

# PERFORMANCE EVALUATION

Quarterly Study

**WP08-3B**

WPCHEM / DMRQA 28

9-Jul-2008 through 22-Aug-2008

**RT1068**

RTC Labcode

**WY00006**

US EPA Labcode

Energy Labs  
Terry Friedlan  
400 West Boxelder Rd.  
Gillette WY 82718

Thank you for participating in study WP08-3B. Additional information about this study may be found online at [www.rt-corp.com](http://www.rt-corp.com). If you have any questions or comments about this study please contact me.

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Sincerely,



Christopher Rucinski  
Quality Director

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Dataset

**WP08-3BMLI****Dataset Analyst**

Ingram, Mary

**Include in DMRQA Study**

Evaluations from this dataset will be included in DMRQA 28.

**Accreditors**

Evaluations of this dataset will be sent to the accreditor(s) listed below using your laboratory's labcode listed above each accrediting agency. If any of the information listed below is incorrect, please contact RTC immediately.

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**Accrediting Labcode WY00006**

Wyoming DEQ

Water Quality Division

**206** Edward Mock  
122 W. 25th Street  
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UNITED STATES

**Demands**

Analysis

Hach 8000 - Analyst: M. Ingram

Auto Analyzer

Method Number 60003001

Technology Code: AUTO

	ResultUnits	Accept / Warn	Z	Evaluation
Chemical oxygen demand (COD) <sup>1, 3, 4</sup> 1565 / I-026 - Lot 013321/Analyst: mli	89mg/L	71.2 to 115 78.2 to 106	-0.46	<b>Acceptable</b>

Analysis

SM/APHA 5210 B 18th ED (1992) - Analyst: M. Ingram

Ion Selective Electrode

Method Number 20027401

Technology Code: ISE

	ResultUnits	Accept / Warn	Z	Evaluation
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**Demands (continued)**

Analysis  
SM/APHA 5210 B 18th ED (1992) - Analyst: M. Ingram  
Ion Selective Electrode

(continued)  
Method Number 20027401  
Technology Code: ISE

	ResultUnits	Accept / Warn	Z	Evaluation
Biochemical oxygen demand (BOD) 1, 3, 4 1530 / I-026 - Lot 013321/Analyst: mli/ Analysis Date: 7/17/08	58mg/L	30.0 to 89.4 39.9 to 79.5	-0.17	<b>Acceptable</b>

**Minerals**

Analysis  
EPA 300.1 - Analyst: M. Ingram  
Ion Chromatography Electroconductivity

Method Number 10053404  
Technology Code: IC-COND

	ResultUnits	Accept / Warn	Z	Evaluation
Chloride 1, 3, 4 1575 / I-051 - Lot 013322/Analyst: mli/ Analysis Date: 7/17/08	82mg/L	78.3 to 104 82.7 to 100	-2.14	<b>Acceptable</b>
Fluoride 1, 3, 4 1730 / I-051 - Lot 013322/Analyst: mli/ Analysis Date: 7/17/08	1.3mg/L	1.24 to 1.88 1.35 to 1.77	-2.45	<b>Acceptable</b>
Sulfate 1, 3, 4 2000 / I-051 - Lot 013322/Analyst: mli/ Analysis Date: 7/17/08	74mg/L	63.9 to 100	-1.32	<b>Acceptable</b>

Analysis  
SM 18/19/20thED 2320 B - Analyst: M. Ingram  
Colorimetric

Method Number 20003003  
Technology Code: COLOR

	ResultUnits	Accept / Warn	Z	Evaluation
Alkalinity as CaCO <sub>3</sub> 1, 3, 4 1505 / I-027-12 - Lot 013325/0/Analyst: mli	90mg/L	81.3 to 101 84.5 to 97.5	-0.31	<b>Acceptable</b>

**Miscellaneous Analytes**

Analysis  
EPA 300.0 - Analyst: M. Ingram  
Ion Chromatography Electroconductivity

Method Number 10053006  
Technology Code: IC-COND

	ResultUnits	Accept / Warn	Z	Evaluation
Bromide 1, 4, 5 1540 / I-051 - Lot 013322/Analyst: mli/ Analysis Date: 7/17/08	4mg/L	3.66 to 5 3.88 to 4.74	-1.44	<b>Acceptable</b>

**Nutrients**

Analysis  
EPA 300.1 - Analyst: M. Ingram  
Ion Chromatography Electroconductivity

Method Number 10053404  
Technology Code: IC-COND

	ResultUnits	Accept / Warn	Z	Evaluation
Nitrate as N 1, 3, 4 1810 / I-051 - Lot 013322/Analyst: mli/ Analysis Date: 7/17/08	10.5mg/L	8.81 to 13.6 9.61 to 12.8	-0.87	<b>Acceptable</b>
Nitrite as N 1, 4 1840 / I-051 - Lot 013322/Analyst: mli/ Analysis Date: 7/17/08	1.1mg/L	0.617 to 1.37	0.86	<b>Acceptable</b>



### Nutrients (continued)

Analysis  
EPA 300.1 - Analyst: M. Ingram  
Ion Chromatography Electroconductivity

(continued)  
Method Number 10053404  
Technology Code: IC-COND

	ResultUnits	Accept / Warn	Z	Evaluation
Orthophosphate as P <sup>1, 3, 4</sup> 1870 / I-051 - Lot 013322/Analyst: mli/ Analysis Date: 7/17/08	1.1mg/L	0.994 to 1.56 1.09 to 1.47	-1.89	<b>Acceptable</b>

End of WP08-3BMLI



Dataset

**WP08-3BSMR****Dataset Analyst**

Rasmussen, Sheena

**Include in DMRQA Study**

Evaluations from this dataset will be included in DMRQA 28.

**Accreditors**

Evaluations of this dataset will be sent to the accretitor(s) listed below using your laboratory's labcode listed above each accrediting agency. If any of the information listed below is incorrect, please contact RTC immediately.

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**Minerals**

Analysis

SM/APHA 2540 C 20th ED (1998) - Analyst: S. Rasmussen  
GravimetryMethod Number 20050004  
Technology Code: GRAV

	ResultUnits	Accept / Warn	Z	Evaluation
Residue-filterable (TDS) 1, 3, 4 1955 / I-027-12 - Lot 013325/0/Analyst: smr/ Analysis Date: 7/15/08	475mg/L	398 to 637 438 to 597	-1.08	<b>Acceptable</b>

Analysis

SM/APHA 2540 C 21st ED (2005) - Analyst: S. Rasmussen  
GravimetryMethod Number 20050208  
Technology Code: GRAV

	ResultUnits	Accept / Warn	Z	Evaluation
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### Minerals (continued)

Analysis  
SM/APHA 2540 C 21st ED (2005) - Analyst: S. Rasmussen  
Gravimetry

**(continued)**  
Method Number 20050208  
Technology Code: GRAV

	ResultUnits	Accept / Warn	Z	Evaluation
Residue-filterable (TDS) 1, 3, 4 1955 / I-079 - Lot 013400/Analyst: smr/ Analysis Date: 7/15/08	366mg/L	235 to 389 260 to 364	2.09	<b>Acceptable</b>

### Miscellaneous Analytes

Analysis  
SM/APHA 2540 D 18th ED (1992) - Analyst: S. Rasmussen  
Gravimetry

Method Number 20004802  
Technology Code: GRAV

	ResultUnits	Accept / Warn	Z	Evaluation
Residue-nonfilterable (TSS) 1, 3, 4 1960 / I-079 - Lot 013400/Analyst: smr/ Analysis Date: 7/17/08	41mg/L	30.6 to 48 33.4 to 44.7	0.68	<b>Acceptable</b>

End of WP08-3BSMR



Dataset

# WP08-3BTLC

## Dataset Analyst

Constable, Tracey

## Include in DMRQA Study

Evaluations from this dataset will be included in DMRQA 28.

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## Miscellaneous Analytes

Analysis

SM 18/19/20thED 4500-CI F - Analyst: T. Constable

Amperometric Titration

Method Number 20015003

Technology Code: AMP

	ResultUnits	Accept / Warn	Z	Evaluation
Total residual chlorine <sup>1, 3, 4</sup>	0.95mg/L	0.664 to 1.17 0.744 to 1.07	0.55	<b>Acceptable</b>
<small>1940 / I-033 - Lot 013260/Analyst: tlc/ Analysis Date: 7/14/08</small>				

End of WP08-3BTLC



Dataset

**WP08-3BWET****Dataset Analyst**

Turnbull, William

**Include in DMRQA Study**

Evaluations from this dataset will be included in DMRQA 28.

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**Miscellaneous Analytes**

Analysis

EPA 1664A - Analyst: W. Turnbull  
GravimetryMethod Number 10127603  
Technology Code: GRAV

	ResultUnits	Accept / Warn	Z	Evaluation
Oil & Grease 1, 3, 4 1860 / I-029 - Lot 013391/Analyst: wet/ Analysis Date: 7/16/08	73mg/L	43.0 to 76.4 48.6 to 70.9	2.39	<b>Acceptable</b>

**Petroleum Hydrocarbons in Water**

Analysis

EPA 1664A (HEM) (1999) - Analyst: W. Turnbull  
GravimetryMethod Number 10127807  
Technology Code: GRAV

**Petroleum Hydrocarbons in Water (continued)**

Analysis  
EPA 1664A (HEM) (1999) - Analyst: W. Turnbull  
Gravimetry

(continued)  
Method Number 10127807  
Technology Code: GRAV

	ResultUnits	Accept / Warn	Z	Evaluation
Total Petroleum Hydrocarbons (TPH), (C6-C35) <sup>1,4</sup> 2050 / O-115 - Lot 013087/Analyst: wet/ Analysis Date: 7/22/08	55mg/L	54.0 to 165 72.4 to 146	-2.92	<b>Acceptable</b>

End of WP08-3BWET



# Sample Information

		Study Lot 013321 Mfg Lot 013321						
	Units	Proficiency Value	Proficiency Std. Dev.	Mean	Standard Deviation	Robust Mean	Robust Std. Dev.	Gravimetric
<b>Demand</b> PEI-026								
Biochemical oxygen demand (BOD) 1530 Demands	mg/L	59.70	9.90	60.80	16.30	60.00	11.20	94.3 ± 0.304
Chemical oxygen demand (COD) 1565 Demands	mg/L	92.20	6.99	94.90	14.30	95.80	9.93	96.4 ± 0.492
<b>Minerals</b> PEI-027-12								
								Study Lot 013325/0 Mfg Lot 013325/013326
	Units	Proficiency Value	Proficiency Std. Dev.	Mean	Standard Deviation	Robust Mean	Robust Std. Dev.	Gravimetric
Alkalinity as CaCO3 1505 Minerals	mg/L	91.00	3.24	92.20	6.07	91.40	3.69	91.8 ± 0.468
Residue-filterable (TDS) 1955 Minerals	mg/L	518.00	39.90	522.00	73.40	518.00	74.60	618 ± 3.15
<b>Oil and Grease</b> PEI-029								
								Study Lot 013391 Mfg Lot 013391
	Units	Proficiency Value	Proficiency Std. Dev.	Mean	Standard Deviation	Robust Mean	Robust Std. Dev.	Gravimetric
Oil & Grease 1860 Miscellaneous Analytes	mg/L	59.70	5.57	58.00	10.00	59.50	8.65	64.0 ± 0.343
<b>Total Residual Chlorine</b> PEI-033								
								Study Lot 013260 Mfg Lot 013260
	Units	Proficiency Value	Proficiency Std. Dev.	Mean	Standard Deviation	Robust Mean	Robust Std. Dev.	Gravimetric
Total residual chlorine 1940 Miscellaneous Analytes	mg/L	0.91	0.08	1.05	2.51	0.89	0.08	0.920 ±
<b>Anions</b> PEI-051								
								Study Lot 013322 Mfg Lot 013322
	Units	Proficiency Value	Proficiency Std. Dev.	Mean	Standard Deviation	Robust Mean	Robust Std. Dev.	Gravimetric
Bromide 1540 Miscellaneous Analytes	mg/L	4.31	0.22	4.31	0.73	4.35	0.43	4.31 ± 0.022
Chloride 1575 Minerals	mg/L	91.30	4.34	93.20	7.98	92.50	5.50	91.3 ± 0.466
Fluoride 1730 Minerals	mg/L	1.56	0.11	1.52	0.14	1.52	0.15	1.56 ± 0.008
Nitrate as N 1810 Nutrients	mg/L	11.20	0.81	11.30	1.47	11.40	0.60	11.3 ± 0.058
Nitrite as N 1840 Nutrients	mg/L	0.99	0.13	1.09	0.40	0.99	0.13	0.997 ±
Orthophosphate as P 1870 Nutrients	mg/L	1.28	0.10	1.29	0.39	1.25	0.15	1.27 ± 0.006
Sulfate 2000 Minerals	mg/L	82.00	6.04	80.60	12.80	82.00	6.04	84.3 ± 0.43
<b>Residue (Whole-Volume)</b> PEI-079								
								Study Lot 013400 Mfg Lot 013400
	Units	Proficiency Value	Proficiency Std. Dev.	Mean	Standard Deviation	Robust Mean	Robust Std. Dev.	Gravimetric
Residue-filterable (TDS) 1955 Minerals	mg/L	312.00	25.80	313.00	49.60	312.00	21.80	319 ± 1.63
Residue-nonfilterable (TSS) 1960 Miscellaneous Analytes	mg/L	39.10	2.80	43.80	75.20	39.40	2.23	40.8 ± 0.208
<b>TPH in Water</b> PEO-115								
								Study Lot 013087 Mfg Lot 013087
	Units	Proficiency Value	Proficiency Std. Dev.	Mean	Standard Deviation	Robust Mean	Robust Std. Dev.	Gravimetric
Total Petroleum Hydrocarbons (TPH), (C6-C35) 2050 Petroleum Hydrocarbons in Water	mg/L	109.00	18.50	72.60	38.90	71.00	42.70	114



Program analyte accrediting footnotes

1 NELAC

3 Other

5 NELAC Experimental

2 EPA

4 A2LA