

6390 Joyce Drive
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Golden, CO 80403

Phone 303-940-0033
Fax 866-283-0269
www.phenova.com

August 4, 2017

Ms. Rhonda Morris
Alloway - Marion
1776 Marion-Waldo Road
Marion, OH 43302
USA

Dear Rhonda,

Thank you for participating in the DMRQA37-CHEM DMRQA PT Study. Enclosed is your final report, which has been carefully reviewed by the PT specialists at Phenova.

For any analyte falling outside the established acceptance limits, our PT management staff would like to assist you in determining the most appropriate course of corrective action for your facility. Please contact us at any time if we may be of service to you. A final report for your laboratory will be sent to all accrediting agencies you requested at the time of data submittal.

Thank you again for participating in the DMRQA37-CHEM DMRQA PT Study. We appreciate working with you and look forward to our next study. If you have any questions, please call us at 303-940-0033.



Report Definitions:

NELAC Experimental Analytes

NELAC Experimental Analytes must be run twice a year. Due to the experimental nature of the acceptance limits, accreditation status is not based on the evaluation received.

Assigned Value

The Assigned Value is determined from the study mean, gravimetric and volumetric true concentration of an analyte to be analyzed, calculation and/or an appropriate reference value as stipulated in the EPA National Standards for Water Proficiency Testing Studies Criteria Document (current version), the National Environmental Laboratory Accreditation Conference (NELAC) criteria (ref: NELAC FOT tables, NELAC PT Committee) and other documents distributed by accrediting agencies as applicable.

Evaluation Limits

Acceptance Limits are derived from fixed limits, coefficients, constants and calculations stipulated in the EPA National Standards for Water Proficiency Testing Studies Criteria Documents (current version), the National Environmental Laboratory Accreditation Conference (NELAC) criteria (ref: NELAC PT FOT tables, NELAC PT Committee) and other documents distributed by accrediting agencies as applicable.

Evaluation

Acceptable

The reported value falls within the Acceptance Limits.

Not Acceptable

The reported value falls outside the Acceptance Limits.

No Evaluation

The reported value is non-numeric and can not be evaluated.

NR

As required by the NELAC standards and requested by state authorities, any analyte purchased but not reported by your facility is listed as NR (Not Reported).

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Final Report - DMRQA PT

Study: DMRQA37-CHEM

Opening Date: March 24, 2017 - Closing Date: July 7, 2017

Facility: Alloway - Marion
1776 Marion-Waldo Road
Marion, OH 43302
USA

Contact: Ms. Rhonda Morris
740-389-5991

EPA Lab ID: OH01320

NPDES Permit ID:

Trace Metals (PT-TM1-DMRQA)

Lot #: 8535-04

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1000	Aluminum		EPA 200.7 Rev 4.4	µg/L	2080	2230	1840 - 2290	1730 - 2390	Acceptable
1005	Antimony		EPA 200.8 Rev 5.4	µg/L	511	519	443 - 563	412 - 594	Acceptable
1010	Arsenic		EPA 200.7 Rev 4.4	µg/L	176	183	151 - 201	138 - 214	Acceptable
1010	Arsenic		EPA 200.8 Rev 5.4	µg/L	176	183	151 - 201	138 - 214	Acceptable
1015	Barium		EPA 200.7 Rev 4.4	µg/L	1810	1840		1540 - 2080	Acceptable
1015	Barium		EPA 200.8 Rev 5.4	µg/L	1810	1760		1540 - 2080	Acceptable
1020	Beryllium		EPA 200.7 Rev 4.4	µg/L	330	346		281 - 380	Acceptable
1020	Beryllium		EPA 200.8 Rev 5.4	µg/L	330	329		281 - 380	Acceptable
1030	Cadmium		EPA 200.7 Rev 4.4	µg/L	264	277		224 - 303	Acceptable
1030	Cadmium		EPA 200.8 Rev 5.4	µg/L	264	269		224 - 303	Acceptable
1040	Chromium		EPA 200.7 Rev 4.4	µg/L	352	376		299 - 405	Acceptable
1040	Chromium		EPA 200.8 Rev 5.4	µg/L	352	360		299 - 405	Acceptable
1050	Cobalt			µg/L	717			610 - 825	NR
1055	Copper		EPA 200.7 Rev 4.4	µg/L	816	849		694 - 939	Acceptable
1055	Copper		EPA 200.8 Rev 5.4	µg/L	816	812		694 - 939	Acceptable
1070	Iron		EPA 200.7 Rev 4.4	µg/L	3120	3220		2650 - 3590	Acceptable
1075	Lead		EPA 200.7 Rev 4.4	µg/L	676	730		575 - 777	Acceptable
1075	Lead		EPA 200.8 Rev 5.4	µg/L	676	704		575 - 777	Acceptable
1090	Manganese		EPA 200.7 Rev 4.4	µg/L	1510	1610		1290 - 1740	Acceptable
1100	Molybdenum		EPA 200.7 Rev 4.4	µg/L	179	192	160 - 197	150 - 206	Acceptable
1100	Molybdenum		EPA 200.8 Rev 5.4	µg/L	179	187	160 - 197	150 - 206	Acceptable
1105	Nickel		EPA 200.7 Rev 4.4	µg/L	1470	1590	1320 - 1620	1300 - 1650	Acceptable
1105	Nickel		EPA 200.8 Rev 5.4	µg/L	1470	1500	1320 - 1620	1300 - 1650	Acceptable
1140	Selenium		EPA 200.7 Rev 4.4	µg/L	556	579		473 - 640	Acceptable
1140	Selenium		EPA 200.8 Rev 5.4	µg/L	556	539		473 - 640	Acceptable
1150	Silver		EPA 200.7 Rev 4.4	µg/L	338	340		287 - 389	Acceptable
1150	Silver		EPA 200.8 Rev 5.4	µg/L	338	330		287 - 389	Acceptable

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Trace Metals (PT-TM1-DMRQA) cont'd Lot #: 8535-04

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1165	Thallium		EPA 200.8 Rev 5.4	µg/L	455	445	399 - 503	373 - 530	Acceptable
1185	Vanadium			µg/L	273			232 - 313	NR
1190	Zinc		EPA 200.7 Rev 4.4	µg/L	465	493		395 - 535	Acceptable

Mercury (PT-HG-DMRQA) Lot #: 8535-05B

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1095	Mercury		EPA 245.1 Rev 3.0	µg/L	5.52	4.80		3.87 - 7.18	Acceptable

Mercury Low Level (PT-HGLL-DMRQA) Lot #: 8535-47

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1095	Mercury		EPA 1631E	ng/L	32.5	28.9	24.4 - 40.3	20.4 - 44.3	Acceptable

Chromium VI (PT-CR6-DMRQA) Lot #: 8535-06

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1045	Chromium VI		SM 3500 Cr B-09	µg/L	463	453	411 - 509	387 - 533	Acceptable

Demand (PT-DEM-DMRQA) Lot #: 8535-07

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1530	BOD		SM 5210B-01	mg/L	121	150	79.6 - 201	61.9 - 201	Acceptable
1555	CBOD		SM 5210B-01	mg/L	121	108	67.1 - 201	48.6 - 201	Acceptable
1565	COD		EPA 410.4 Rev 2.0	mg/L	187	186	162 - 206	151 - 217	Acceptable
2040	TOC		SM 5310B-00	mg/L	74.0	72.4	65.9 - 81.4	62.0 - 85.2	Acceptable

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Solids (PT-SOL-DMRQA) Lot #: 8535-09

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1955	Total Dissolved Solids at 180° (TFR)		SM 2540C-97	mg/L	486	472	437 - 534	437 - 534	Acceptable
1960	Non-Filterable Residue (TSS)		SM 2540D-97	mg/L	24.4	24.3	18.5 - 27.8	16.2 - 30.1	Acceptable

Minerals 1 (PT-MIN1-DMRQA) Lot #: 8535-08

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1505	Total Alkalinity(as CaCO3)		SM 2320B-97	mg/L	280	277		238 - 321	Acceptable
1575	Chloride		EPA 300.0 Rev 2.1	mg/L	158	161	142 - 174	139 - 177	Acceptable
1730	Fluoride		SM 4500F-C-97	mg/L	3.96	4.01	3.44 - 4.36	3.22 - 4.54	Acceptable
2000	Sulfate		EPA 300.0 Rev 2.1	mg/L	79.8	81.0	70.5 - 87.8	66.4 - 91.0	Acceptable

Minerals 2 - Hardness (PT-MIN2-DMRQA) Lot #: 8535-102

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1755	Total Hardness (as CaCO3)		SM 2340C-97	mg/L	214	216		182 - 246	Acceptable

Specific Conductance (PT-COND-DMRQA) Lot #: 8535-72

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1610	Specific Conductance (25°C)		SM 2510B-97, 11	µmhos/cm	1100	1090		990 - 1210	Acceptable

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Nutrients 1 - Simple (PT-NUT1-DMRQA) Lot #: 8535-10

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1515	Ammonia as N		EPA 350.1 Rev 2.0	mg/L	10.8	11.4	9.31 - 12.2	8.59 - 12.9	Acceptable
1810	Nitrate as N		EPA 353.2 Rev 2.0/SM 4500 NO3 F-00	mg/L	14.7	13.5	13.1 - 16.3	12.2 - 17.1	Acceptable
1870	Orthophosphate as P		SM 4500 PE-99	mg/L	3.36	3.52		2.85 - 3.86	Acceptable

Nutrients 2 - Complex (PT-NUT2-DMRQA) Lot #: 8535-11

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1795	Total Kjeldahl Nitrogen (TKN)		EPA 351.2 Rev 2.0	mg/L	7.86	7.60	6.41 - 9.31	5.68 - 10.0	Acceptable
1910	Total Phosphorous		SM 4500 PE-99	mg/L	1.70	1.74	1.48 - 1.92	1.36 - 2.03	Acceptable

Nutrients 3 - Nitrite (PT-NUT3-DMRQA) Lot #: 8535-69

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1840	Nitrite as N		EPA 353.2 Rev 2.0/SM 4500 NO3 F-00	mg/L	2.76	2.72	2.49 - 3.04	2.38 - 3.15	Acceptable

Oil & Grease - 1L (PT-OGR1L-DMRQA) Lot #: 8535-103B

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1803	Oil & Grease		EPA 1664A	mg/L	155	151	124 - 170	113 - 176	Acceptable

Residual Chlorine (PT-CL-DMRQA) Lot #: 8535-13

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1940	Total Residual Chlorine		SM 4500 Cl G-00	mg/L	1.66	1.64	1.35 - 1.83	1.22 - 1.95	Acceptable

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pH (PT-PH-DMRQA) Lot #: 8535-15									
NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1900	pH		SM 4500 H B-00	S.U.	7.03	7.03		6.83 - 7.23	Acceptable
Total Cyanide (PT-CN-DMRQA) Lot #: 8535-14									
NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1645	Total Cyanide		EPA 335.4 Rev 1.0	mg/L	0.674	0.674		0.438 - 0.910	Acceptable
Phenolics (PT-PHEN-DMRQA) Lot #: 8535-16									
NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
1905	Total Phenolics (4AAP)		EPA 420.4 Rev 1.0	mg/L	2.48	1.67	1.08 - 2.73	0.817 - 2.73	Acceptable
Micro (Fecal, E. Coli & Total) (PT-MIC-DMRQA) Lot #: 8537-12									
NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Warning Limits	Acceptance Limits	Evaluation
2530	Fecal Coliform, MF		SM 9222D-06	CFU/100 mL	665	830		220 - 2010	Acceptable
2525	E. Coli, MF			CFU/100 mL	1030			535 - 1980	NR
2530	Fecal Coliform, MPN		SM 9223B-04	MPN/100 mL	852	1023		498 - 1460	Acceptable
2500	Total Coliform, MPN		SM 9223B-04	MPN/100 mL	1010	974		583 - 1760	Acceptable
2525	E. Coli, MPN		SM 9223B-04	MPN/100 mL	1060	974		526 - 2120	Acceptable