	352,000	372,000	66,900
CHROMIUM	6010	µg/L	5	15.8J	47.0	9.5J	17.2
COBALT	6010	µg/L	5	6.6J	14.7J	5.8J	3.0J
COPPER	6010	µg/L	10	< 50	< 50	< 50	5.2J
IRON	6010	µg/L	50	2,510	18,100	1,520	2,640
LEAD	6010	µg/L	5	< 25	< 25	< 25	2.3J
MAGNESIUM	6010	µg/L	100	307,000	315,000	286,000	54,800
MANGANESE	6010	µg/L	5	87.3	244	36.0	155
Dilution Factor				1	1	1	1
MERCURY	7470	µg/L	0.5	0.50J	0.45J	0.39J	0.48J
Dilution Factor				5	5	5	1
MOLYBDENUM	6010	µg/L	5	6.8J	5.3J	< 25	7.8
NICKEL	6010	µg/L	5	12.4J	37.6	9.6J	17.9
POTASSIUM	6010	µg/L	400	28,600	34,500	26,700	11,700
SELENIUM	6010	µg/L	10	39.4J	10.5J	38.3J	2.1J
SILVER	6010	µg/L	10	< 50	< 50	< 50	< 10
SODIUM	6010	µg/L	2000	2,430,000	2,450,000	2,610,000	565,000
THALLIUM	6010	µg/L	10	< 50	< 50	< 50	< 10
VANADIUM	6010	µg/L	10	9.0J	46.9J	16.2J	16.2
ZINC	6010	µg/L	10	< 50	60.3	< 50	31.8

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result			
				M114MW001	M114MW002	M114MW003	MA01MW003
				00-02969-1	00-02969-2	00-02969-3	00-02969-4
VOLATILE ORGANICS							
Dilution Factor				1	1	1	1
ACETONE	8260	μg/L	100	< 100	< 100	< 100	< 100
BENZENE	8260	μg/L	5	< 5	< 5	< 5	< 5
BROMOBENZENE	8260	μg/L	5	< 5	< 5	< 5	< 5
BROMOCHLOROMETHANE	8260	μg/L	5	< 5	< 5	< 5	< 5
BROMODICHLOROMETHANE	8260	μg/L	5	< 5	< 5	< 5	< 5
BROMOFORM	8260	μg/L	5	< 5	< 5	< 5	< 5
BROMOMETHANE	8260	μg/L	5	< 5	< 5	< 5	< 5
2-BUTANONE (MEK)	8260	μg/L	100	< 100	< 100	< 100	< 100
N-BUTYLBENZENE	8260	μg/L	5	< 5	< 5	< 5	< 5
SEC-BUTYLBENZENE	8260	μg/L	5	< 5	< 5	< 5	< 5
TERT-BUTYLBENZENE	8260	μg/L	5	< 5	< 5	< 5	< 5
CARBON DISULFIDE	8260	μg/L	5	< 5	< 5	< 5	< 5
CARBON TETRACHLORIDE	8260	μg/L	5	< 5	< 5	< 5	< 5
CHLOROBENZENE	8260	μg/L	5	< 5	< 5	< 5	< 5
DIBROMOCHLOROMETHANE	8260	μg/L	5	< 5	< 5	< 5	< 5
CHLOROETHANE	8260	μg/L	5	< 5	< 5	< 5	< 5
CHLOROFORM	8260	μg/L	5	< 5	< 5	< 5	< 5
CHLOROMETHANE	8260	μg/L	5	< 5	< 5	< 5	< 5
2-CHLOROTOLUENE	8260	μg/L	5	< 5	< 5	< 5	< 5
4-CHLOROTOLUENE	8260	μg/L	5	< 5	< 5	< 5	< 5
1,2-DIBROMO-3-CHLOROPROPANE (DB)	8260	μg/L	5	< 5	< 5	< 5	< 5
1,2-DIBROMOETHANE (EDB)	8260	μg/L	5	< 5	< 5	< 5	< 5
DIBROMOMETHANE	8260	μg/L	5	< 5	< 5	< 5	< 5
1,2-DICHLOROBENZENE	8260	μg/L	5	< 5	< 5	< 5	< 5
1,3-DICHLOROBENZENE	8260	μg/L	5	< 5	< 5	< 5	< 5
1,4-DICHLOROBENZENE	8260	μg/L	5	< 5	< 5	< 5	< 5
DICHLORODIFLUOROMETHANE	8260	μg/L	5	< 5	< 5	< 5	< 5
1,1-DICHLOROETHANE	8260	μg/L	5	< 5	< 5	< 5	< 5
1,2-DICHLOROETHANE	8260	μg/L	5	< 5	< 5	< 5	< 5
1,1-DICHLOROETHENE	8260	μg/L	5	< 5	< 5	< 5	< 5
CIS-1,2-DICHLOROETHENE	8260	μg/L	5	< 5	< 5	< 5	< 5
TRANS-1,2-DICHLOROETHENE	8260	μg/L	5	< 5	< 5	< 5	< 5
1,2-DICHLOROPROPANE	8260	μg/L	5	< 5	< 5	< 5	< 5
1,3-DICHLOROPROPANE	8260	μg/L	5	< 5	< 5	< 5	< 5
2,2-DICHLOROPROPANE	8260	μg/L	5	< 5	< 5	< 5	< 5
1,1-DICHLOROPROPENE	8260	μg/L	5	< 5	< 5	< 5	< 5
CIS-1,3-DICHLOROPROPENE	8260	μg/L	5	< 5	< 5	< 5	< 5
TRANS-1,3-DICHLOROPROPENE	8260	μg/L	5	< 5	< 5	< 5	< 5
ETHYLBENZENE	8260	μg/L	5	< 5	< 5	< 5	< 5

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result			
				M114MW001	M114MW002	M114MW003	MA01MW003
				00-02969-1	00-02969-2	00-02969-3	00-02969-4
HEXACHLOROBUTADIENE	8260	µg/L	5	<5	<5	<5	<5
ISOPROPYLBENZENE (CUMENE)	8260	µg/L	5	<5	<5	<5	<5
P-ISOPROPYLTOLUENE	8260	µg/L	5	<5	<5	<5	<5
METHYLENE CHLORIDE	8260	µg/L	5	<5	0.4J	<5	0.4J
4-METHYL-2-PENTANONE (MIBK)	8260	µg/L	50	<50	<50	<50	<50
METHYL TERT-BUTYL ETHER	8260	µg/L	10	<10	<10	<10	<10
NAPHTHALENE	8260	µg/L	5	<5	<5	<5	<5
N-PROPYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
STYRENE	8260	µg/L	5	<5	<5	<5	<5
1,1,1,2-TETRACHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
TETRACHLOROETHENE	8260	µg/L	5	<5	<5	<5	<5
TOLUENE	8260	µg/L	5	<5	<5	<5	<5
1,2,3-TRICHLOROBENZENE	8260	µg/L	5	<5	<5	<5	<5
1,2,4-TRICHLOROBENZENE	8260	µg/L	5	<5	<5	<5	<5
1,1,1-TRICHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
1,1,2-TRICHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
TRICHLOROETHENE	8260	µg/L	5	<5	<5	<5	<5
TRICHLOROFLUOROMETHANE	8260	µg/L	5	<5	<5	<5	<5
1,2,3-TRICHLOROPROPANE	8260	µg/L	5	<5	<5	<5	<5
1,2,4-TRIMETHYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
1,3,5-TRIMETHYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
VINYL CHLORIDE	8260	µg/L	5	0.7J	<5	<5	<5
XYLENES (TOTAL)	8260	µg/L	15	<15	<15	<15	<15
NITROAROMATICS AND NITROAMINES							
Dilution Factor				1	1	1	1
4-AMINO-2,6-DINITROTOLUENE	8330	µg/L	1	<1	<1	<1	<1
2-AMINO-4,6-DINITROTOLUENE	8330	µg/L	1	<1	<1	<1	<1
1,3-DINITROBENZENE	8330	µg/L	1	<1	<1	<1	<1
2,4-DINITROTOLUENE	8330	µg/L	1	<1	<1	<1	<1
2,6-DINITROTOLUENE	8330	µg/L	1	<1	<1	<1	<1
HMX	8330	µg/L	1	<1	<1	<1	<1
NITROBENZENE	8330	µg/L	1	<1	<1	<1	<1
3-NITROTOLUENE	8330	µg/L	1	<1	<1	<1	<1
RDX	8330	µg/L	1	<1	<1	<1	<1
TETRYL	8330	µg/L	1	<1	<1	<1	<1
1,3,5-TRINITROBENZENE (TNB)	8330	µg/L	1	<1	<1	<1	<1
2,4,6-TRINITROTOLUENE (TNT)	8330	µg/L	1	<1	<1	<1	<1
2-NITROTOLUENE (a)	8330	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
4-NITROTOLUENE (a)	8330	µg/L	0.5	<0.5	<0.5	<0.5	<0.5

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Component Analyzed	Method	Unit	PQL	Analysis Result			Trip Blank
				MA01MW004 00-02969-5	MA02MW001D 00-02969-6	MA02MW001DD 00-02969-7	
CYANIDE, TOTAL	9010B	mg/L	0.05	<0.05	<0.05	<0.05	-
Dilution Factor				50	1000	1000	1
CHLORIDE CL⁻,	300.0	mg/L	0.2	316	3,100	3,000	-
FLUORIDE	300.0	mg/L	0.1	<5	<100	<100	-
NITRATE (NO₃⁻)	300.0	mg/L	0.04	<2	<40	<40	-
SULFATE	300.0	mg/L	0.5	390	2,500	2,600	-
METALS, TOTAL							
Dilution Factor				1	5	5	1
ALUMINUM	6010	μg/L	100	17,800	32,600	87,700	-
ANTIMONY	6010	μg/L	10	<10	<50	<50	-
ARSENIC	6010	μg/L	5	4.7J	<25	21.8J	-
BARIUM	6010	μg/L	10	153	264	553	-
BERYLLIUM	6010	μg/L	2	0.15J	0.72J	2.4J	-
CADMIUM	6010	μg/L	2	<2	<10	<10	-
CALCIUM	6010	μg/L	200	59,500	223,000	268,000	-
CHROMIUM	6010	μg/L	5	114	47.1	122	-
COBALT	6010	μg/L	5	12.8	17.1J	42.0	-
COPPER	6010	μg/L	10	17.9	<50	40.5J	-
IRON	6010	μg/L	50	14,700	23,000	68,100	-
LEAD	6010	μg/L	5	7.9	8.0J	42.0	-
MAGNESIUM	6010	μg/L	100	42,000	97,300	118,000	-
MANGANESE	6010	μg/L	5	356	754	1,710	-
Dilution Factor				1	1	1	1
MERCURY	7470	μg/L	0.5	0.57	0.54	0.43J	-
Dilution Factor				1	5	5	1
MOLYBDENUM	6010	μg/L	5	160	23.1J	25.4	-
NICKEL	6010	μg/L	5	78.0	43.1	111	-
POTASSIUM	6010	μg/L	400	11,600	25,300	40,900	-
SELENIUM	6010	μg/L	10	9.2J	18.5J	24.6J	-
SILVER	6010	μg/L	10	<10	<50	<50	-
SODIUM	6010	μg/L	2000	336,000	2,650,000	2,670,000	-
THALLIUM	6010	μg/L	10	<10	<50	<50	-
VANADIUM	6010	μg/L	10	53.0	53.6	141	-
ZINC	6010	μg/L	10	58.2	63.2	186	-

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Component Analyzed	Method	Unit	PQL	Analysis Result			
				MA01MW004 00-02969-5	MA02MW001D 00-02969-6	MA02MW001DD 00-02969-7	Trip Blank 00-02969-8
VOLATILE ORGANICS							
Dilution Factor				1	1	1	1
ACETONE	8260	µg/L	100	< 100	11J	10J	10J
BENZENE	8260	µg/L	5	< 5	0.6J	0.4J	< 5
BROMOBENZENE	8260	µg/L	5	< 5	< 5	< 5	< 5
BROMOCHLOROMETHANE	8260	µg/L	5	< 5	< 5	< 5	< 5
BROMODICHLOROMETHANE	8260	µg/L	5	< 5	< 5	< 5	< 5
BROMOFORM	8260	µg/L	5	< 5	< 5	< 5	< 5
BROMOMETHANE	8260	µg/L	5	< 5	< 5	< 5	< 5
2-BUTANONE (MEK)	8260	µg/L	100	< 100	< 100	< 100	4J
N-BUTYLBENZENE	8260	µg/L	5	< 5	< 5	< 5	< 5
SEC-BUTYLBENZENE	8260	µg/L	5	< 5	< 5	< 5	< 5
TERT-BUTYLBENZENE	8260	µg/L	5	< 5	< 5	< 5	< 5
CARBON DISULFIDE	8260	µg/L	5	< 5	< 5	< 5	< 5
CARBON TETRACHLORIDE	8260	µg/L	5	< 5	< 5	< 5	< 5
CHLOROBENZENE	8260	µg/L	5	< 5	< 5	< 5	< 5
DIBROMOCHLOROMETHANE	8260	µg/L	5	< 5	< 5	< 5	< 5
CHLOROETHANE	8260	µg/L	5	< 5	< 5	< 5	< 5
CHLOROFORM	8260	µg/L	5	< 5	< 5	< 5	< 5
CHLOROMETHANE	8260	µg/L	5	< 5	< 5	< 5	< 5
2-CHLOROTOLUENE	8260	µg/L	5	< 5	< 5	< 5	< 5
4-CHLOROTOLUENE	8260	µg/L	5	< 5	< 5	< 5	< 5
1,2-DIBROMO-3-CHLOROPROPANE (DB)	8260	µg/L	5	< 5	< 5	< 5	< 5
1,2-DIBROMOETHANE (EDB)	8260	µg/L	5	< 5	< 5	< 5	< 5
DIBROMOMETHANE	8260	µg/L	5	< 5	< 5	< 5	< 5
1,2-DICHLOROBENZENE	8260	µg/L	5	< 5	< 5	< 5	< 5
1,3-DICHLOROBENZENE	8260	µg/L	5	< 5	< 5	< 5	< 5
1,4-DICHLOROBENZENE	8260	µg/L	5	< 5	< 5	< 5	< 5
DICHLORODIFLUOROMETHANE	8260	µg/L	5	< 5	< 5	< 5	< 5
1,1-DICHLOROETHANE	8260	µg/L	5	< 5	< 5	< 5	< 5
1,2-DICHLOROETHANE	8260	µg/L	5	< 5	< 5	< 5	< 5
1,1-DICHLOROETHENE	8260	µg/L	5	< 5	< 5	< 5	< 5
CIS-1,2-DICHLOROETHENE	8260	µg/L	5	< 5	< 5	< 5	< 5
TRANS-1,2-DICHLOROETHENE	8260	µg/L	5	< 5	< 5	< 5	< 5
1,2-DICHLOROPROPANE	8260	µg/L	5	< 5	< 5	< 5	< 5
1,3-DICHLOROPROPANE	8260	µg/L	5	< 5	< 5	< 5	< 5
2,2-DICHLOROPROPANE	8260	µg/L	5	< 5	< 5	< 5	< 5
1,1-DICHLOROPROPENE	8260	µg/L	5	< 5	< 5	< 5	< 5
CIS-1,3-DICHLOROPROPENE	8260	µg/L	5	< 5	< 5	< 5	< 5
TRANS-1,3-DICHLOROPROPENE	8260	µg/L	5	< 5	< 5	< 5	< 5
ETHYLBENZENE	8260	µg/L	5	< 5	< 5	< 5	< 5
HEXACHLOROBUTADIENE	8260	µg/L	5	< 5	< 5	< 5	< 5
ISOPROPYLBENZENE (CUMENE)	8260	µg/L	5	< 5	< 5	< 5	< 5
P-ISOPROPYLTOLUENE	8260	µg/L	5	< 5	< 5	< 5	0.9J
METHYLENE CHLORIDE	8260	µg/L	5	0.6J	< 5	< 5	< 50
4-METHYL-2-PENTANONE (MIBK)	8260	µg/L	50	< 50	0.7J	< 50	< 50
METHYL TERT-BUTYL ETHER	8260	µg/L	10	< 10	< 10	< 10	< 10

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result			
				MA01MW004 00-02969-5	MA02MW001D 00-02969-6	MA02MW001DD 00-02969-7	Trip Blank 00-02969-8
NAPHTHALENE	8260	µg/L	5	<5	<5	<5	<5
N-PROPYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
STYRENE	8260	µg/L	5	<5	<5	<5	<5
1,1,1,2-TETRACHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
1,1,2,2-TETRACHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
TETRACHLOROETHENE	8260	µg/L	5	<5	<5	<5	<5
TOLUENE	8260	µg/L	5	0.8J	<5	<5	<5
1,2,3-TRICHLOROBENZENE	8260	µg/L	5	<5	<5	<5	<5
1,2,4-TRICHLOROBENZENE	8260	µg/L	5	<5	<5	<5	<5
1,1,1-TRICHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
1,1,2-TRICHLOROETHANE	8260	µg/L	5	<5	<5	<5	<5
TRICHLOROETHENE	8260	µg/L	5	<5	<5	<5	<5
TRICHLOROFLUOROMETHANE	8260	µg/L	5	<5	<5	<5	<5
1,2,3-TRICHLOROPROPANE	8260	µg/L	5	<5	<5	<5	<5
1,2,4-TRIMETHYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
1,3,5-TRIMETHYLBENZENE	8260	µg/L	5	<5	<5	<5	<5
VINYL CHLORIDE	8260	µg/L	5	<5	1J	1J	<5
XYLENES (TOTAL)	8260	µg/L	15	<15	<15	<15	<15
NITROAROMATICS AND NITROAMINES							
Dilution Factor				1	1	1	1
4-AMINO-2,6-DINITROTOLUENE	8330	µg/L	1	<1	<1	<1	-
2-AMINO-4,6-DINITROTOLUENE	8330	µg/L	1	<1	<1	<1	-
1,3-DINITROBENZENE	8330	µg/L	1	<1	<1	<1	-
2,4-DINITROTOLUENE	8330	µg/L	1	<1	<1	<1	-
2,6-DINITROTOLUENE	8330	µg/L	1	<1	<1	<1	-
HMX	8330	µg/L	1	<1	<1	<1	-
NITROBENZENE	8330	µg/L	1	<1	<1	<1	-
3-NITROTOLUENE	8330	µg/L	1	<1	<1	<1	-
RDX	8330	µg/L	1	<1	<1	<1	-
TETRYL	8330	µg/L	1	<1	<1	<1	-
1,3,5-TRINITROBENZENE (TNB)	8330	µg/L	1	<1	<1	<1	-
2,4,6-TRINITROTOLUENE (TNT)	8330	µg/L	1	<1	<1	<1	-
2-NITROTOLUENE (a)	8330	µg/L	0.5	<0.5	<0.5	<0.5	-
4-NITROTOLUENE (a)	8330	µg/L	0.5	<0.5	<0.5	<0.5	-

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit

N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

(a) Co-elution observed during analysis. Unable to separate.

Respectfully submitted,


 Dominic Lau
 Laboratory Director
 Applied P & Ch Laboratory