



I.D. No 100008

Monitoring Point No. CWMP007W

Sample Date 1/15/2024

**FORM 19**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

**ANALYTES**

**1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.1 ND	EPA 350.3
BICARBONATE	12	SM18-2321
CALCIUM, TOTAL	20.9	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	78.5	EPA 300.0
FLUORIDE	0.2 ND	EPA 300.0
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	10.9	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	8.6	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	9.8	EPA 300.0
pH-FIELD (SU)	5.13	FIELD
pH-LAB (SU)	7.01	EPA 150.1
POTASSIUM, TOTAL	2.4	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	37.1	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	575	FIELD
SPEC. COND., LAB (umhos/cm)	406	EPA 120.1
SULFATE	17.6	EPA 300.0
ALKALINITY	12	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	222	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.3	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

\*\* Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).  
Remaining quarterly samples only require total metals analysis.

I.D. No 100008

Monitoring Point No. CWMP007W

Sample Date 1/15/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



I.D. No 100008

Monitoring Point No. CWMP005W

Sample Date 1/15/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.1 ND	EPA 350.3
BICARBONATE	18	SM18-2321
CALCIUM, TOTAL	17	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	77.3	EPA 300.0
FLUORIDE	0.2 ND	EPA 300.0
IRON, TOTAL (ug/l)	83	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	8.7	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	57	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	7.7	EPA 300.0
pH-FIELD (SU)	5.12	FIELD
pH-LAB (SU)	7.2	EPA 150.1
POTASSIUM, TOTAL	2.3	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	37.6	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	521	FIELD
SPEC. COND., LAB (umhos/cm)	368	EPA 120.1
SULFATE	6.3	EPA 300.0
ALKALINITY	18	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	200	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.45	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

\*\* Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 100008

Monitoring Point No. CWMP005W

Sample Date 1/15/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



I.D. No 100008

Monitoring Point No. CWMP001W

Sample Date 1/16/2024

**FORM 19**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

**ANALYTES**

**1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.131	EPA 350.3
BICARBONATE	5	SM18-2321
CALCIUM, TOTAL	15.2	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	27.1	EPA 300.0
FLUORIDE	0.2 ND	EPA 300.0
IRON, TOTAL (ug/l)	600	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	10.7	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	55	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	17.6	EPA 300.0
pH-FIELD (SU)	5.12	FIELD
pH-LAB (SU)	6.78	EPA 150.1
POTASSIUM, TOTAL	2.2	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	14	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	363	FIELD
SPEC. COND., LAB (umhos/cm)	257	EPA 120.1
SULFATE	2.9	EPA 300.0
ALKALINITY	5	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	152	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	26	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

\*\* Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.



I.D. No 100008

Monitoring Point No. CWMP001W

Sample Date 1/16/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised 02/15/2024
DEP USE ONLY
Date Received

**FORM 19**  
**MUNICIPAL WASTE LANDFILL**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284  
Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Creswell Landfill

Facility ID (as issued by DEP): 100008

**SECTION B. FACILITY INFORMATION**

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: CWMP016W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

Sampling Point Latitude: 39 ° 56 ' 55.57 " Longitude: 76 ° 26 ' 50.59 "

Depth to Water Level: 7.6 ft Measured from:  Land Surface  TOC

Casing Stickup: 2.53 ft Elevation of Water Level: 304.37 ft./MSL

Sampling Depth: 71 ft Volume of Water Column: \_\_\_\_\_ gal

Total Well Depth: 78.03 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: 1.2

Sample Field Filtered (must be 0.45 micron)?:  Yes  No

Spring Flow Rate: \_\_\_\_\_ gpm

Sample Date (mm/dd/yy): 1/17/2024 Sample Collection Time: 12:00

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: \_\_\_\_\_

Were any holding times exceeded?:  Yes  No If yes, please explain in comments field.

Lab Accreditation Number(s): \_\_\_\_\_

Lab Sample Number(s): 3341669001 Final Lab Analysis CompletionDate: 1/29/2024

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments: \_\_\_\_\_

I.D. No 100008

Monitoring Point No. CWMP016W

Sample Date 1/17/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.217	EPA 350.3
BICARBONATE	10	SM18-2321
CALCIUM, TOTAL	5.9	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	2.4	EPA 300.0
FLUORIDE	0.2 ND	EPA 300.0
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	1.4	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	6.6	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	1.5	EPA 300.0
pH-FIELD (SU)	5.49	FIELD
pH-LAB (SU)	7.17	EPA 150.1
POTASSIUM, TOTAL	0.68	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	3.4	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	92	FIELD
SPEC. COND., LAB (umhos/cm)	63	EPA 120.1
SULFATE	9.7	EPA 300.0
ALKALINITY	10	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	43	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	1.8	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

\*\* Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

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Monitoring Point No. CWMP016W

Sample Date 1/17/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

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I.D. No 100008

Monitoring Point No. CWMP009W

Sample Date 1/17/2024

**FORM 19**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

**ANALYTES**

**1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	29.2	EPA 350.3
BICARBONATE	500	SM18-2321
CALCIUM, TOTAL	189	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	112	EPA 410.4
CHLORIDE	680	EPA 300.0
FLUORIDE	0.5 ND	EPA 300.0
IRON, TOTAL (ug/l)	38000	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	90.7	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	13700	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	2.5 ND	EPA 300.0
pH-FIELD (SU)	6.11	FIELD
pH-LAB (SU)	7.72	EPA 150.1
POTASSIUM, TOTAL	33.9	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	211	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	4563	FIELD
SPEC. COND., LAB (umhos/cm)	3230	EPA 120.1
SULFATE	7.7	EPA 300.0
ALKALINITY	500	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	1650	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	36.1	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	28	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

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Monitoring Point No. CWMP009W

Sample Date 1/17/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1.7	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1.1	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

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I.D. No 100008

Monitoring Point No. CWMP008W

Sample Date 1/17/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	4.96	EPA 350.3
BICARBONATE	298	SM18-2321
CALCIUM, TOTAL	55.9	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	20	EPA 410.4
CHLORIDE	19.9	EPA 300.0
FLUORIDE	0.2 ND	EPA 300.0
IRON, TOTAL (ug/l)	19600	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	24.6	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	13300	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	1 ND	EPA 300.0
pH-FIELD (SU)	6.1	FIELD
pH-LAB (SU)	7.93	EPA 150.1
POTASSIUM, TOTAL	7	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	26.9	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	963	FIELD
SPEC. COND., LAB (umhos/cm)	653	EPA 120.1
SULFATE	7.6	EPA 300.0
ALKALINITY	298	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	336	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	5.4	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	3.2	SM 2130B

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Monitoring Point No. CWMP008W

Sample Date 1/17/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1.9	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



I.D. No 100008

Monitoring Point No. CWMP010W

Sample Date 1/18/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.1 ND	EPA 350.3
BICARBONATE	80	SM18-2321
CALCIUM, TOTAL	22.2	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	37.9	EPA 300.0
FLUORIDE	1 ND	EPA 300.0
IRON, TOTAL (ug/l)	150	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	14.6	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	30	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	8.6	EPA 300.0
pH-FIELD (SU)	6.24	FIELD
pH-LAB (SU)	8.09	EPA 150.1
POTASSIUM, TOTAL	3.6	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	45.7	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	567	FIELD
SPEC. COND., LAB (umhos/cm)	432	EPA 120.1
SULFATE	10 ND	EPA 300.0
ALKALINITY	80	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	258	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	2.1	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	4.1	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

\*\* Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 100008

Monitoring Point No. CWMP010W

Sample Date 1/18/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised 02/15/2024
DEP USE ONLY
Date Received

**FORM 19**  
**MUNICIPAL WASTE LANDFILL**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284  
Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Creswell Landfill

Facility ID (as issued by DEP): 100008

**SECTION B. FACILITY INFORMATION**

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: CWMP012W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 1.48 " Longitude: 76 ° 26 ' 36.02 "

Depth to Water Level: 64.56 ft Measured from:  Land Surface  TOC

Casing Stickup: 1.90 ft Elevation of Water Level: 318.14 ft./MSL

Sampling Depth: 0 ft Volume of Water Column: 54.84 gal

Total Well Depth: 101.9 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: \_\_\_\_\_

Sample Field Filtered (must be 0.45 micron)?:  Yes  No

Spring Flow Rate: \_\_\_\_\_ gpm

Sample Date (mm/dd/yy): 1/18/2024 Sample Collection Time: 11:01

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: \_\_\_\_\_

Were any holding times exceeded?:  Yes  No If yes, please explain in comments field.

Lab Accreditation Number(s): \_\_\_\_\_

Lab Sample Number(s): 3341873002 Final Lab Analysis CompletionDate: 1/31/2024

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments: \_\_\_\_\_

I.D. No 100008

Monitoring Point No. CWMP012W

Sample Date 1/18/2024

**FORM 19**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

**ANALYTES**

**1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.269	EPA 350.3
BICARBONATE	75	SM18-2321
CALCIUM, TOTAL	32.9	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	160	EPA 300.0
FLUORIDE	1 ND	EPA 300.0
IRON, TOTAL (ug/l)	93900	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	8.6	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	700	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	6.8	EPA 300.0
pH-FIELD (SU)	5.83	FIELD
pH-LAB (SU)	7.81	EPA 150.1
POTASSIUM, TOTAL	1.6	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	14.9	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	426	FIELD
SPEC. COND., LAB (umhos/cm)	302	EPA 120.1
SULFATE	34.9	EPA 300.0
ALKALINITY	75	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	201	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	1	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	290	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

\*\* Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 100008

Monitoring Point No. CWMP012W

Sample Date 1/18/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.





COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised  
02/15/2024

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Date Received

**FORM 19**  
**MUNICIPAL WASTE LANDFILL**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

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General Reference: Section 273.284  
Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Creswell Landfill

Facility ID (as issued by DEP): 100008

**SECTION B. FACILITY INFORMATION**

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D<sup>o</sup> MM' SS.S")

Monitoring Point Number: CWMP002W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 19.97 " Longitude: 76 ° 26 ' 12.3 "

Depth to Water Level: 65.67 ft Measured from:  Land Surface  TOC

Casing Stickup: -1.19 ft Elevation of Water Level: 460.14 ft./MSL

Sampling Depth: 85 ft Volume of Water Column: 50.42 gal

Total Well Depth: 100 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: \_\_\_\_\_

Sample Field Filtered (must be 0.45 micron)?:  Yes  No

Spring Flow Rate: \_\_\_\_\_ gpm

Sample Date (mm/dd/yy): 1/18/2024 Sample Collection Time: 11:43

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: \_\_\_\_\_

Were any holding times exceeded?:  Yes  No If yes, please explain in comments field.

Lab Accreditation Number(s): \_\_\_\_\_

Lab Sample Number(s): 3341873003 Final Lab Analysis Completion Date: 1/31/2024

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments: \_\_\_\_\_

I.D. No 100008

Monitoring Point No. CWMP002W

Sample Date 1/18/2024

**FORM 19**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

**ANALYTES**

**1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.561	EPA 350.3
BICARBONATE	98	SM18-2321
CALCIUM, TOTAL	58	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	18	EPA 410.4
CHLORIDE	48.1	EPA 300.0
FLUORIDE	1 ND	EPA 300.0
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	16.8	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	1000	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	5.1	EPA 300.0
pH-FIELD (SU)	5.72	FIELD
pH-LAB (SU)	7.86	EPA 150.1
POTASSIUM, TOTAL	2.9	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	32.7	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	841	FIELD
SPEC. COND., LAB (umhos/cm)	592	EPA 120.1
SULFATE	10 ND	EPA 300.0
ALKALINITY	98	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	372	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	3.6	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.4	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

\*\* Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 100008

Monitoring Point No. CWMP002W

Sample Date 1/18/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	8.3	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised 02/15/2024
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**FORM 19**  
**MUNICIPAL WASTE LANDFILL**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

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General Reference: Section 273.284  
Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Creswell Landfill

Facility ID (as issued by DEP): 100008

**SECTION B. FACILITY INFORMATION**

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: CWMP004W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 17.9 " Longitude: 76 ° 26 ' 7.05 "

Depth to Water Level: 100.27 ft Measured from:  Land Surface  TOC

Casing Stickup: -1.37 ft Elevation of Water Level: 429.26 ft./MSL

Sampling Depth: 130 ft Volume of Water Column: 58.35 gal

Total Well Depth: 140 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: \_\_\_\_\_

Sample Field Filtered (must be 0.45 micron)?:  Yes  No

Spring Flow Rate: \_\_\_\_\_ gpm

Sample Date (mm/dd/yy): 1/18/2024 Sample Collection Time: 11:59

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: \_\_\_\_\_

Were any holding times exceeded?:  Yes  No If yes, please explain in comments field.

Lab Accreditation Number(s): \_\_\_\_\_

Lab Sample Number(s): 3341873004 Final Lab Analysis CompletionDate: 1/31/2024

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments: \_\_\_\_\_

I.D. No 100008

Monitoring Point No. CWMP004W

Sample Date 1/18/2024

**FORM 19**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

**ANALYTES**

**1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	0.14	EPA 350.3
BICARBONATE	28	SM18-2321
CALCIUM, TOTAL	23.2	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	48.3	EPA 300.0
FLUORIDE	1 ND	EPA 300.0
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	7.4	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	12	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	5.1	EPA 300.0
pH-FIELD (SU)	5.73	FIELD
pH-LAB (SU)	7.64	EPA 150.1
POTASSIUM, TOTAL	1.5	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	17.4	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	385	FIELD
SPEC. COND., LAB (umhos/cm)	272	EPA 120.1
SULFATE	10 ND	EPA 300.0
ALKALINITY	28	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	193	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.3 ND	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

\*\* Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 100008

Monitoring Point No. CWMP004W

Sample Date 1/18/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised 02/15/2024
<b>DEP USE ONLY</b>
Date Received

**FORM 19**  
**MUNICIPAL WASTE LANDFILL**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

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General Reference: Section 273.284  
Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Creswell Landfill

Facility ID (as issued by DEP): 100008

**SECTION B. FACILITY INFORMATION**

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: CWMP003W  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 20.17 " Longitude: 76 ° 26 ' 8.37 "

Depth to Water Level: 71.42 ft Measured from:  Land Surface  TOC

Casing Stickup: -1.29 ft Elevation of Water Level: 452.79 ft./MSL

Sampling Depth: 100 ft Volume of Water Column: 5.26 gal

Total Well Depth: 75 ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: \_\_\_\_\_

Sample Field Filtered (must be 0.45 micron)?:  Yes  No

Spring Flow Rate: \_\_\_\_\_ gpm

Sample Date (mm/dd/yy): 1/18/2024 Sample Collection Time: 12:14

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: \_\_\_\_\_

Were any holding times exceeded?:  Yes  No If yes, please explain in comments field.

Lab Accreditation Number(s): \_\_\_\_\_

Lab Sample Number(s): 3341873005 Final Lab Analysis CompletionDate: 1/31/2024

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments: \_\_\_\_\_

I.D. No 100008

Monitoring Point No. CWMP003W

Sample Date 1/18/2024

**FORM 19**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

**ANALYTES**

**1-Q. Inorganics (Enter all data in mg/l except as noted)**

ANALYTE	VALUE <sup>T</sup>	ANALYSIS METHOD NUMBER
AMMONIA-NITROGEN	1.34	EPA 350.3
BICARBONATE	24	SM18-2321
CALCIUM, TOTAL	28.5	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	80.2	EPA 300.0
FLUORIDE	1 ND	EPA 300.0
IRON, TOTAL (ug/l)	67 ND	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	9.8	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	5.8	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	6.1	EPA 300.0
pH-FIELD (SU)	5.46	FIELD
pH-LAB (SU)	7.55	EPA 150.1
POTASSIUM, TOTAL	1.7	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	23.4	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	504	FIELD
SPEC. COND., LAB (umhos/cm)	355	EPA 120.1
SULFATE	10 ND	EPA 300.0
ALKALINITY	24	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	234	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	0.5 ND	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	0.65	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

\*\* Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.



I.D. No 100008

Monitoring Point No. CWMP003W

Sample Date 1/18/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1.8	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

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**FORM 19**  
**MUNICIPAL WASTE LANDFILL**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 19, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General Reference: Section 273.284  
Federal Regulations, Subtitle D: 258.54 and Appendix I to Part 258.

**SECTION A. APPLICANT IDENTIFIER**

Applicant/permittee: Lancaster County Solid Waste Mana

Site Name: Creswell Landfill

Facility ID (as issued by DEP): 100008

**SECTION B. FACILITY INFORMATION**

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: CWMP018S  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor

Sampling Point Latitude: 39 ° 56 ' 55.11 " Longitude: 76 ° 26 ' 51.66 "

Depth to Water Level: \_\_\_\_\_ ft Measured from:  Land Surface  TOC

Casing Stickup: \_\_\_\_\_ ft Elevation of Water Level: #Error ft./MSL

Sampling Depth: 0 ft Volume of Water Column: #Error gal

Total Well Depth: \_\_\_\_\_ ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: \_\_\_\_\_

Sample Field Filtered (must be 0.45 micron)?:  Yes  No

Spring Flow Rate: \_\_\_\_\_ gpm

Sample Date (mm/dd/yy): 1/18/2024 Sample Collection Time: 13:46

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: \_\_\_\_\_

Were any holding times exceeded?:  Yes  No If yes, please explain in comments field.

Lab Accreditation Number(s): \_\_\_\_\_

Lab Sample Number(s): 3341873006 Final Lab Analysis CompletionDate: 2/2/2024

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments: \_\_\_\_\_

I.D. No 100008

Monitoring Point No. CWMP018S

Sample Date 1/18/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	1.4	EPA 350.3
BICARBONATE	244	SM18-2321
CALCIUM, TOTAL	66	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	23	EPA 410.4
CHLORIDE	474	EPA 300.0
FLUORIDE	1 ND	EPA 300.0
IRON, TOTAL (ug/l)	220	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	55.4	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	320	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	25.2	EPA 300.0
pH-FIELD (SU)	8.35	FIELD
pH-LAB (SU)	8.59	EPA 150.1
POTASSIUM, TOTAL	16.1	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	171	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	2145	FIELD
SPEC. COND., LAB (umhos/cm)	1530	EPA 120.1
SULFATE	46.5	EPA 300.0
ALKALINITY	280	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	822	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	6.4	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	2.2	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

\*\* Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 100008

Monitoring Point No. CWMP018S

Sample Date 1/18/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised 02/15/2024
DEP USE ONLY
Date Received

**FORM 19**  
**MUNICIPAL WASTE LANDFILL**  
**QUARTERLY AND ANNUAL WATER QUALITY ANALYSES**

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Site Name: Creswell Landfill

Facility ID (as issued by DEP): 100008

**SECTION B. FACILITY INFORMATION**

Monitoring Wells must be designed and constructed in accordance with Department Standards. INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (D° MM' SS.S")

Monitoring Point Number: CWMP017S  Well  Spring  Stream  Other  
 Upgradient/Upstream  Downgradient/Downstream

Location (County): Lancaster County Municipality: Manor Township

Sampling Point Latitude: 39 ° 57 ' 20.41 " Longitude: 76 ° 26 ' 45.1 "

Depth to Water Level: \_\_\_\_\_ ft Measured from:  Land Surface  TOC

Casing Stickup: \_\_\_\_\_ ft Elevation of Water Level: #Error ft./MSL

Sampling Depth: 0 ft Volume of Water Column: #Error gal

Total Well Depth: \_\_\_\_\_ ft Sampling Method:  Pumped  Bailed  Grab

Well Purged:  Yes  No Well Volumes Purged: \_\_\_\_\_

Sample Field Filtered (must be 0.45 micron)?:  Yes  No

Spring Flow Rate: \_\_\_\_\_ gpm

Sample Date (mm/dd/yy): 1/18/2024 Sample Collection Time: 14:05

Sample Collector's Name: Mr. Brian G Shade

Sample Collector's Affiliation: ALS

Laboratory(ies) Performing Analysis: \_\_\_\_\_

Were any holding times exceeded?:  Yes  No If yes, please explain in comments field.

Lab Accreditation Number(s): \_\_\_\_\_

Lab Sample Number(s): 3341873007 Final Lab Analysis CompletionDate: 1/31/2024

Name/Affiliation of Person who Filled Out Form: Daniel A. Brown

Comments: \_\_\_\_\_

I.D. No 100008

Monitoring Point No. CWMP017S

Sample Date 1/18/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****ANALYTES****1-Q. Inorganics (Enter all data in mg/l except as noted)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
AMMONIA-NITROGEN	0.1 ND	EPA 350.3
BICARBONATE	114	SM18-2321
CALCIUM, TOTAL	28.6	SW846 6010B
CALCIUM, DISSOLVED		SW 8466010B
COD (CHEMICAL OXYGEN DEMAND)	15 ND	EPA 410.4
CHLORIDE	170	EPA 300.0
FLUORIDE	1 ND	EPA 300.0
IRON, TOTAL (ug/l)	140	SW846 6010B
IRON, DISSOLVED (ug/l)		SW846 6010B
MAGNESIUM, TOTAL	18.8	SW846 6010B
MAGNESIUM, DISSOLVED		SW846 6010B
MANGANESE, TOTAL (ug/l)	42	SW846 6010B
MANGANESE, DISSOLVED (ug/l)		SW846 6010B
NITRATE-NITROGEN	12.2	EPA 300.0
pH-FIELD (SU)	8.14	FIELD
pH-LAB (SU)	8.25	EPA 150.1
POTASSIUM, TOTAL	6.1	SW846 6010B
POTASSIUM, DISSOLVED		SW846 6010B
SODIUM, TOTAL	72.1	SW846 6010B
SODIUM, DISSOLVED		SW846 6010B
SPEC. COND., FIELD (umhos/cm)	832	FIELD
SPEC. COND., LAB (umhos/cm)	621	EPA 120.1
SULFATE	43.1	EPA 300.0
ALKALINITY	114	SM18-2320B
TDS (TOTAL DISSOLVED SOLIDS)	364	SM18-2540C
TOC (TOTAL ORGANIC CARBON)	2.1	SM18-5310B
TOTAL PHENOLICS (ug/l)	4 ND	SW846 9066
TURBIDITY (N.T.U.)	1.8	SM 2130B

\* Indicator Analyte - For comparison with detection zone analytes.

T Please indicate detection limit if analyte is not detected.

\*\* Total and dissolved analysis required only in conjunction with additional annual metals sampling (see page 4).

Remaining quarterly samples only require total metals analysis.

I.D. No 100008

Monitoring Point No. CWMP017S

Sample Date 1/18/2024

**FORM 19****QUARTERLY AND ANNUAL WATER QUALITY ANALYSES****2-Q. Organics (Enter all data in ug/l)**

<b>ANALYTE</b>	<b>VALUE<sup>T</sup></b>	<b>ANALYSIS METHOD NUMBER</b>
BENZENE	1 ND	SW846 8260B
1,2-DIBROMOETHANE (EDB) (ETHYLENE D	1 ND	SW846 8260B
1,1-DICHLOROETHANE	1 ND	SW846 8260B
1,1-DICHLOROETHENE	1 ND	SW846 8260B
1,2-DICHLOROETHANE	1 ND	SW846 8260B
cis 1,2-DICHLOROETHENE	1 ND	SW846 8260B
trans 1,2-DICHLOROETHENE	1 ND	SW846 8260B
ETHYLBENZENE	1 ND	SW846 8260B
METHYLENE CHLORIDE	1 ND	SW846 8260B
TETRACHLOROETHENE	1 ND	SW846 8260B
TOLUENE	1 ND	SW846 8260B
1,1,1-TRICHLOROETHANE	1 ND	SW846 8260B
TRICHLOROETHENE	1 ND	SW846 8260B
VINYL CHLORIDE	1 ND	SW846 8260B
XYLENES (TOTAL)	3 ND	SW846 8260B

T Please indicate detection limit if analyte is not detected.



Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | [www.alsglobal.com](http://www.alsglobal.com)  
 Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618  
 State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For **Lancaster County Solid Waste Authority**  
 Project 1st QTR 2024 GWMP FORM 19Q  
 Workorder 3341323  
 Report ID 297950 on 1/29/2024

### Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Jan 15, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at [www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads](http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads).

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.  
 ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):  
 Jordan Bigler - Lancaster County Solid Waste Authority  
 Ashley Gichuki - Lancaster County Solid Waste Authority  
 Daniel Brown - Lancaster County Solid Waste Authority  
 Jeff Musser - Lancaster County Solid Waste Authority

*Susan Scherer*

**Susan Scherer**  
 Project Coordinator

(ALS Digital Signature)

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*





### Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3341323001	CWMP007W	Ground Water	01/15/2024 10:12	01/15/2024 15:40	BGS	Analytical Laboratory Service
3341323002	CWMP005W	Ground Water	01/15/2024 11:53	01/15/2024 15:40	BGS	Analytical Laboratory Service



## Reference

### Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:  
EPA 300.1 Rev. 1.0-1997  
EPA 300.0 Rev. 2.1-1993  
EPA 353.2 Rev. 2.0-1993  
EPA 410.4 Rev. 1.0-1993  
EPA 420.4 Rev. 1.0-1993  
EPA 365.1 Rev. 2.0-1993  
EPA 200.7 Rev. 4.4-1994  
EPA 200.8 Rev. 5.4-1994  
EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

### Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.



**Project Notations**

**Sample Notations**

**Lab ID**      **Sample ID**

**Result Notations**

**Notation Ref.**

- |   |   |
|---|---|
| 1 | The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO <sub>3</sub> /L.  |
| 2 | The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory. |



### Detected Results Summary

Client Sample ID	CWMP007W	Collected	01/15/2024 10:12
Lab Sample ID	3341323001	Lab Receipt	01/15/2024 15:40

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Depth to Water Level	3.38	Feet		Field	#
Dissolved Oxygen	4.92	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	453.40	Feet		Field	#
Flow Rate	2.16	gal/min		Field	#
Ground Water Elevation	450.02	ft/MSL		Field	#
Oxidation-Reduction Potential	300	mV		Field	#
pH, Field (SM4500B)	5.13	pH_Units		Field	#
Sample Depth	33.00	Feet		Field	#
Specific Conductance, Field	575	umhos/cm	1	Field	#
Temperature	13.43	Deg. C		Field	#
Total Well Depth	36.50	Feet		Field	#
Volume in Water Column	48.69	Gallons		Field	#
Water Level After Purge	4.18	Feet		Field	#
Well Volumes Purged	3.33	Vol		Field	#
<b>METALS</b>					
Calcium, Total	20.9	mg/L	0.11	SW846 6010C	#
Magnesium, Total	10.9	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.0086	mg/L	0.0056	SW846 6010C	#
Potassium, Total	2.4	mg/L	0.56	SW846 6010C	#
Sodium, Total	37.1	mg/L	0.56	SW846 6010C	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	12	mg/L	5	SM2320B-2011	#
Alkalinity, Total	12	mg/L	5	SM2320B-2011	#
Chloride	78.5	mg/L	2.0	EPA 300.0	#
Nitrate-N	9.8	mg/L	1.0	EPA 300.0	#
pH	7.01	pH_Units		S4500HB-11	#
Specific Conductance	406	umhos/cm	5	SW846 9050A	#
Sulfate	17.6	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	222	mg/L	25	SM2540C-15	#
Turbidity	0.30	NTU	0.30	SM2130B-2011	#



### Detected Results Summary

Client Sample ID	CWMP005W	Collected	01/15/2024 11:53
Lab Sample ID	3341323002	Lab Receipt	01/15/2024 15:40

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Depth to Water Level	41.65	Feet		Field	#
Dissolved Oxygen	6.05	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	513.43	Feet		Field	#
Flow Rate	2.83	gal/min		Field	#
Ground Water Elevation	471.78	ft/MSL		Field	#
Oxidation-Reduction Potential	291	mV		Field	#
pH, Field (SM4500B)	5.12	pH_Units		Field	#
Sample Depth	130.00	Feet		Field	#
Specific Conductance, Field	521	umhos/cm	1	Field	#
Temperature	12.91	Deg. C		Field	#
Total Well Depth	138.92	Feet		Field	#
Volume in Water Column	142.99	Gallons		Field	#
Water Level After Purge	43.56	Feet		Field	#
Well Volumes Purged	1.19	Vol		Field	#
<b>METALS</b>					
Calcium, Total	17.0	mg/L	0.11	SW846 6010C	#
Iron, Total	0.083	mg/L	0.067	SW846 6010C	#
Magnesium, Total	8.7	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.057	mg/L	0.0056	SW846 6010C	#
Potassium, Total	2.3	mg/L	0.56	SW846 6010C	#
Sodium, Total	37.6	mg/L	0.56	SW846 6010C	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	18	mg/L	5	SM2320B-2011	#
Alkalinity, Total	18	mg/L	5	SM2320B-2011	#
Chloride	77.3	mg/L	2.0	EPA 300.0	#
Nitrate-N	7.7	mg/L	1.0	EPA 300.0	#
pH	7.20	pH_Units		S4500HB-11	#
Specific Conductance	368	umhos/cm	5	SW846 9050A	#
Sulfate	6.3	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	200	mg/L	25	SM2540C-15	#
Turbidity	0.45	NTU	0.30	SM2130B-2011	#



## Results

Client Sample ID	CWMP007W	Collected	01/15/2024 10:12
Lab Sample ID	3341323001	Lab Receipt	01/15/2024 15:40

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	3.38		Feet		Field	1	01/15/2024 10:12	BGS	D
Dissolved Oxygen	4.92		mg/L	0.01	Field	1	01/15/2024 10:12	BGS	D
Elev Top MW Casing above MSL	453.40		Feet		Field	1	01/15/2024 10:12	BGS	D
Flow Rate	2.16		gal/min		Field	1	01/15/2024 10:12	BGS	D
Ground Water Elevation	450.02		ft/MSL		Field	1	01/15/2024 10:12	BGS	D
Oxidation-Reduction Potential	300		mV		Field	1	01/15/2024 10:12	BGS	D
pH, Field (SM4500B)	5.13		pH_Units		Field	1	01/15/2024 10:12	BGS	D
Sample Depth	33.00		Feet		Field	1	01/15/2024 10:12	BGS	D
Specific Conductance, Field	575		umhos/cm	1	Field	1	01/15/2024 10:12	BGS	D
Temperature	13.43		Deg. C		Field	1	01/15/2024 10:12	BGS	D
Total Well Depth	36.50		Feet		Field	1	01/15/2024 10:12	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	01/15/2024 10:12	BGS	D
Volume in Water Column	48.69		Gallons		Field	1	01/15/2024 10:12	BGS	D
Water Level After Purge	4.18		Feet		Field	1	01/15/2024 10:12	BGS	D
Well Volumes Purged	3.33		Vol		Field	1	01/15/2024 10:12	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	20.9		mg/L	0.11	SW846 6010C	1	01/25/2024 14:25	AXW	J1
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	01/25/2024 14:25	AXW	J1
Magnesium, Total	10.9		mg/L	0.11	SW846 6010C	1	01/25/2024 14:25	AXW	J1
Manganese, Total	0.0086		mg/L	0.0056	SW846 6010C	1	01/25/2024 14:25	AXW	J1
Potassium, Total	2.4		mg/L	0.56	SW846 6010C	1	01/25/2024 14:25	AXW	J1
Sodium, Total	37.1		mg/L	0.56	SW846 6010C	1	01/25/2024 14:25	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:16	TMP	H



## Results

Client Sample ID	CWMP007W	Collected	01/15/2024 10:12
Lab Sample ID	3341323001	Lab Receipt	01/15/2024 15:40

### VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			105%	62 – 133		01/18/2024 17:16		
4-Bromofluorobenzene	460-00-4			108%	79 – 114		01/18/2024 17:16		
Dibromofluoromethane	1868-53-7			103%	78 – 116		01/18/2024 17:16		
Toluene-d8	2037-26-5			104%	76 – 127		01/18/2024 17:16		

### WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	12		mg/L	5	SM2320B-2011	1	01/23/2024 17:56	KMV	B
Alkalinity, Total	12	1	mg/L	5	SM2320B-2011	1	01/23/2024 17:56	KMV	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	01/22/2024 19:05	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	01/18/2024 12:50	KMS	A
Chloride	78.5		mg/L	2.0	EPA 300.0	2	01/16/2024 10:19	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	01/16/2024 10:19	J1W	B
Nitrate-N	9.8		mg/L	1.0	EPA 300.0	2	01/16/2024 10:19	J1W	B
pH	7.01	2	pH_Units		S4500HB-11	1	01/23/2024 17:56	KMV	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	01/24/2024 12:35	AKH	G
Specific Conductance	406		umhos/cm	5	SW846 9050A	1	01/18/2024 13:12	BLP	B
Sulfate	17.6		mg/L	2.0	EPA 300.0	2	01/16/2024 10:19	J1W	B
Total Dissolved Solids	222		mg/L	25	SM2540C-15	1	01/18/2024 15:45	RAG	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	01/18/2024 05:00	PAG	E
Turbidity	0.30		NTU	0.30	SM2130B-2011	1	01/15/2024 22:30	NRB	B



## Results

Client Sample ID	CWMP005W	Collected	01/15/2024 11:53
Lab Sample ID	3341323002	Lab Receipt	01/15/2024 15:40

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	41.65		Feet		Field	1	01/15/2024 11:53	BGS	D
Dissolved Oxygen	6.05		mg/L	0.01	Field	1	01/15/2024 11:53	BGS	D
Elev Top MW Casing above MSL	513.43		Feet		Field	1	01/15/2024 11:53	BGS	D
Flow Rate	2.83		gal/min		Field	1	01/15/2024 11:53	BGS	D
Ground Water Elevation	471.78		ft/MSL		Field	1	01/15/2024 11:53	BGS	D
Oxidation-Reduction Potential	291		mV		Field	1	01/15/2024 11:53	BGS	D
pH, Field (SM4500B)	5.12		pH_Units		Field	1	01/15/2024 11:53	BGS	D
Sample Depth	130.00		Feet		Field	1	01/15/2024 11:53	BGS	D
Specific Conductance, Field	521		umhos/cm	1	Field	1	01/15/2024 11:53	BGS	D
Temperature	12.91		Deg. C		Field	1	01/15/2024 11:53	BGS	D
Total Well Depth	138.92		Feet		Field	1	01/15/2024 11:53	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	01/15/2024 11:53	BGS	D
Volume in Water Column	142.99		Gallons		Field	1	01/15/2024 11:53	BGS	D
Water Level After Purge	43.56		Feet		Field	1	01/15/2024 11:53	BGS	D
Well Volumes Purged	1.19		Vol		Field	1	01/15/2024 11:53	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	17.0		mg/L	0.11	SW846 6010C	1	01/25/2024 14:26	AXW	J1
Iron, Total	0.083		mg/L	0.067	SW846 6010C	1	01/25/2024 14:26	AXW	J1
Magnesium, Total	8.7		mg/L	0.11	SW846 6010C	1	01/25/2024 14:26	AXW	J1
Manganese, Total	0.057		mg/L	0.0056	SW846 6010C	1	01/25/2024 14:26	AXW	J1
Potassium, Total	2.3		mg/L	0.56	SW846 6010C	1	01/25/2024 14:26	AXW	J1
Sodium, Total	37.6		mg/L	0.56	SW846 6010C	1	01/25/2024 14:26	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	01/18/2024 17:39	TMP	H





## Results

Client Sample ID	CWMP005W	Collected	01/15/2024 11:53
Lab Sample ID	3341323002	Lab Receipt	01/15/2024 15:40

### VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			106%	62 – 133		01/18/2024 17:39		
4-Bromofluorobenzene	460-00-4			104%	79 – 114		01/18/2024 17:39		
Dibromofluoromethane	1868-53-7			101%	78 – 116		01/18/2024 17:39		
Toluene-d8	2037-26-5			104%	76 – 127		01/18/2024 17:39		

### WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	18		mg/L	5	SM2320B-2011	1	01/25/2024 16:42	KMV	B
Alkalinity, Total	18	1	mg/L	5	SM2320B-2011	1	01/25/2024 16:42	KMV	B
Ammonia-N	ND	ND	mg/L	0.100	ASTM D6919-17	10	01/22/2024 18:51	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	01/18/2024 12:50	KMS	A
Chloride	77.3		mg/L	2.0	EPA 300.0	2	01/16/2024 11:11	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	01/16/2024 11:11	J1W	B
Nitrate-N	7.7		mg/L	1.0	EPA 300.0	2	01/16/2024 11:11	J1W	B
pH	7.20	2	pH_Units		S4500HB-11	1	01/25/2024 16:42	KMV	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	01/24/2024 12:16	AKH	G
Specific Conductance	368		umhos/cm	5	SW846 9050A	1	01/18/2024 13:12	BLP	B
Sulfate	6.3		mg/L	2.0	EPA 300.0	2	01/16/2024 11:11	J1W	B
Total Dissolved Solids	200		mg/L	25	SM2540C-15	1	01/18/2024 17:00	RAG	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	01/18/2024 05:00	PAG	E
Turbidity	0.45		NTU	0.30	SM2130B-2011	1	01/15/2024 22:30	NRB	B



### Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3341323001	CWMP007W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3341323002	CWMP005W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	



**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3341323001	CWMP007W	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1118980	01/16/2024 00:18	ANN	SW846 6010C	1123827
		N/A	N/A	N/A		SW846 8260B	1122408
		N/A	N/A	N/A		ASTM D6919-17	1122329
		N/A	N/A	N/A		EPA 300.0	1119062
		N/A	N/A	N/A		EPA 410.4	1122357
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1118978
		N/A	N/A	N/A		SM2320B-2011	1123707
		N/A	N/A	N/A		SM2540C-15	1121200
		N/A	N/A	N/A		SW846 9050A	1122398
		N/A	N/A	N/A		SW846 9060A	1120100
		N/A	SW846 9066	1124013	01/24/2024 09:26	AKH	SW846 9066
3341323002	CWMP005W	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1118980	01/16/2024 00:18	ANN	SW846 6010C	1123827
		N/A	N/A	N/A		SW846 8260B	1122408
		N/A	N/A	N/A		ASTM D6919-17	1122329
		N/A	N/A	N/A		EPA 300.0	1119062
		N/A	N/A	N/A		EPA 410.4	1122357
		N/A	N/A	N/A		S4500HB-11	1124526
		N/A	N/A	N/A		SM2130B-2011	1118978
		N/A	N/A	N/A		SM2320B-2011	1124526
		N/A	N/A	N/A		SM2540C-15	1121300
		N/A	N/A	N/A		SW846 9050A	1122398
		N/A	N/A	N/A		SW846 9060A	1120100
		N/A	SW846 9066	1124013	01/24/2024 09:26	AKH	SW846 9066





Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | [www.alsglobal.com](http://www.alsglobal.com)  
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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618  
 State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For **Lancaster County Solid Waste Authority**  
 Project 1st QTR 2024 GWMP FORM 19Q  
 Workorder 3341460  
 Report ID 298004 on 1/29/2024

### Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Jan 16, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at [www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads](http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads).

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.  
 ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):  
 Jordan Bigler - Lancaster County Solid Waste Authority  
 Ashley Gichuki - Lancaster County Solid Waste Authority  
 Daniel Brown - Lancaster County Solid Waste Authority  
 Jeff Musser - Lancaster County Solid Waste Authority

*Susan Scherer*

**Susan Scherer**  
 Project Coordinator

(ALS Digital Signature)

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*



## Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3341460001	CWMP001W	Ground Water	01/16/2024 12:00	01/16/2024 14:45	BGS	Analytical Laboratory Service



## Reference

### Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:  
EPA 300.1 Rev. 1.0-1997  
EPA 300.0 Rev. 2.1-1993  
EPA 353.2 Rev. 2.0-1993  
EPA 410.4 Rev. 1.0-1993  
EPA 420.4 Rev. 1.0-1993  
EPA 365.1 Rev. 2.0-1993  
EPA 200.7 Rev. 4.4-1994  
EPA 200.8 Rev. 5.4-1994  
EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

### Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.



### Project Notations

### Sample Notations

Lab ID Sample ID

### Result Notations

**Notation Ref.**

- |   |   |
|---|---|
| 1 | The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,1-Dichloroethene. The % Recovery was reported as 138 and the control limits were 63 to 128.   |
| 2 | The QC sample type MS for method SW846 8260B was outside the control limits for the analyte trans-1,2-Dichloroethene. The % Recovery was reported as 123 and the control limits were 71 to 122.   |
| 3 | The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.   |
| 4 | The QC sample type MS for method EPA 300.0 was outside the control limits for the analyte Chloride. The % Recovery was reported as 122 and the control limits were 80 to 120.   |
| 5 | The QC sample type MSD for method EPA 300.0 was outside the control limits for the analyte Chloride. The % Recovery was reported as 121 and the control limits were 80 to 120.  |
| 6 | The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory. |
| 7 | The QC sample type MS for method SW846 6010C was outside the control limits for the analyte Iron, Total. The % Recovery was reported as 132 and the control limits were 75 to 125.  |
| 8 | The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.                                    |
| 9 | The QC sample type MSD for method SW846 6010C was outside the control limits for the analyte Iron, Total. The % Recovery was reported as 139 and the control limits were 75 to 125.   |





### Detected Results Summary

Client Sample ID	CWMP001W	Collected	01/16/2024 12:00
Lab Sample ID	3341460001	Lab Receipt	01/16/2024 14:45

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Depth to Water Level	28.78	Feet		Field	#
Dissolved Oxygen	8.59	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	515.13	Feet		Field	#
Flow Rate	1.74	gal/min		Field	#
Ground Water Elevation	486.35	ft/MSL		Field	#
Oxidation-Reduction Potential	310	mV		Field	#
pH, Field (SM4500B)	5.12	pH_Units		Field	#
Sample Depth	57.00	Feet		Field	#
Specific Conductance, Field	363	umhos/cm	1	Field	#
Temperature	13.25	Deg. C		Field	#
Total Well Depth	66.30	Feet		Field	#
Turbidity, Field	25	NTU	1	Field	#
Volume in Water Column	55.15	Gallons		Field	#
Water Level After Purge	51.29	Feet		Field	#
Well Volumes Purged	1.90	Vol		Field	#
<b>METALS</b>					
Calcium, Total	15.2	mg/L	0.11	SW846 6010C	#
Iron, Total	0.60	mg/L	0.067	SW846 6010C	#
Magnesium, Total	10.7	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.055	mg/L	0.0056	SW846 6010C	#
Potassium, Total	2.2	mg/L	0.56	SW846 6010C	#
Sodium, Total	14.0	mg/L	0.56	SW846 6010C	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	5	mg/L	5	SM2320B-2011	#
Alkalinity, Total	5	mg/L	5	SM2320B-2011	#
Ammonia-N	0.131	mg/L	0.100	ASTM D6919-17	#
Chloride	27.1	mg/L	2.0	EPA 300.0	#
Nitrate-N	17.6	mg/L	1.0	EPA 300.0	#
pH	6.78	pH_Units		S4500HB-11	#
Specific Conductance	257	umhos/cm	5	SW846 9050A	#
Sulfate	2.9	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	152	mg/L	25	SM2540C-15	#
Turbidity	26	NTU	0.30	SM2130B-2011	#



## Results

Client Sample ID	CWMP001W	Collected	01/16/2024 12:00
Lab Sample ID	3341460001	Lab Receipt	01/16/2024 14:45

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	28.78		Feet		Field	1	01/16/2024 12:00	BGS	D
Dissolved Oxygen	8.59		mg/L	0.01	Field	1	01/16/2024 12:00	BGS	D
Elev Top MW Casing above MSL	515.13		Feet		Field	1	01/16/2024 12:00	BGS	D
Flow Rate	1.74		gal/min		Field	1	01/16/2024 12:00	BGS	D
Ground Water Elevation	486.35		ft/MSL		Field	1	01/16/2024 12:00	BGS	D
Oxidation-Reduction Potential	310		mV		Field	1	01/16/2024 12:00	BGS	D
pH, Field (SM4500B)	5.12		pH_Units		Field	1	01/16/2024 12:00	BGS	D
Sample Depth	57.00		Feet		Field	1	01/16/2024 12:00	BGS	D
Specific Conductance, Field	363		umhos/cm	1	Field	1	01/16/2024 12:00	BGS	D
Temperature	13.25		Deg. C		Field	1	01/16/2024 12:00	BGS	D
Total Well Depth	66.30		Feet		Field	1	01/16/2024 12:00	BGS	D
Turbidity, Field	25		NTU	1	Field	1	01/16/2024 12:00	BGS	D
Volume in Water Column	55.15		Gallons		Field	1	01/16/2024 12:00	BGS	D
Water Level After Purge	51.29		Feet		Field	1	01/16/2024 12:00	BGS	D
Well Volumes Purged	1.90		Vol		Field	1	01/16/2024 12:00	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	15.2		mg/L	0.11	SW846 6010C	1	01/29/2024 13:07	AXW	J1
Iron, Total	0.60	7,8,9	mg/L	0.067	SW846 6010C	1	01/29/2024 13:07	AXW	J1
Magnesium, Total	10.7		mg/L	0.11	SW846 6010C	1	01/29/2024 13:07	AXW	J1
Manganese, Total	0.055		mg/L	0.0056	SW846 6010C	1	01/29/2024 13:07	AXW	J1
Potassium, Total	2.2		mg/L	0.56	SW846 6010C	1	01/29/2024 13:07	AXW	J1
Sodium, Total	14.0		mg/L	0.56	SW846 6010C	1	01/29/2024 13:07	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
1,1-Dichloroethene	ND	ND,1	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
trans-1,2-Dichloroethene	ND	ND,2	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	01/19/2024 20:10	ILY	H



## Results

Client Sample ID	CWMP001W	Collected	01/16/2024 12:00
Lab Sample ID	3341460001	Lab Receipt	01/16/2024 14:45

### VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			111%	62 – 133		01/19/2024 20:10		
4-Bromofluorobenzene	460-00-4			104%	79 – 114		01/19/2024 20:10		
Dibromofluoromethane	1868-53-7			100%	78 – 116		01/19/2024 20:10		
Toluene-d8	2037-26-5			101%	76 – 127		01/19/2024 20:10		

### WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	5		mg/L	5	SM2320B-2011	1	01/23/2024 19:13	KMV	B
Alkalinity, Total	5	3	mg/L	5	SM2320B-2011	1	01/23/2024 19:13	KMV	B
Ammonia-N	0.131		mg/L	0.100	ASTM D6919-17	10	01/22/2024 19:46	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	01/19/2024 13:00	KMS	A
Chloride	27.1	4.5	mg/L	2.0	EPA 300.0	2	01/17/2024 15:03	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	01/17/2024 15:03	J1W	B
Nitrate-N	17.6		mg/L	1.0	EPA 300.0	2	01/17/2024 15:03	J1W	B
pH	6.78	6	pH_Units		S4500HB-11	1	01/23/2024 19:13	KMV	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	01/24/2024 14:34	AKH	G
Specific Conductance	257		umhos/cm	5	SW846 9050A	1	01/18/2024 13:12	BLP	B
Sulfate	2.9		mg/L	2.0	EPA 300.0	2	01/17/2024 15:03	J1W	B
Total Dissolved Solids	152		mg/L	25	SM2540C-15	1	01/19/2024 14:30	RAG	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	01/23/2024 01:27	PAG	E
Turbidity	26		NTU	0.30	SM2130B-2011	1	01/16/2024 23:30	NRB	B



### Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3341460001	CWMP001W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	



### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3341460001	CWMP001W	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1122001	01/18/2024 01:48	ANN	SW846 6010C	1128793
		N/A	N/A	N/A		SW846 8260B	1122946
		N/A	N/A	N/A		ASTM D6919-17	1122329
		N/A	N/A	N/A		EPA 300.0	1119662
		N/A	N/A	N/A		EPA 410.4	1122936
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1119469
		N/A	N/A	N/A		SM2320B-2011	1123707
		N/A	N/A	N/A		SM2540C-15	1122438
		N/A	N/A	N/A		SW846 9050A	1122398
		N/A	N/A	N/A		SW846 9060A	1123682
		N/A	SW846 9066	1124013	01/24/2024 09:26	AKH	SW846 9066



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301 Filling Mill Road • Middletown, PA 17057 • 717-944-5541 • Fax: 717-944-1430

Client Name: Lancaster County Solid Waste MA

Address: 1299 Harrisburg Pike, P.O. Box 4424

Lancaster, PA 17604

Contact: Dan Brown

Phone#: (717) 735-0193

Project Name#: Creswell/GWMP Form 19Q Wells

Site To: Lancaster County Solid Waste MA

TAT  Normal-Standard TAT is 10-12 business days.

Rate Required:  Rush-Subject to ALS approval and surcharges.

Approved By: \_\_\_\_\_

mail?  Y  N dbrown@LCSWMA.COM

fax?  Y  N No.: (717) 397-9973

Sample Description/Location

(as it will appear on the lab report)

Sample Date Time

CWMP001W 01/16/24 1200

G or C

G

Matrix

Field Measurements

8260 VOCs - Form 19Q

O-OH

1

2

X

X

X

1

2

1

1

1

1

1

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1

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1

1

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1

1

# CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /  
SAMPLER. INSTRUCTIONS ON THE BACK.

Container Type	AG	AN	CG	PL	PL	PL	PL
Container Size	40 ml	125 ml	40 ml	250 ml	125 ml	500 ml	250 ml
Preservative	HCl	H2SO4	HCl	H2SO4	HNO3	None	None

## ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Sample or Field Results Below.	Field Measurements	Sample Depth for AUX Data	Total Metals: Ca, Fe, Mn, Mg, K, Na	pH, NO3, Cl, F, SPC, SO4, Turb.	Alkalinity, HCO3
2	1	2	1	1	1

3341460  
Logged By: SLS  
PM: SJB



Generated by ALS

1 of 1

Completed by Receiving Lab

Cooler Temp: \_\_\_\_\_ Therm ID: \_\_\_\_\_

Temp By: \_\_\_\_\_ WO Temp (°C) \_\_\_\_\_

Receipt Info Completed By: \_\_\_\_\_

Cooler Custody Seal Intact \_\_\_\_\_

Sample Custody Seal Intact \_\_\_\_\_

Received on Ice \_\_\_\_\_

Cooler & Samples Intact \_\_\_\_\_

Correct Containers Provided \_\_\_\_\_

Sample Label/COC Agree \_\_\_\_\_

Adequate Sample Volumes \_\_\_\_\_

CR6 Samples Filtered \_\_\_\_\_

OH Samples Filtered \_\_\_\_\_

VOA Trip Blank \_\_\_\_\_

NIS 4 Days? \_\_\_\_\_

Rad Screen (uCi) \_\_\_\_\_

Courier/Tracking #: \_\_\_\_\_

SDWA Compliance \_\_\_\_\_

PWSID \_\_\_\_\_

WV Containers 0-6°C \_\_\_\_\_

Initial \_\_\_\_\_

Therm ID \_\_\_\_\_

DPB \_\_\_\_\_

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ALS Field Services:  Pickup  Labor

Composite Sampling  Rental Equipment

Other: \_\_\_\_\_

Standard

CLP-like

USACE

Special Processing

USACE

Navy

State Samples Collected In

NY

NJ

PA

NC

Sample Disposal

Lab

Special

Reportable to PADEP?

Yes

PWSID # \_\_\_\_\_

EDDS: Format Type \_\_\_\_\_

Deliverables

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Project Comments:

LOGGED BY (signature): \_\_\_\_\_

REVIEWED BY (signature): \_\_\_\_\_

Relinquished By/ Company Name

DATE

Time

Received By/ Company Name

DATE

Time

1624 1945

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\* G=Grab; C=Composite

\*\*Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

1/29/2024 4:22 PM

10 of 10

Rev 8/04



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 Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618  
 State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For **Lancaster County Solid Waste Authority**  
 Project 1st QTR 2024 GWMP FORM 19Q  
 Workorder 3341669  
 Report ID 298382 on 1/30/2024

### Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Jan 17, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at [www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads](http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads).

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 ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):  
 Jordan Bigler - Lancaster County Solid Waste Authority  
 Ashley Gichuki - Lancaster County Solid Waste Authority  
 Daniel Brown - Lancaster County Solid Waste Authority  
 Jeff Musser - Lancaster County Solid Waste Authority

*Susan Scherer*

**Susan Scherer**  
 Project Coordinator

(ALS Digital Signature)

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*



## Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3341669001	CWMP016W	Ground Water	01/17/2024 12:00	01/17/2024 17:07	BGS	Analytical Laboratory Service
3341669002	CWMP009W	Ground Water	01/17/2024 14:58	01/17/2024 17:07	BGS	Analytical Laboratory Service
3341669003	CWMP008W	Ground Water	01/17/2024 15:45	01/17/2024 17:07	BGS	Analytical Laboratory Service





## Reference

### Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:
  - EPA 300.1 Rev. 1.0-1997
  - EPA 300.0 Rev. 2.1-1993
  - EPA 353.2 Rev. 2.0-1993
  - EPA 410.4 Rev. 1.0-1993
  - EPA 420.4 Rev. 1.0-1993
  - EPA 365.1 Rev. 2.0-1993
  - EPA 200.7 Rev. 4.4-1994
  - EPA 200.8 Rev. 5.4-1994
  - EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

### Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.



**Project Notations**

**Sample Notations**

**Lab ID**      **Sample ID**

**Result Notations**

**Notation Ref.**

- |   |   |
|---|---|
| 1 | The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.   |
| 2 | The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory. |
| 3 | The QC sample type MS for method EPA 300.0 was outside the control limits for the analyte Chloride. The % Recovery was reported as 53.7 and the control limits were 80 to 120.  |
| 4 | The QC sample type MSD for method EPA 300.0 was outside the control limits for the analyte Chloride. The % Recovery was reported as 58.9 and the control limits were 80 to 120.   |



### Detected Results Summary

Client Sample ID	CWMP016W	Collected	01/17/2024 12:00
Lab Sample ID	3341669001	Lab Receipt	01/17/2024 17:07

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Depth to Water Level	7.60	Feet		Field	#
Dissolved Oxygen	9.32	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	311.97	Feet		Field	#
Flow Rate	1.96	gal/min		Field	#
Ground Water Elevation	304.37	ft/MSL		Field	#
Oxidation-Reduction Potential	268	mV		Field	#
pH, Field (SM4500B)	5.49	pH_Units		Field	#
Sample Depth	71.00	Feet		Field	#
Specific Conductance, Field	92	umhos/cm	1	Field	#
Temperature	12.54	Deg. C		Field	#
Total Well Depth	73.52	Feet		Field	#
Volume in Water Column	96.90	Gallons		Field	#
Water Level After Purge	17.58	Feet		Field	#
Well Volumes Purged	1.21	Vol		Field	#
<b>METALS</b>					
Calcium, Total	5.9	mg/L	0.11	SW846 6010C	#
Magnesium, Total	1.4	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.0066	mg/L	0.0056	SW846 6010C	#
Potassium, Total	0.68	mg/L	0.56	SW846 6010C	#
Sodium, Total	3.4	mg/L	0.56	SW846 6010C	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	10	mg/L	5	SM2320B-2011	#
Alkalinity, Total	10	mg/L	5	SM2320B-2011	#
Ammonia-N	0.217	mg/L	0.100	ASTM D6919-17	#
Chloride	2.4	mg/L	2.0	EPA 300.0	#
Nitrate-N	1.5	mg/L	1.0	EPA 300.0	#
pH	7.17	pH_Units		S4500HB-11	#
Specific Conductance	63	umhos/cm	5	SW846 9050A	#
Sulfate	9.7	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	43	mg/L	25	SM2540C-15	#
Turbidity	1.8	NTU	0.30	SM2130B-2011	#



### Detected Results Summary

Client Sample ID	CWMP009W	Collected	01/17/2024 14:58
Lab Sample ID	3341669002	Lab Receipt	01/17/2024 17:07

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Depth to Water Level	8.85	Feet		Field	#
Dissolved Oxygen	0.09	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	404.20	Feet		Field	#
Flow Rate	1.48	gal/min		Field	#
Ground Water Elevation	395.35	ft/MSL		Field	#
Oxidation-Reduction Potential	-36	mV		Field	#
pH, Field (SM4500B)	6.11	pH_Units		Field	#
Sample Depth	16.00	Feet		Field	#
Specific Conductance, Field	4563	umhos/cm	1	Field	#
Temperature	11.49	Deg. C		Field	#
Total Well Depth	19.70	Feet		Field	#
Volume in Water Column	7.05	Gallons		Field	#
Water Level After Purge	10.53	Feet		Field	#
Well Volumes Purged	3.36	Vol		Field	#
<b>METALS</b>					
Calcium, Total	189	mg/L	0.11	SW846 6010C	#
Iron, Total	38.0	mg/L	0.067	SW846 6010C	#
Magnesium, Total	90.7	mg/L	0.11	SW846 6010C	#
Manganese, Total	13.7	mg/L	0.0056	SW846 6010C	#
Potassium, Total	33.9	mg/L	0.56	SW846 6010C	#
Sodium, Total	211	mg/L	0.56	SW846 6010C	#
<b>VOLATILE ORGANICS</b>					
1,1-Dichloroethane	1.1	ug/L	1.0	SW846 8260B	#
Benzene	1.7	ug/L	1.0	SW846 8260B	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	500	mg/L	50	SM2320B-2011	#
Alkalinity, Total	500	mg/L	50	SM2320B-2011	#
Ammonia-N	29.2	mg/L	0.100	ASTM D6919-17	#
Chemical Oxygen Demand (COD)	112	mg/L	15	EPA 410.4	#
Chloride	680	mg/L	10.0	EPA 300.0	#
pH	7.72	pH_Units		S4500HB-11	#
Specific Conductance	3230	umhos/cm	50	SW846 9050A	#
Sulfate	7.7	mg/L	5.0	EPA 300.0	#
Total Dissolved Solids	1650	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	36.1	mg/L	5.0	SW846 9060A	#
Turbidity	28	NTU	0.30	SM2130B-2011	#



### Detected Results Summary

Client Sample ID	CWMP008W	Collected	01/17/2024 15:45
Lab Sample ID	3341669003	Lab Receipt	01/17/2024 17:07

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Depth to Water Level	2.28	Feet		Field	#
Dissolved Oxygen	0.08	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	422.30	Feet		Field	#
Flow Rate	0.92	gal/min		Field	#
Ground Water Elevation	420.02	ft/MSL		Field	#
Oxidation-Reduction Potential	-13	mV		Field	#
pH, Field (SM4500B)	6.10	pH_Units		Field	#
Sample Depth	19.00	Feet		Field	#
Specific Conductance, Field	963	umhos/cm	1	Field	#
Temperature	13.22	Deg. C		Field	#
Total Well Depth	22.80	Feet		Field	#
Volume in Water Column	3.28	Gallons		Field	#
Water Level After Purge	13.85	Feet		Field	#
Well Volumes Purged	3.36	Vol		Field	#
<b>METALS</b>					
Calcium, Total	55.9	mg/L	0.11	SW846 6010C	#
Iron, Total	19.6	mg/L	0.067	SW846 6010C	#
Magnesium, Total	24.6	mg/L	0.11	SW846 6010C	#
Manganese, Total	13.3	mg/L	0.0056	SW846 6010C	#
Potassium, Total	7.0	mg/L	0.56	SW846 6010C	#
Sodium, Total	26.9	mg/L	0.56	SW846 6010C	#
<b>VOLATILE ORGANICS</b>					
1,1-Dichloroethane	1.9	ug/L	1.0	SW846 8260B	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	298	mg/L	5	SM2320B-2011	#
Alkalinity, Total	298	mg/L	5	SM2320B-2011	#
Ammonia-N	4.96	mg/L	0.100	ASTM D6919-17	#
Chemical Oxygen Demand (COD)	20	mg/L	15	EPA 410.4	#
Chloride	19.9	mg/L	2.0	EPA 300.0	#
pH	7.93	pH_Units		S4500HB-11	#
Specific Conductance	653	umhos/cm	5	SW846 9050A	#
Sulfate	7.6	mg/L	2.0	EPA 300.0	#
Total Dissolved Solids	336	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	5.4	mg/L	2.5	SW846 9060A	#
Turbidity	3.2	NTU	0.30	SM2130B-2011	#



## Results

Client Sample ID	CWMP016W	Collected	01/17/2024 12:00
Lab Sample ID	3341669001	Lab Receipt	01/17/2024 17:07

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	7.60		Feet		Field	1	01/17/2024 14:17	BGS	D
Dissolved Oxygen	9.32		mg/L	0.01	Field	1	01/17/2024 14:17	BGS	D
Elev Top MW Casing above MSL	311.97		Feet		Field	1	01/17/2024 14:17	BGS	D
Flow Rate	1.96		gal/min		Field	1	01/17/2024 14:17	BGS	D
Ground Water Elevation	304.37		ft/MSL		Field	1	01/17/2024 14:17	BGS	D
Oxidation-Reduction Potential	268		mV		Field	1	01/17/2024 14:17	BGS	D
pH, Field (SM4500B)	5.49		pH_Units		Field	1	01/17/2024 14:17	BGS	D
Sample Depth	71.00		Feet		Field	1	01/17/2024 14:17	BGS	D
Specific Conductance, Field	92		umhos/cm	1	Field	1	01/17/2024 14:17	BGS	D
Temperature	12.54		Deg. C		Field	1	01/17/2024 14:17	BGS	D
Total Well Depth	73.52		Feet		Field	1	01/17/2024 14:17	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	01/17/2024 14:17	BGS	D
Volume in Water Column	96.90		Gallons		Field	1	01/17/2024 14:17	BGS	D
Water Level After Purge	17.58		Feet		Field	1	01/17/2024 14:17	BGS	D
Well Volumes Purged	1.21		Vol		Field	1	01/17/2024 14:17	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	5.9		mg/L	0.11	SW846 6010C	1	01/29/2024 13:15	AXW	J1
Iron, Total	ND	ND	mg/L	0.067	SW846 6010C	1	01/29/2024 13:15	AXW	J1
Magnesium, Total	1.4		mg/L	0.11	SW846 6010C	1	01/29/2024 13:15	AXW	J1
Manganese, Total	0.0066		mg/L	0.0056	SW846 6010C	1	01/29/2024 13:15	AXW	J1
Potassium, Total	0.68		mg/L	0.56	SW846 6010C	1	01/29/2024 13:15	AXW	J1
Sodium, Total	3.4		mg/L	0.56	SW846 6010C	1	01/29/2024 13:15	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
1,1-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 05:59	PDK	H



## Results

Client Sample ID	CWMP016W	Collected	01/17/2024 12:00
Lab Sample ID	3341669001	Lab Receipt	01/17/2024 17:07

### VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			107%	62 – 133		01/20/2024 05:59		
4-Bromofluorobenzene	460-00-4			104%	79 – 114		01/20/2024 05:59		
Dibromofluoromethane	1868-53-7			102%	78 – 116		01/20/2024 05:59		
Toluene-d8	2037-26-5			99.1%	76 – 127		01/20/2024 05:59		

### WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	10		mg/L	5	SM2320B-2011	1	01/23/2024 22:51	KMV	B
Alkalinity, Total	10	1	mg/L	5	SM2320B-2011	1	01/23/2024 22:51	KMV	B
Ammonia-N	0.217		mg/L	0.100	ASTM D6919-17	10	01/26/2024 10:06	NML	A
Chemical Oxygen Demand (COD)	ND	ND	mg/L	15	EPA 410.4	1	01/19/2024 13:00	KMS	A
Chloride	2.4		mg/L	2.0	EPA 300.0	2	01/18/2024 10:13	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	01/18/2024 10:13	J1W	B
Nitrate-N	1.5		mg/L	1.0	EPA 300.0	2	01/18/2024 10:13	J1W	B
pH	7.17	2	pH_Units		S4500HB-11	1	01/23/2024 22:51	KMV	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	01/24/2024 15:28	AKH	G
Specific Conductance	63		umhos/cm	5	SW846 9050A	1	01/18/2024 13:12	BLP	B
Sulfate	9.7		mg/L	2.0	EPA 300.0	2	01/18/2024 10:13	J1W	B
Total Dissolved Solids	43		mg/L	25	SM2540C-15	1	01/19/2024 16:00	RAG	B
Total Organic Carbon (TOC)	ND	ND	mg/L	0.50	SW846 9060A	1	01/23/2024 01:27	PAG	E
Turbidity	1.8		NTU	0.30	SM2130B-2011	1	01/18/2024 01:40	NRB	B



## Results

Client Sample ID	CWMP009W	Collected	01/17/2024 14:58
Lab Sample ID	3341669002	Lab Receipt	01/17/2024 17:07

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	8.85		Feet		Field	1	01/17/2024 14:58	BGS	D
Dissolved Oxygen	0.09		mg/L	0.01	Field	1	01/17/2024 14:58	BGS	D
Elev Top MW Casing above MSL	404.20		Feet		Field	1	01/17/2024 14:58	BGS	D
Flow Rate	1.48		gal/min		Field	1	01/17/2024 14:58	BGS	D
Ground Water Elevation	395.35		ft/MSL		Field	1	01/17/2024 14:58	BGS	D
Oxidation-Reduction Potential	-36		mV		Field	1	01/17/2024 14:58	BGS	D
pH, Field (SM4500B)	6.11		pH_Units		Field	1	01/17/2024 14:58	BGS	D
Sample Depth	16.00		Feet		Field	1	01/17/2024 14:58	BGS	D
Specific Conductance, Field	4563		umhos/cm	1	Field	1	01/17/2024 14:58	BGS	D
Temperature	11.49		Deg. C		Field	1	01/17/2024 14:58	BGS	D
Total Well Depth	19.70		Feet		Field	1	01/17/2024 14:58	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	01/17/2024 14:58	BGS	D
Volume in Water Column	7.05		Gallons		Field	1	01/17/2024 14:58	BGS	D
Water Level After Purge	10.53		Feet		Field	1	01/17/2024 14:58	BGS	D
Well Volumes Purged	3.36		Vol		Field	1	01/17/2024 14:58	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	189		mg/L	0.11	SW846 6010C	1	01/29/2024 13:17	AXW	J1
Iron, Total	38.0		mg/L	0.067	SW846 6010C	1	01/29/2024 13:17	AXW	J1
Magnesium, Total	90.7		mg/L	0.11	SW846 6010C	1	01/29/2024 13:17	AXW	J1
Manganese, Total	13.7		mg/L	0.0056	SW846 6010C	1	01/29/2024 13:17	AXW	J1
Potassium, Total	33.9		mg/L	0.56	SW846 6010C	1	01/29/2024 13:17	AXW	J1
Sodium, Total	211		mg/L	0.56	SW846 6010C	1	01/29/2024 13:17	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
1,1-Dichloroethane	1.1		ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
Benzene	1.7		ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:20	PDK	H





## Results

Client Sample ID	CWMP009W	Collected	01/17/2024 14:58
Lab Sample ID	3341669002	Lab Receipt	01/17/2024 17:07

### VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			94.9%	62 – 133		01/20/2024 06:20		
4-Bromofluorobenzene	460-00-4			96%	79 – 114		01/20/2024 06:20		
Dibromofluoromethane	1868-53-7			94%	78 – 116		01/20/2024 06:20		
Toluene-d8	2037-26-5			93.8%	76 – 127		01/20/2024 06:20		

### WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	500		mg/L	50	SM2320B-2011	10	01/25/2024 17:58	KMV	B
Alkalinity, Total	500	1	mg/L	50	SM2320B-2011	10	01/25/2024 17:58	KMV	B
Ammonia-N	29.2		mg/L	0.100	ASTM D6919-17	10	01/26/2024 09:38	NML	A
Chemical Oxygen Demand (COD)	112		mg/L	15	EPA 410.4	1	01/19/2024 13:00	KMS	A
Chloride	680	3,4	mg/L	10.0	EPA 300.0	10	01/22/2024 08:21	J1W	B
Fluoride	ND	ND	mg/L	0.50	EPA 300.0	5	01/18/2024 10:23	J1W	B
Nitrate-N	ND	ND	mg/L	2.5	EPA 300.0	5	01/18/2024 10:23	J1W	B
pH	7.72	2	pH_Units		S4500HB-11	1	01/23/2024 23:04	KMV	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	01/24/2024 15:32	AKH	G
Specific Conductance	3230		umhos/cm	50	SW846 9050A	10	01/18/2024 13:12	BLP	B
Sulfate	7.7		mg/L	5.0	EPA 300.0	5	01/18/2024 10:23	J1W	B
Total Dissolved Solids	1650		mg/L	25	SM2540C-15	1	01/19/2024 16:00	RAG	B
Total Organic Carbon (TOC)	36.1		mg/L	5.0	SW846 9060A	10	01/23/2024 01:27	PAG	E
Turbidity	28		NTU	0.30	SM2130B-2011	1	01/18/2024 01:40	NRB	B



## Results

Client Sample ID	CWMP008W	Collected	01/17/2024 15:45
Lab Sample ID	3341669003	Lab Receipt	01/17/2024 17:07

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	2.28		Feet		Field	1	01/17/2024 15:45	BGS	D
Dissolved Oxygen	0.08		mg/L	0.01	Field	1	01/17/2024 15:45	BGS	D
Elev Top MW Casing above MSL	422.30		Feet		Field	1	01/17/2024 15:45	BGS	D
Flow Rate	0.92		gal/min		Field	1	01/17/2024 15:45	BGS	D
Ground Water Elevation	420.02		ft/MSL		Field	1	01/17/2024 15:45	BGS	D
Oxidation-Reduction Potential	-13		mV		Field	1	01/17/2024 15:45	BGS	D
pH, Field (SM4500B)	6.10		pH_Units		Field	1	01/17/2024 15:45	BGS	D
Sample Depth	19.00		Feet		Field	1	01/17/2024 15:45	BGS	D
Specific Conductance, Field	963		umhos/cm	1	Field	1	01/17/2024 15:45	BGS	D
Temperature	13.22		Deg. C		Field	1	01/17/2024 15:45	BGS	D
Total Well Depth	22.80		Feet		Field	1	01/17/2024 15:45	BGS	D
Turbidity, Field	ND	ND	NTU	1	Field	1	01/17/2024 15:45	BGS	D
Volume in Water Column	3.28		Gallons		Field	1	01/17/2024 15:45	BGS	D
Water Level After Purge	13.85		Feet		Field	1	01/17/2024 15:45	BGS	D
Well Volumes Purged	3.36		Vol		Field	1	01/17/2024 15:45	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	55.9		mg/L	0.11	SW846 6010C	1	01/29/2024 13:18	AXW	J1
Iron, Total	19.6		mg/L	0.067	SW846 6010C	1	01/29/2024 13:18	AXW	J1
Magnesium, Total	24.6		mg/L	0.11	SW846 6010C	1	01/29/2024 13:18	AXW	J1
Manganese, Total	13.3		mg/L	0.0056	SW846 6010C	1	01/29/2024 13:18	AXW	J1
Potassium, Total	7.0		mg/L	0.56	SW846 6010C	1	01/29/2024 13:18	AXW	J1
Sodium, Total	26.9		mg/L	0.56	SW846 6010C	1	01/29/2024 13:18	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
1,1-Dichloroethane	1.9		ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
1,1-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
1,2-Dibromoethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
1,2-Dichloroethane	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
Benzene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
cis-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
Ethylbenzene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
Methylene Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
Tetrachloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
Toluene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
Total Xylenes	ND	ND	ug/L	3.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
trans-1,2-Dichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
Trichloroethene	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H
Vinyl Chloride	ND	ND	ug/L	1.0	SW846 8260B	1	01/20/2024 06:40	PDK	H



## Results

Client Sample ID	CWMP008W	Collected	01/17/2024 15:45
Lab Sample ID	3341669003	Lab Receipt	01/17/2024 17:07

### VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			110%	62 – 133		01/20/2024 06:40		
4-Bromofluorobenzene	460-00-4			95.8%	79 – 114		01/20/2024 06:40		
Dibromofluoromethane	1868-53-7			104%	78 – 116		01/20/2024 06:40		
Toluene-d8	2037-26-5			97.2%	76 – 127		01/20/2024 06:40		

### WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	298		mg/L	5	SM2320B-2011	1	01/23/2024 23:53	KMV	B
Alkalinity, Total	298	1	mg/L	5	SM2320B-2011	1	01/23/2024 23:53	KMV	B
Ammonia-N	4.96		mg/L	0.100	ASTM D6919-17	10	01/26/2024 09:52	NML	A
Chemical Oxygen Demand (COD)	20		mg/L	15	EPA 410.4	1	01/19/2024 13:00	KMS	A
Chloride	19.9		mg/L	2.0	EPA 300.0	2	01/18/2024 10:34	J1W	B
Fluoride	ND	ND	mg/L	0.20	EPA 300.0	2	01/18/2024 10:34	J1W	B
Nitrate-N	ND	ND	mg/L	1.0	EPA 300.0	2	01/18/2024 10:34	J1W	B
pH	7.93	2	pH_Units		S4500HB-11	1	01/23/2024 23:53	KMV	B
Phenolics	ND	ND	mg/L	0.004	SW846 9066	1	01/24/2024 15:56	AKH	G
Specific Conductance	653		umhos/cm	5	SW846 9050A	1	01/18/2024 13:12	BLP	B
Sulfate	7.6		mg/L	2.0	EPA 300.0	2	01/18/2024 10:34	J1W	B
Total Dissolved Solids	336		mg/L	25	SM2540C-15	1	01/19/2024 16:00	RAG	B
Total Organic Carbon (TOC)	5.4		mg/L	2.5	SW846 9060A	5	01/23/2024 01:27	PAG	E
Turbidity	3.2		NTU	0.30	SM2130B-2011	1	01/18/2024 01:40	NRB	B



### Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3341669001	CWMP016W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3341669002	CWMP009W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
SW846 9066	SW846 9066			
3341669003	CWMP008W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	



**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3341669001	CWMP016W	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1122001	01/18/2024 01:48	ANN	SW846 6010C	1128793
		N/A	N/A	N/A		SW846 8260B	1123199
		N/A	N/A	N/A		ASTM D6919-17	1124514
		N/A	N/A	N/A		EPA 300.0	1122317
		N/A	N/A	N/A		EPA 410.4	1122936
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1122004
		N/A	N/A	N/A		SM2320B-2011	1123707
		N/A	N/A	N/A		SM2540C-15	1122918
		N/A	N/A	N/A		SW846 9050A	1122398
		N/A	N/A	N/A		SW846 9060A	1123683
3341669002	CWMP009W	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1122001	01/18/2024 01:48	ANN	SW846 6010C	1128793
		N/A	N/A	N/A		SW846 8260B	1123199
		N/A	N/A	N/A		ASTM D6919-17	1124514
		N/A	N/A	N/A		EPA 300.0	1122317
		N/A	N/A	N/A		EPA 300.0	1123609
		N/A	N/A	N/A		EPA 410.4	1122936
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1122004
		N/A	N/A	N/A		SM2320B-2011	1124526
		N/A	N/A	N/A		SM2540C-15	1122918
		N/A	N/A	N/A		SW846 9050A	1122398
3341669003	CWMP008W	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1122001	01/18/2024 01:48	ANN	SW846 6010C	1128793
		N/A	N/A	N/A		SW846 8260B	1123199
		N/A	N/A	N/A		ASTM D6919-17	1124514
		N/A	N/A	N/A		EPA 300.0	1122317
		N/A	N/A	N/A		EPA 410.4	1122936
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1122004
		N/A	N/A	N/A		SM2320B-2011	1123707
		N/A	N/A	N/A		SM2540C-15	1122918
		N/A	N/A	N/A		SW846 9050A	1122398
		N/A	N/A	N/A		SW846 9060A	1123683
		SW846 9066	1124013	01/24/2024 09:26	AKH	SW846 9066	1124246



**CHAIN OF CUSTODY/  
 REQUEST FOR ANALYSIS**  
**ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/  
 SAMPLER. INSTRUCTIONS ON THE BACK.**

301 Fulfilling Mill Road • Middletown, PA 17057 • Phone: 717.944.5541 • Fax: 717.944.1430  
 Client Name: Lancaster County Solid Waste MA  
 Address: 1299 Harrisburg Pike, P.O. Box 4424  
 Lancaster, PA 17604  
 Contact: Dan Brown  
 Phone#: (717) 735-0193  
 Project Name#: Creswell/GWMP Form 19Q Wells  
 Bill To: Lancaster County Solid Waste MA

TAT  Normal-Standard TAT is 10-12 business days.  
 Rush-Subject to ALS approval and surcharges.  
 Date Required: \_\_\_\_\_ Approved By: \_\_\_\_\_  
 Email?  Y  N Email: dbrown@LCSWMA.com  
 Fax?  Y  N No.: (717) 397-9973

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	TOC	O-H	8260 VOCs - Form 19Q	Field Measurements	Sample Depth for AUX Data	NH3-N, COD	Total Metals: Ca, Fe, Mn, Mg, K, Na	PH, NO3, Cl, F, SPC, SO4, Turb,	TDS	Alkalinity, HCO3
1. CWMP016W	01/17/24	1200	G	GW	2	1	2	X	X	1	2	1	1	1
2. CWMP009W	01/17/24	1458	G	GW	2	1	2	X	X	1	2	1	1	1
3. CWMP008W	01/17/24	1545	G	GW	2	1	2	X	X	1	2	1	1	1
4														
5														
6														
7														
8														
9														
10														

Project Comments:  
 Relinquished By/ Company Name: ALS Date: 1-17-24 1701  
 Received By/ Company Name: M. Brown ALS Date: 1/17/24 1707

LOGGED BY (signature): \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_  
 REVIEWED BY (signature): \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

ALS Field Services:  Pickup  Labor  
 Composite\_Sampling  Rental\_Equipment  
 Other: \_\_\_\_\_

Special Processing: USACE  Navy   
 Reportable to PADEP? Yes  No   
 PWSID #: \_\_\_\_\_ EDDS: Format Type: \_\_\_\_\_

State Samples Collected In: NY  NJ  PA  NC   
 Standard  CLP-like  USACE   
 Deliverables: \_\_\_\_\_

COOLING SYSTEM INFORMATION  
 Cooler Temp: 3 Therm ID: \_\_\_\_\_  
 No. of Coolers: \_\_\_\_\_  
 Custody Seals Present? \_\_\_\_\_  
 (if present) Seals Intact? \_\_\_\_\_  
 Received on Ice? \_\_\_\_\_  
 Temp by: DAG | 3 WO Temp (°C) \_\_\_\_\_ Therm ID: 569  
 Receipt Info Completed By: \_\_\_\_\_  
 Cooler Custody Seal Intact: Y N NA  
 Sample Custody Seal Intact: Y N NA  
 Received on Ice: Y N NA  
 Cooler & Samples Intact: Y N NA  
 Correct Containers Provided: Y N NA  
 Sample Label/COC Agree: Y N NA  
 Adequate Sample Volumes: Y N NA  
 CR6 Samples Filtered: Y N NA  
 OP Samples Filtered: Y N NA  
 VOA Trip Blank: Y N NA  
 MIS ≤ 4 Days? Y N NA  
 Rad Screen (uCi): \_\_\_\_\_  
 Courier/Tracking #: \_\_\_\_\_  
 SDWA Compliance: Y N NA  
 PWSID: Y N NA  
 WW Containers 0-6°C: Y N NA



Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | [www.alsglobal.com](http://www.alsglobal.com)  
 Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618  
 State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For

**Lancaster County Solid Waste Authority**

Project 1st QTR 2024 GWMP FORM 19Q  
 Workorder 3341873  
 Report ID 300968 on 2/14/2024 (Revised report. See Project Notations Section.)

**Certificate of Analysis**

Enclosed are the analytical results for samples received by the laboratory on Jan 18, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at [www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads](http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads).

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.  
 ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):  
 Jordan Bigler - Lancaster County Solid Waste Authority  
 Ashley Gichuki - Lancaster County Solid Waste Authority  
 Daniel Brown - Lancaster County Solid Waste Authority  
 Jeff Musser - Lancaster County Solid Waste Authority

*Susan Scherer*

**Susan Scherer**  
 Project Coordinator

(ALS Digital Signature)

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*



## Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3341873001	CWMP010W	Ground Water	01/18/2024 10:12	01/18/2024 16:25	BGS	Analytical Laboratory Service
3341873002	CWMP012W	Ground Water	01/18/2024 11:01	01/18/2024 16:25	BGS	Analytical Laboratory Service
3341873003	CWMP002W	Ground Water	01/18/2024 11:43	01/18/2024 16:25	BGS	Analytical Laboratory Service
3341873004	CWMP004W	Ground Water	01/18/2024 11:59	01/18/2024 16:25	BGS	Analytical Laboratory Service
3341873005	CWMP003W	Ground Water	01/18/2024 12:14	01/18/2024 16:25	BGS	Analytical Laboratory Service
3341873006	CWMP018S	Ground Water	01/18/2024 13:46	01/18/2024 16:25	BGS	Analytical Laboratory Service
3341873007	CWMP017S	Ground Water	01/18/2024 14:05	01/18/2024 16:25	BGS	Analytical Laboratory Service
3341873008	Field Blank	Water	01/18/2024 15:03	01/18/2024 16:25	BGS	Analytical Laboratory Service
3341873009	Trip Blank	Water	01/18/2024 16:25	01/18/2024 16:25	BGS	Analytical Laboratory Service





## Reference

### Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:  
EPA 300.1 Rev. 1.0-1997  
EPA 300.0 Rev. 2.1-1993  
EPA 353.2 Rev. 2.0-1993  
EPA 410.4 Rev. 1.0-1993  
EPA 420.4 Rev. 1.0-1993  
EPA 365.1 Rev. 2.0-1993  
EPA 200.7 Rev. 4.4-1994  
EPA 200.8 Rev. 5.4-1994  
EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

### Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.



### Project Notations

**P1** This certificate of analysis was modified with respect to the volatile organics SW846 8260B analyte list for lab IDs 3341873003, 3341873004, and 3341873005. Based on the project requirements locations CWMP002W, CWMP003W, and CWMP004W require the River Road VOC list. Originally, the Form 19Q VOC list was reported. SJS 02/14/24

### Sample Notations

**Lab ID**      **Sample ID**

### Result Notations

**Notation Ref.**

- |   |   |
|---|---|
| 1 | The Total Alkalinity is titrated to a pH of 4.5 and reported as mg CaCO3/L.   |
| 2 | The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory. |
| 3 | The concentration of this analyte was greater than 4 times the concentration of the spike added to the matrix spike. According to protocol, the calculation for percent recovery of the matrix spike is not valid.                                    |
| 4 | The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Chlorobenzene. The % Recovery was reported as 83.8 and the control limits were 85 to 117.  |
| 5 | The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 1,2-Dichlorobenzene. The % Recovery was reported as 79.6 and the control limits were 82 to 118.  |
| 6 | The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 1,3-Dichlorobenzene. The % Recovery was reported as 76.6 and the control limits were 81 to 118.  |
| 7 | The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 1,3-Dichlorobenzene. The % Recovery was reported as 79.9 and the control limits were 81 to 118.   |
| 8 | The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 1,4-Dichlorobenzene. The % Recovery was reported as 80.7 and the control limits were 81 to 116.  |
| 9 | The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Styrene. The % Recovery was reported as 75.1 and the control limits were 79 to 123.  |



### Detected Results Summary

Client Sample ID	CWMP010W	Collected	01/18/2024 10:12
Lab Sample ID	3341873001	Lab Receipt	01/18/2024 16:25

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Depth to Water Level	8.50	Feet		Field	#
Dissolved Oxygen	9.13	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	360.90	Feet		Field	#
Flow Rate	0.09	gal/min		Field	#
Ground Water Elevation	352.40	ft/MSL		Field	#
Oxidation-Reduction Potential	154	mV		Field	#
pH, Field (SM4500B)	6.24	pH_Units		Field	#
Sample Depth	17.00	Feet		Field	#
Specific Conductance, Field	567	umhos/cm	1	Field	#
Temperature	10.63	Deg. C		Field	#
Total Well Depth	19.60	Feet		Field	#
Volume in Water Column	7.22	Gallons		Field	#
Water Level After Purge	11.55	Feet		Field	#
Well Volumes Purged	0.38	Vol		Field	#
<b>METALS</b>					
Calcium, Total	22.2	mg/L	0.11	SW846 6010C	#
Iron, Total	0.15	mg/L	0.067	SW846 6010C	#
Magnesium, Total	14.6	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.030	mg/L	0.0056	SW846 6010C	#
Potassium, Total	3.6	mg/L	0.56	SW846 6010C	#
Sodium, Total	45.7	mg/L	0.56	SW846 6010C	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	80	mg/L	5	SM2320B-2011	#
Alkalinity, Total	80	mg/L	5	SM2320B-2011	#
Chloride	37.9	mg/L	10.0	EPA 300.0	#
Nitrate-N	8.6	mg/L	5.0	EPA 300.0	#
pH	8.09	pH_Units		S4500HB-11	#
Specific Conductance	432	umhos/cm	5	SW846 9050A	#
Total Dissolved Solids	258	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	2.1	mg/L	0.50	SW846 9060A	#
Turbidity	4.1	NTU	0.30	SM2130B-2011	#



### Detected Results Summary

Client Sample ID	CWMP012W	Collected	01/18/2024 11:01
Lab Sample ID	3341873002	Lab Receipt	01/18/2024 16:25

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Depth to Water Level	64.56	Feet		Field	#
Dissolved Oxygen	4.45	mg/L	0.01	Field	#
Oxidation-Reduction Potential	164	mV		Field	#
pH, Field (SM4500B)	5.83	pH_Units		Field	#
Specific Conductance, Field	426	umhos/cm	1	Field	#
Temperature	12.14	Deg. C		Field	#
Turbidity, Field	458	NTU	1	Field	#
<b>METALS</b>					
Calcium, Total	32.9	mg/L	0.11	SW846 6010C	#
Iron, Total	93.9	mg/L	0.067	SW846 6010C	#
Magnesium, Total	8.6	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.70	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.6	mg/L	0.56	SW846 6010C	#
Sodium, Total	14.9	mg/L	0.56	SW846 6010C	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	75	mg/L	5	SM2320B-2011	#
Alkalinity, Total	75	mg/L	5	SM2320B-2011	#
Ammonia-N	0.269	mg/L	0.100	ASTM D6919-17	#
Chloride	160	mg/L	10.0	EPA 300.0	#
Nitrate-N	6.8	mg/L	5.0	EPA 300.0	#
pH	7.81	pH_Units		S4500HB-11	#
Specific Conductance	302	umhos/cm	5	SW846 9050A	#
Sulfate	34.9	mg/L	10.0	EPA 300.0	#
Total Dissolved Solids	201	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	1.0	mg/L	0.50	SW846 9060A	#
Turbidity	290	NTU	0.30	SM2130B-2011	#



### Detected Results Summary

Client Sample ID	CWMP002W	Collected	01/18/2024 11:43
Lab Sample ID	3341873003	Lab Receipt	01/18/2024 16:25

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Depth to Water Level	65.67	Feet		Field	#
Dissolved Oxygen	4.40	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	525.81	Feet		Field	#
Ground Water Elevation	460.14	ft/MSL		Field	#
Oxidation-Reduction Potential	142	mV		Field	#
pH, Field (SM4500B)	5.72	pH_Units		Field	#
Sample Depth	85.00	Feet		Field	#
Specific Conductance, Field	841	umhos/cm	1	Field	#
Temperature	13.70	Deg. C		Field	#
Total Well Depth	100.00	Feet		Field	#
Turbidity, Field	54	NTU	1	Field	#
<b>METALS</b>					
Calcium, Total	58.0	mg/L	0.11	SW846 6010C	#
Magnesium, Total	16.8	mg/L	0.11	SW846 6010C	#
Manganese, Total	1.0	mg/L	0.0056	SW846 6010C	#
Potassium, Total	2.9	mg/L	0.56	SW846 6010C	#
Sodium, Total	32.7	mg/L	0.56	SW846 6010C	#
<b>VOLATILE ORGANICS</b>					
1,1-Dichloroethane	8.3	ug/L	1.0	SW846 8260B	#
Chloroethane	10.9	ug/L	1.0	SW846 8260B	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	98	mg/L	5	SM2320B-2011	#
Alkalinity, Total	98	mg/L	5	SM2320B-2011	#
Ammonia-N	0.561	mg/L	0.100	ASTM D6919-17	#
Chemical Oxygen Demand (COD)	18	mg/L	15	EPA 410.4	#
Chloride	48.1	mg/L	10.0	EPA 300.0	#
Nitrate-N	5.1	mg/L	5.0	EPA 300.0	#
pH	7.86	pH_Units		S4500HB-11	#
Specific Conductance	592	umhos/cm	5	SW846 9050A	#
Total Dissolved Solids	372	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	3.6	mg/L	0.50	SW846 9060A	#
Turbidity	0.40	NTU	0.30	SM2130B-2011	#



### Detected Results Summary

Client Sample ID	CWMP004W	Collected	01/18/2024 11:59
Lab Sample ID	3341873004	Lab Receipt	01/18/2024 16:25

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Depth to Water Level	100.27	Feet		Field	#
Dissolved Oxygen	6.81	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	529.53	Feet		Field	#
Ground Water Elevation	429.26	ft/MSL		Field	#
Oxidation-Reduction Potential	152	mV		Field	#
pH, Field (SM4500B)	5.73	pH_Units		Field	#
Sample Depth	130.00	Feet		Field	#
Specific Conductance, Field	385	umhos/cm	1	Field	#
Temperature	14.26	Deg. C		Field	#
Total Well Depth	140.00	Feet		Field	#
<b>METALS</b>					
Calcium, Total	23.2	mg/L	0.11	SW846 6010C	#
Magnesium, Total	7.4	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.012	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.5	mg/L	0.56	SW846 6010C	#
Sodium, Total	17.4	mg/L	0.56	SW846 6010C	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	28	mg/L	5	SM2320B-2011	#
Alkalinity, Total	28	mg/L	5	SM2320B-2011	#
Ammonia-N	0.140	mg/L	0.100	ASTM D6919-17	#
Chloride	48.3	mg/L	10.0	EPA 300.0	#
Nitrate-N	5.1	mg/L	5.0	EPA 300.0	#
pH	7.64	pH_Units		S4500HB-11	#
Specific Conductance	272	umhos/cm	5	SW846 9050A	#
Total Dissolved Solids	193	mg/L	25	SM2540C-15	#



### Detected Results Summary

Client Sample ID	CWMP003W	Collected	01/18/2024 12:14
Lab Sample ID	3341873005	Lab Receipt	01/18/2024 16:25

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Depth to Water Level	71.42	Feet		Field	#
Dissolved Oxygen	8.62	mg/L	0.01	Field	#
Elev Top MW Casing above MSL	524.21	Feet		Field	#
Ground Water Elevation	452.79	ft/MSL		Field	#
Oxidation-Reduction Potential	182	mV		Field	#
pH, Field (SM4500B)	5.46	pH_Units		Field	#
Sample Depth	100.00	Feet		Field	#
Specific Conductance, Field	504	umhos/cm	1	Field	#
Temperature	14.90	Deg. C		Field	#
Total Well Depth	140.00	Feet		Field	#
Turbidity, Field	6	NTU	1	Field	#
<b>METALS</b>					
Calcium, Total	28.5	mg/L	0.11	SW846 6010C	#
Magnesium, Total	9.8	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.0058	mg/L	0.0056	SW846 6010C	#
Potassium, Total	1.7	mg/L	0.56	SW846 6010C	#
Sodium, Total	23.4	mg/L	0.56	SW846 6010C	#
<b>VOLATILE ORGANICS</b>					
1,1-Dichloroethane	1.8	ug/L	1.0	SW846 8260B	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	24	mg/L	5	SM2320B-2011	#
Alkalinity, Total	24	mg/L	5	SM2320B-2011	#
Ammonia-N	1.34	mg/L	0.100	ASTM D6919-17	#
Chloride	80.2	mg/L	10.0	EPA 300.0	#
Nitrate-N	6.1	mg/L	5.0	EPA 300.0	#
pH	7.55	pH_Units		S4500HB-11	#
Specific Conductance	355	umhos/cm	5	SW846 9050A	#
Total Dissolved Solids	234	mg/L	25	SM2540C-15	#
Turbidity	0.65	NTU	0.30	SM2130B-2011	#



### Detected Results Summary

Client Sample ID	CWMP018S	Collected	01/18/2024 13:46
Lab Sample ID	3341873006	Lab Receipt	01/18/2024 16:25

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Dissolved Oxygen	14.00	mg/L	0.01	Field	#
Oxidation-Reduction Potential	207	mV		Field	#
pH, Field (SM4500B)	8.35	pH_Units		Field	#
Specific Conductance, Field	2145	umhos/cm	1	Field	#
Temperature	3.25	Deg. C		Field	#
<b>METALS</b>					
Calcium, Total	66.0	mg/L	0.11	SW846 6010C	#
Iron, Total	0.22	mg/L	0.067	SW846 6010C	#
Magnesium, Total	55.4	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.32	mg/L	0.0056	SW846 6010C	#
Potassium, Total	16.1	mg/L	0.56	SW846 6010C	#
Sodium, Total	171	mg/L	0.56	SW846 6010C	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	244	mg/L	5	SM2320B-2011	#
Alkalinity, Total	280	mg/L	5	SM2320B-2011	#
Ammonia-N	1.40	mg/L	0.500	ASTM D6919-17	#
Chemical Oxygen Demand (COD)	23	mg/L	15	EPA 410.4	#
Chloride	474	mg/L	10.0	EPA 300.0	#
Nitrate-N	25.2	mg/L	5.0	EPA 300.0	#
pH	8.59	pH_Units		S4500HB-11	#
Specific Conductance	1530	umhos/cm	5	SW846 9050A	#
Sulfate	46.5	mg/L	10.0	EPA 300.0	#
Total Dissolved Solids	822	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	6.4	mg/L	0.50	SW846 9060A	#
Turbidity	2.2	NTU	0.30	SM2130B-2011	#





### Detected Results Summary

Client Sample ID	CWMP017S	Collected	01/18/2024 14:05
Lab Sample ID	3341873007	Lab Receipt	01/18/2024 16:25

Compound	Result	Units	RDL	Method	Flag
<b>FIELD PARAMETERS</b>					
Dissolved Oxygen	13.58	mg/L	0.01	Field	#
Oxidation-Reduction Potential	190	mV		Field	#
pH, Field (SM4500B)	8.14	pH_Units		Field	#
Specific Conductance, Field	832	umhos/cm	1	Field	#
Temperature	3.30	Deg. C		Field	#
Turbidity, Field	13	NTU	1	Field	#
<b>METALS</b>					
Calcium, Total	28.6	mg/L	0.11	SW846 6010C	#
Iron, Total	0.14	mg/L	0.067	SW846 6010C	#
Magnesium, Total	18.8	mg/L	0.11	SW846 6010C	#
Manganese, Total	0.042	mg/L	0.0056	SW846 6010C	#
Potassium, Total	6.1	mg/L	0.56	SW846 6010C	#
Sodium, Total	72.1	mg/L	0.56	SW846 6010C	#
<b>WET CHEMISTRY</b>					
Alkalinity, Bicarbonate	114	mg/L	5	SM2320B-2011	#
Alkalinity, Total	114	mg/L	5	SM2320B-2011	#
Chloride	170	mg/L	10.0	EPA 300.0	#
Nitrate-N	12.2	mg/L	5.0	EPA 300.0	#
pH	8.25	pH_Units		S4500HB-11	#
Specific Conductance	621	umhos/cm	5	SW846 9050A	#
Sulfate	43.1	mg/L	10.0	EPA 300.0	#
Total Dissolved Solids	364	mg/L	25	SM2540C-15	#
Total Organic Carbon (TOC)	2.1	mg/L	0.50	SW846 9060A	#
Turbidity	1.8	NTU	0.30	SM2130B-2011	#



**Detected Results Summary**

Client Sample ID	Field Blank	Collected	01/18/2024 15:03
Lab Sample ID	3341873008	Lab Receipt	01/18/2024 16:25

<u>Compound</u>	<u>Result</u>	<u>Units</u>	<u>RDL</u>	<u>Method</u>	<u>Flag</u>
<b>WET CHEMISTRY</b>					
Ammonia-N	0.041	mg/L	0.010	ASTM D6919-17	#
Chloride	3.9	mg/L	2.0	EPA 300.0	#
pH	6.16	pH_Units		S4500HB-11	#



## Results

Client Sample ID	CWMP010W	Collected	01/18/2024 10:12
Lab Sample ID	3341873001	Lab Receipt	01/18/2024 16:25

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	8.50	P1	Feet		Field	1	01/18/2024 10:12	BGS	D
Dissolved Oxygen	9.13	P1	mg/L	0.01	Field	1	01/18/2024 10:12	BGS	D
Elev Top MW Casing above MSL	360.90	P1	Feet		Field	1	01/18/2024 10:12	BGS	D
Flow Rate	0.09	P1	gal/min		Field	1	01/18/2024 10:12	BGS	D
Ground Water Elevation	352.40	P1	ft/MSL		Field	1	01/18/2024 10:12	BGS	D
Oxidation-Reduction Potential	154	P1	mV		Field	1	01/18/2024 10:12	BGS	D
pH, Field (SM4500B)	6.24	P1	pH_Units		Field	1	01/18/2024 10:12	BGS	D
Sample Depth	17.00	P1	Feet		Field	1	01/18/2024 10:12	BGS	D
Specific Conductance, Field	567	P1	umhos/cm	1	Field	1	01/18/2024 10:12	BGS	D
Temperature	10.63	P1	Deg. C		Field	1	01/18/2024 10:12	BGS	D
Total Well Depth	19.60	P1	Feet		Field	1	01/18/2024 10:12	BGS	D
Turbidity, Field	ND	ND,P1	NTU	1	Field	1	01/18/2024 10:12	BGS	D
Volume in Water Column	7.22	P1	Gallons		Field	1	01/18/2024 10:12	BGS	D
Water Level After Purge	11.55	P1	Feet		Field	1	01/18/2024 10:12	BGS	D
Well Volumes Purged	0.38	P1	Vol		Field	1	01/18/2024 10:12	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	22.2	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:08	AXW	J1
Iron, Total	0.15	P1	mg/L	0.067	SW846 6010C	1	01/31/2024 12:08	AXW	J1
Magnesium, Total	14.6	3,P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:08	AXW	J1
Manganese, Total	0.030	P1	mg/L	0.0056	SW846 6010C	1	01/31/2024 12:08	AXW	J1
Potassium, Total	3.6	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:08	AXW	J1
Sodium, Total	45.7	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:08	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
1,1-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
1,1-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
1,2-Dibromoethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
1,2-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
Benzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
cis-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
Ethylbenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
Methylene Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
Tetrachloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
Toluene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
Total Xylenes	ND	ND,P1	ug/L	3.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
trans-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
Trichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H
Vinyl Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:35	PDK	H



## Results

Client Sample ID	CWMP010W	Collected	01/18/2024 10:12
Lab Sample ID	3341873001	Lab Receipt	01/18/2024 16:25

### VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>									
Compound	CAS No			Recovery	Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			103%	62 – 133		01/20/2024 02:35		
4-Bromofluorobenzene	460-00-4			81.8%	79 – 114		01/20/2024 02:35		
Dibromofluoromethane	1868-53-7			101%	78 – 116		01/20/2024 02:35		
Toluene-d8	2037-26-5			88.7%	76 – 127		01/20/2024 02:35		

### WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	80	P1	mg/L	5	SM2320B-2011	1	01/24/2024 05:05	KMV	B
Alkalinity, Total	80	1,P1	mg/L	5	SM2320B-2011	1	01/24/2024 05:05	KMV	B
Ammonia-N	ND	ND,P1	mg/L	0.100	ASTM D6919-17	10	01/30/2024 02:17	NML	A
Chemical Oxygen Demand (COD)	ND	ND,P1	mg/L	15	EPA 410.4	1	01/19/2024 13:00	KMS	A
Chloride	37.9	P1	mg/L	10.0	EPA 300.0	10	01/19/2024 15:46	GMM	B
Fluoride	ND	ND,P1	mg/L	1.0	EPA 300.0	10	01/19/2024 15:46	GMM	B
Nitrate-N	8.6	P1	mg/L	5.0	EPA 300.0	10	01/19/2024 15:46	GMM	B
pH	8.09	2,P1	pH_Units		S4500HB-11	1	01/24/2024 05:05	KMV	B
Phenolics	ND	ND,P1	mg/L	0.004	SW846 9066	1	01/24/2024 17:23	AKH	G
Specific Conductance	432	P1	umhos/cm	5	SW846 9050A	1	01/26/2024 11:51	KMV	B
Sulfate	ND	ND,P1	mg/L	10.0	EPA 300.0	10	01/19/2024 15:46	GMM	B
Total Dissolved Solids	258	P1	mg/L	25	SM2540C-15	1	01/22/2024 13:30	RAG	B
Total Organic Carbon (TOC)	2.1	P1	mg/L	0.50	SW846 9060A	1	01/24/2024 00:27	PAG	E
Turbidity	4.1	P1	NTU	0.30	SM2130B-2011	1	01/18/2024 23:10	NRB	B



## Results

Client Sample ID	CWMP012W	Collected	01/18/2024 11:01
Lab Sample ID	3341873002	Lab Receipt	01/18/2024 16:25

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	64.56	P1	Feet		Field	1	01/18/2024 11:01	BGS	D
Dissolved Oxygen	4.45	P1	mg/L	0.01	Field	1	01/18/2024 11:01	BGS	D
Oxidation-Reduction Potential	164	P1	mV		Field	1	01/18/2024 11:01	BGS	D
pH, Field (SM4500B)	5.83	P1	pH_Units		Field	1	01/18/2024 11:01	BGS	D
Specific Conductance, Field	426	P1	umhos/cm	1	Field	1	01/18/2024 11:01	BGS	D
Temperature	12.14	P1	Deg. C		Field	1	01/18/2024 11:01	BGS	D
Turbidity, Field	458	P1	NTU	1	Field	1	01/18/2024 11:01	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	32.9	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:16	AXW	J1
Iron, Total	93.9	P1	mg/L	0.067	SW846 6010C	1	01/31/2024 12:16	AXW	J1
Magnesium, Total	8.6	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:16	AXW	J1
Manganese, Total	0.70	P1	mg/L	0.0056	SW846 6010C	1	01/31/2024 12:16	AXW	J1
Potassium, Total	1.6	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:16	AXW	J1
Sodium, Total	14.9	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:16	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
1,1-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
1,1-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
1,2-Dibromoethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
1,2-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
Benzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
cis-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
Ethylbenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
Methylene Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
Tetrachloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
Toluene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
Total Xylenes	ND	ND,P1	ug/L	3.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
trans-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
Trichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H
Vinyl Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 02:56	PDK	H

### SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	99.9%	62 - 133	01/20/2024 02:56	
4-Bromofluorobenzene	460-00-4	105%	79 - 114	01/20/2024 02:56	
Dibromofluoromethane	1868-53-7	98.4%	78 - 116	01/20/2024 02:56	
Toluene-d8	2037-26-5	100%	76 - 127	01/20/2024 02:56	

### WET CHEMISTRY



## Results

Client Sample ID	CWMP012W	Collected	01/18/2024 11:01
Lab Sample ID	3341873002	Lab Receipt	01/18/2024 16:25

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	75	P1	mg/L	5	SM2320B-2011	1	01/24/2024 05:16	KMV	B
Alkalinity, Total	75	1,P1	mg/L	5	SM2320B-2011	1	01/24/2024 05:16	KMV	B
Ammonia-N	0.269	P1	mg/L	0.100	ASTM D6919-17	10	01/30/2024 03:25	NML	A
Chemical Oxygen Demand (COD)	ND	ND,P1	mg/L	15	EPA 410.4	1	01/19/2024 13:00	KMS	A
Chloride	160	P1	mg/L	10.0	EPA 300.0	10	01/19/2024 15:56	GMM	B
Fluoride	ND	ND,P1	mg/L	1.0	EPA 300.0	10	01/19/2024 15:56	GMM	B
Nitrate-N	6.8	P1	mg/L	5.0	EPA 300.0	10	01/19/2024 15:56	GMM	B
pH	7.81	2,P1	pH_Units		S4500HB-11	1	01/24/2024 05:16	KMV	B
Phenolics	ND	ND,P1	mg/L	0.004	SW846 9066	1	01/24/2024 16:57	AKH	G
Specific Conductance	302	P1	umhos/cm	5	SW846 9050A	1	01/26/2024 11:51	KMV	B
Sulfate	34.9	P1	mg/L	10.0	EPA 300.0	10	01/19/2024 15:56	GMM	B
Total Dissolved Solids	201	P1	mg/L	25	SM2540C-15	1	01/22/2024 13:30	RAG	B
Total Organic Carbon (TOC)	1.0	P1	mg/L	0.50	SW846 9060A	1	01/24/2024 23:07	PAG	E
Turbidity	290	P1	NTU	0.30	SM2130B-2011	1	01/18/2024 23:10	NRB	B



## Results

Client Sample ID	CWMP002W	Collected	01/18/2024 11:43
Lab Sample ID	3341873003	Lab Receipt	01/18/2024 16:25

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	65.67	P1	Feet		Field	1	01/18/2024 11:43	BGS	D
Dissolved Oxygen	4.40	P1	mg/L	0.01	Field	1	01/18/2024 11:43	BGS	D
Elev Top MW Casing above MSL	525.81	P1	Feet		Field	1	01/18/2024 11:43	BGS	D
Ground Water Elevation	460.14	P1	ft/MSL		Field	1	01/18/2024 11:43	BGS	D
Oxidation-Reduction Potential	142	P1	mV		Field	1	01/18/2024 11:43	BGS	D
pH, Field (SM4500B)	5.72	P1	pH_Units		Field	1	01/18/2024 11:43	BGS	D
Sample Depth	85.00	P1	Feet		Field	1	01/18/2024 11:43	BGS	D
Specific Conductance, Field	841	P1	umhos/cm	1	Field	1	01/18/2024 11:43	BGS	D
Temperature	13.70	P1	Deg. C		Field	1	01/18/2024 11:43	BGS	D
Total Well Depth	100.00	P1	Feet		Field	1	01/18/2024 11:43	BGS	D
Turbidity, Field	54	P1	NTU	1	Field	1	01/18/2024 11:43	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	58.0	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:17	AXW	J1
Iron, Total	ND	ND,P1	mg/L	0.067	SW846 6010C	1	01/31/2024 12:17	AXW	J1
Magnesium, Total	16.8	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:17	AXW	J1
Manganese, Total	1.0	P1	mg/L	0.0056	SW846 6010C	1	01/31/2024 12:17	AXW	J1
Potassium, Total	2.9	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:17	AXW	J1
Sodium, Total	32.7	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:17	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,1,2,2-Tetrachloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,1,2-Trichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,1-Dichloroethane	8.3	P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,1-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,2,3-Trichloropropane	ND	ND,P1	ug/L	2.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,2,4-Trichlorobenzene	ND	ND,P1	ug/L	2.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,2-Dibromoethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,2-Dichlorobenzene	ND	ND,5,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,2-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,2-Dichloropropane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,3-Dichlorobenzene	ND	ND,6,7,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,3-Dichloropropene, Total	ND	ND,P1	ug/L	2.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
1,4-Dichlorobenzene	ND	ND,8,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Benzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Bromodichloromethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Bromoform	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Bromomethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Carbon Tetrachloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Chlorobenzene	ND	ND,4,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Chlorodibromomethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I



## Results

Client Sample ID	CWMP002W	Collected	01/18/2024 11:43
Lab Sample ID	3341873003	Lab Receipt	01/18/2024 16:25

### VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroethane	10.9	P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Chloroform	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Chloromethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
cis-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Ethylbenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Methylene Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Styrene	ND	ND,9,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Tetrachloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Toluene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Total Xylenes	ND	ND,P1	ug/L	3.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
trans-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Trichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Trichlorofluoromethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I
Vinyl Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:16	PDK	I

### SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	106%	62 – 133	01/20/2024 03:16	
4-Bromofluorobenzene	460-00-4	99.8%	79 – 114	01/20/2024 03:16	
Dibromofluoromethane	1868-53-7	102%	78 – 116	01/20/2024 03:16	
Toluene-d8	2037-26-5	97.4%	76 – 127	01/20/2024 03:16	

### WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	98	P1	mg/L	5	SM2320B-2011	1	01/24/2024 06:03	KMV	B
Alkalinity, Total	98	1,P1	mg/L	5	SM2320B-2011	1	01/24/2024 06:03	KMV	B
Ammonia-N	0.561	P1	mg/L	0.100	ASTM D6919-17	10	01/30/2024 02:44	NML	A
Chemical Oxygen Demand (COD)	18	P1	mg/L	15	EPA 410.4	1	01/19/2024 13:00	KMS	A
Chloride	48.1	P1	mg/L	10.0	EPA 300.0	10	01/19/2024 16:07	GMM	B
Fluoride	ND	ND,P1	mg/L	1.0	EPA 300.0	10	01/19/2024 16:07	GMM	B
Nitrate-N	5.1	P1	mg/L	5.0	EPA 300.0	10	01/19/2024 16:07	GMM	B
pH	7.86	2,P1	pH_Units		S4500HB-11	1	01/24/2024 06:03	KMV	B
Phenolics	ND	ND,P1	mg/L	0.004	SW846 9066	1	01/24/2024 16:14	AKH	G
Specific Conductance	592	P1	umhos/cm	5	SW846 9050A	1	01/26/2024 11:51	KMV	B
Sulfate	ND	ND,P1	mg/L	10.0	EPA 300.0	10	01/19/2024 16:07	GMM	B
Total Dissolved Solids	372	P1	mg/L	25	SM2540C-15	1	01/22/2024 13:30	RAG	B
Total Organic Carbon (TOC)	3.6	P1	mg/L	0.50	SW846 9060A	1	01/24/2024 00:27	PAG	E
Turbidity	0.40	P1	NTU	0.30	SM2130B-2011	1	01/18/2024 23:10	NRB	B





## Results

Client Sample ID	CWMP004W	Collected	01/18/2024 11:59
Lab Sample ID	3341873004	Lab Receipt	01/18/2024 16:25

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	100.27	P1	Feet		Field	1	01/18/2024 11:58	BGS	D
Dissolved Oxygen	6.81	P1	mg/L	0.01	Field	1	01/18/2024 11:58	BGS	D
Elev Top MW Casing above MSL	529.53	P1	Feet		Field	1	01/18/2024 11:58	BGS	D
Ground Water Elevation	429.26	P1	ft/MSL		Field	1	01/18/2024 11:58	BGS	D
Oxidation-Reduction Potential	152	P1	mV		Field	1	01/18/2024 11:58	BGS	D
pH, Field (SM4500B)	5.73	P1	pH_Units		Field	1	01/18/2024 11:58	BGS	D
Sample Depth	130.00	P1	Feet		Field	1	01/18/2024 11:58	BGS	D
Specific Conductance, Field	385	P1	umhos/cm	1	Field	1	01/18/2024 11:58	BGS	D
Temperature	14.26	P1	Deg. C		Field	1	01/18/2024 11:58	BGS	D
Total Well Depth	140.00	P1	Feet		Field	1	01/18/2024 11:58	BGS	D
Turbidity, Field	ND	ND,P1	NTU	1	Field	1	01/18/2024 11:58	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	23.2	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:34	AXW	J1
Iron, Total	ND	ND,P1	mg/L	0.067	SW846 6010C	1	01/31/2024 12:34	AXW	J1
Magnesium, Total	7.4	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:34	AXW	J1
Manganese, Total	0.012	P1	mg/L	0.0056	SW846 6010C	1	01/31/2024 12:34	AXW	J1
Potassium, Total	1.5	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:34	AXW	J1
Sodium, Total	17.4	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:34	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,1,2,2-Tetrachloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,1,2-Trichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,1-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,1-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,2,3-Trichloropropane	ND	ND,P1	ug/L	2.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,2,4-Trichlorobenzene	ND	ND,P1	ug/L	2.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,2-Dibromoethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,2-Dichlorobenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,2-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,2-Dichloropropane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,3-Dichlorobenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,3-Dichloropropene, Total	ND	ND,P1	ug/L	2.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
1,4-Dichlorobenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Benzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Bromodichloromethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Bromoform	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Bromomethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Carbon Tetrachloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Chlorobenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Chlorodibromomethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H



## Results

Client Sample ID	CWMP004W	Collected	01/18/2024 11:59
Lab Sample ID	3341873004	Lab Receipt	01/18/2024 16:25

### VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Chloroform	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Chloromethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
cis-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Ethylbenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Methylene Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Styrene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Tetrachloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Toluene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Total Xylenes	ND	ND,P1	ug/L	3.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
trans-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Trichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Trichlorofluoromethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H
Vinyl Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:37	PDK	H

### SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	62 – 133	01/20/2024 03:37	
4-Bromofluorobenzene	460-00-4	108%	79 – 114	01/20/2024 03:37	
Dibromofluoromethane	1868-53-7	98.1%	78 – 116	01/20/2024 03:37	
Toluene-d8	2037-26-5	101%	76 – 127	01/20/2024 03:37	

### WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	28	P1	mg/L	5	SM2320B-2011	1	01/24/2024 06:15	KMV	B
Alkalinity, Total	28	1,P1	mg/L	5	SM2320B-2011	1	01/24/2024 06:15	KMV	B
Ammonia-N	0.140	P1	mg/L	0.100	ASTM D6919-17	10	01/26/2024 14:12	NML	A
Chemical Oxygen Demand (COD)	ND	ND,P1	mg/L	15	EPA 410.4	1	01/19/2024 13:00	KMS	A
Chloride	48.3	P1	mg/L	10.0	EPA 300.0	10	01/19/2024 16:17	GMM	B
Fluoride	ND	ND,P1	mg/L	1.0	EPA 300.0	10	01/19/2024 16:17	GMM	B
Nitrate-N	5.1	P1	mg/L	5.0	EPA 300.0	10	01/19/2024 16:17	GMM	B
pH	7.64	2,P1	pH_Units		S4500HB-11	1	01/24/2024 06:15	KMV	B
Phenolics	ND	ND,P1	mg/L	0.004	SW846 9066	1	01/24/2024 16:22	AKH	G
Specific Conductance	272	P1	umhos/cm	5	SW846 9050A	1	01/26/2024 11:51	KMV	B
Sulfate	ND	ND,P1	mg/L	10.0	EPA 300.0	10	01/19/2024 16:17	GMM	B
Total Dissolved Solids	193	P1	mg/L	25	SM2540C-15	1	01/22/2024 13:30	RAG	B
Total Organic Carbon (TOC)	ND	ND,P1	mg/L	0.50	SW846 9060A	1	01/24/2024 00:27	PAG	E
Turbidity	ND	ND,P1	NTU	0.30	SM2130B-2011	1	01/18/2024 23:10	NRB	B



## Results

Client Sample ID	CWMP003W	Collected	01/18/2024 12:14
Lab Sample ID	3341873005	Lab Receipt	01/18/2024 16:25

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Depth to Water Level	71.42	P1	Feet		Field	1	01/18/2024 12:14	BGS	D
Dissolved Oxygen	8.62	P1	mg/L	0.01	Field	1	01/18/2024 12:14	BGS	D
Elev Top MW Casing above MSL	524.21	P1	Feet		Field	1	01/18/2024 12:14	BGS	D
Ground Water Elevation	452.79	P1	ft/MSL		Field	1	01/18/2024 12:14	BGS	D
Oxidation-Reduction Potential	182	P1	mV		Field	1	01/18/2024 12:14	BGS	D
pH, Field (SM4500B)	5.46	P1	pH_Units		Field	1	01/18/2024 12:14	BGS	D
Sample Depth	100.00	P1	Feet		Field	1	01/18/2024 12:14	BGS	D
Specific Conductance, Field	504	P1	umhos/cm	1	Field	1	01/18/2024 12:14	BGS	D
Temperature	14.90	P1	Deg. C		Field	1	01/18/2024 12:14	BGS	D
Total Well Depth	140.00	P1	Feet		Field	1	01/18/2024 12:14	BGS	D
Turbidity, Field	6	P1	NTU	1	Field	1	01/18/2024 12:14	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	28.5	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:36	AXW	J1
Iron, Total	ND	ND,P1	mg/L	0.067	SW846 6010C	1	01/31/2024 12:36	AXW	J1
Magnesium, Total	9.8	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:36	AXW	J1
Manganese, Total	0.0058	P1	mg/L	0.0056	SW846 6010C	1	01/31/2024 12:36	AXW	J1
Potassium, Total	1.7	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:36	AXW	J1
Sodium, Total	23.4	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:36	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,1,2,2-Tetrachloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,1,2-Trichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,1-Dichloroethane	1.8	P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,1-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,2,3-Trichloropropane	ND	ND,P1	ug/L	2.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,2,4-Trichlorobenzene	ND	ND,P1	ug/L	2.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,2-Dibromoethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,2-Dichlorobenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,2-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,2-Dichloropropane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,3-Dichlorobenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,3-Dichloropropene, Total	ND	ND,P1	ug/L	2.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
1,4-Dichlorobenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Benzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Bromodichloromethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Bromoform	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Bromomethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Carbon Tetrachloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Chlorobenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Chlorodibromomethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H



## Results

Client Sample ID	CWMP003W	Collected	01/18/2024 12:14
Lab Sample ID	3341873005	Lab Receipt	01/18/2024 16:25

### VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Chloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Chloroform	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Chloromethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
cis-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Ethylbenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Methylene Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Styrene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Tetrachloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Toluene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Total Xylenes	ND	ND,P1	ug/L	3.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
trans-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Trichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Trichlorofluoromethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H
Vinyl Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 03:57	PDK	H

### SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	62 – 133	01/20/2024 03:57	
4-Bromofluorobenzene	460-00-4	97.6%	79 – 114	01/20/2024 03:57	
Dibromofluoromethane	1868-53-7	98%	78 – 116	01/20/2024 03:57	
Toluene-d8	2037-26-5	95.7%	76 – 127	01/20/2024 03:57	

### WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	24	P1	mg/L	5	SM2320B-2011	1	01/24/2024 06:27	KMV	B
Alkalinity, Total	24	1,P1	mg/L	5	SM2320B-2011	1	01/24/2024 06:27	KMV	B
Ammonia-N	1.34	P1	mg/L	0.100	ASTM D6919-17	10	01/30/2024 02:58	NML	A
Chemical Oxygen Demand (COD)	ND	ND,P1	mg/L	15	EPA 410.4	1	01/19/2024 13:00	KMS	A
Chloride	80.2	P1	mg/L	10.0	EPA 300.0	10	01/19/2024 16:28	GMM	B
Fluoride	ND	ND,P1	mg/L	1.0	EPA 300.0	10	01/19/2024 16:28	GMM	B
Nitrate-N	6.1	P1	mg/L	5.0	EPA 300.0	10	01/19/2024 16:28	GMM	B
pH	7.55	2,P1	pH_Units		S4500HB-11	1	01/24/2024 06:27	KMV	B
Phenolics	ND	ND,P1	mg/L	0.004	SW846 9066	1	01/24/2024 16:18	AKH	G
Specific Conductance	355	P1	umhos/cm	5	SW846 9050A	1	01/26/2024 11:51	KMV	B
Sulfate	ND	ND,P1	mg/L	10.0	EPA 300.0	10	01/19/2024 16:28	GMM	B
Total Dissolved Solids	234	P1	mg/L	25	SM2540C-15	1	01/22/2024 13:30	RAG	B
Total Organic Carbon (TOC)	ND	ND,P1	mg/L	0.50	SW846 9060A	1	01/24/2024 00:27	PAG	E
Turbidity	0.65	P1	NTU	0.30	SM2130B-2011	1	01/18/2024 23:10	NRB	B



## Results

Client Sample ID	CWMP018S	Collected	01/18/2024 13:46
Lab Sample ID	3341873006	Lab Receipt	01/18/2024 16:25

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Dissolved Oxygen	14.00	P1	mg/L	0.01	Field	1	01/18/2024 13:46	BGS	D
Oxidation-Reduction Potential	207	P1	mV		Field	1	01/18/2024 13:46	BGS	D
pH, Field (SM4500B)	8.35	P1	pH_Units		Field	1	01/18/2024 13:46	BGS	D
Specific Conductance, Field	2145	P1	umhos/cm	1	Field	1	01/18/2024 13:46	BGS	D
Temperature	3.25	P1	Deg. C		Field	1	01/18/2024 13:46	BGS	D
Turbidity, Field	ND	ND,P1	NTU	1	Field	1	01/18/2024 13:46	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	66.0	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:37	AXW	J1
Iron, Total	0.22	P1	mg/L	0.067	SW846 6010C	1	01/31/2024 12:37	AXW	J1
Magnesium, Total	55.4	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:37	AXW	J1
Manganese, Total	0.32	P1	mg/L	0.0056	SW846 6010C	1	01/31/2024 12:37	AXW	J1
Potassium, Total	16.1	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:37	AXW	J1
Sodium, Total	171	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:37	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
1,1-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
1,1-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
1,2-Dibromoethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
1,2-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
Benzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
cis-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
Ethylbenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
Methylene Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
Tetrachloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
Toluene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
Total Xylenes	ND	ND,P1	ug/L	3.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
trans-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
Trichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H
Vinyl Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:17	PDK	H

### SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	107%	62 - 133	01/20/2024 04:17	
4-Bromofluorobenzene	460-00-4	108%	79 - 114	01/20/2024 04:17	
Dibromofluoromethane	1868-53-7	104%	78 - 116	01/20/2024 04:17	
Toluene-d8	2037-26-5	101%	76 - 127	01/20/2024 04:17	

### WET CHEMISTRY



## Results

Client Sample ID	CWMP018S	Collected	01/18/2024 13:46
Lab Sample ID	3341873006	Lab Receipt	01/18/2024 16:25

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	244	P1	mg/L	5	SM2320B-2011	1	01/24/2024 06:43	KMV	B
Alkalinity, Total	280	1,P1	mg/L	5	SM2320B-2011	1	01/24/2024 06:43	KMV	B
Ammonia-N	1.40	P1	mg/L	0.500	ASTM D6919-17	50	02/02/2024 01:02	NML	A
Chemical Oxygen Demand (COD)	23	P1	mg/L	15	EPA 410.4	1	01/19/2024 13:00	KMS	A
Chloride	474	P1	mg/L	10.0	EPA 300.0	10	01/19/2024 16:38	GMM	B
Fluoride	ND	ND,P1	mg/L	1.0	EPA 300.0	10	01/19/2024 16:38	GMM	B
Nitrate-N	25.2	P1	mg/L	5.0	EPA 300.0	10	01/19/2024 16:38	GMM	B
pH	8.59	2,P1	pH_Units		S4500HB-11	1	01/24/2024 06:43	KMV	B
Phenolics	ND	ND,P1	mg/L	0.004	SW846 9066	1	01/24/2024 16:33	AKH	G
Specific Conductance	1530	P1	umhos/cm	5	SW846 9050A	1	01/26/2024 11:51	KMV	B
Sulfate	46.5	P1	mg/L	10.0	EPA 300.0	10	01/19/2024 16:38	GMM	B
Total Dissolved Solids	822	P1	mg/L	25	SM2540C-15	1	01/22/2024 13:30	RAG	B
Total Organic Carbon (TOC)	6.4	P1	mg/L	0.50	SW846 9060A	1	01/24/2024 00:27	PAG	E
Turbidity	2.2	P1	NTU	0.30	SM2130B-2011	1	01/18/2024 23:10	NRB	B



## Results

Client Sample ID	CWMP017S	Collected	01/18/2024 14:05
Lab Sample ID	3341873007	Lab Receipt	01/18/2024 16:25

### FIELD PARAMETERS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Dissolved Oxygen	13.58	P1	mg/L	0.01	Field	1	01/18/2024 14:05	BGS	D
Oxidation-Reduction Potential	190	P1	mV		Field	1	01/18/2024 14:05	BGS	D
pH, Field (SM4500B)	8.14	P1	pH_Units		Field	1	01/18/2024 14:05	BGS	D
Specific Conductance, Field	832	P1	umhos/cm	1	Field	1	01/18/2024 14:05	BGS	D
Temperature	3.30	P1	Deg. C		Field	1	01/18/2024 14:05	BGS	D
Turbidity, Field	13	P1	NTU	1	Field	1	01/18/2024 14:05	BGS	D

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	28.6	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:38	AXW	J1
Iron, Total	0.14	P1	mg/L	0.067	SW846 6010C	1	01/31/2024 12:38	AXW	J1
Magnesium, Total	18.8	P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:38	AXW	J1
Manganese, Total	0.042	P1	mg/L	0.0056	SW846 6010C	1	01/31/2024 12:38	AXW	J1
Potassium, Total	6.1	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:38	AXW	J1
Sodium, Total	72.1	P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:38	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
1,1-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
1,1-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
1,2-Dibromoethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
1,2-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
Benzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
cis-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
Ethylbenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
Methylene Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
Tetrachloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
Toluene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
Total Xylenes	ND	ND,P1	ug/L	3.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
trans-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
Trichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H
Vinyl Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 04:38	PDK	H

### SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	99.6%	62 - 133	01/20/2024 04:38	
4-Bromofluorobenzene	460-00-4	101%	79 - 114	01/20/2024 04:38	
Dibromofluoromethane	1868-53-7	96.8%	78 - 116	01/20/2024 04:38	
Toluene-d8	2037-26-5	95.4%	76 - 127	01/20/2024 04:38	

### WET CHEMISTRY



## Results

Client Sample ID	CWMP017S	Collected	01/18/2024 14:05
Lab Sample ID	3341873007	Lab Receipt	01/18/2024 16:25

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	114	P1	mg/L	5	SM2320B-2011	1	01/24/2024 06:53	KMV	B
Alkalinity, Total	114	1,P1	mg/L	5	SM2320B-2011	1	01/24/2024 06:53	KMV	B
Ammonia-N	ND	ND,P1	mg/L	0.100	ASTM D6919-17	10	01/26/2024 14:26	NML	A
Chemical Oxygen Demand (COD)	ND	ND,P1	mg/L	15	EPA 410.4	1	01/19/2024 13:00	KMS	A
Chloride	170	P1	mg/L	10.0	EPA 300.0	10	01/19/2024 16:48	GMM	B
Fluoride	ND	ND,P1	mg/L	1.0	EPA 300.0	10	01/19/2024 16:48	GMM	B
Nitrate-N	12.2	P1	mg/L	5.0	EPA 300.0	10	01/19/2024 16:48	GMM	B
pH	8.25	2,P1	pH_Units		S4500HB-11	1	01/24/2024 06:53	KMV	B
Phenolics	ND	ND,P1	mg/L	0.004	SW846 9066	1	01/24/2024 17:00	AKH	G
Specific Conductance	621	P1	umhos/cm	5	SW846 9050A	1	01/26/2024 11:51	KMV	B
Sulfate	43.1	P1	mg/L	10.0	EPA 300.0	10	01/19/2024 16:48	GMM	B
Total Dissolved Solids	364	P1	mg/L	25	SM2540C-15	1	01/23/2024 13:30	RAG	B
Total Organic Carbon (TOC)	2.1	P1	mg/L	0.50	SW846 9060A	1	01/24/2024 00:27	PAG	E
Turbidity	1.8	P1	NTU	0.30	SM2130B-2011	1	01/18/2024 23:10	NRB	B





## Results

Client Sample ID	Field Blank	Collected	01/18/2024 15:03
Lab Sample ID	3341873008	Lab Receipt	01/18/2024 16:25

### METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Calcium, Total	ND	ND,P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:39	AXW	J1
Iron, Total	ND	ND,P1	mg/L	0.067	SW846 6010C	1	01/31/2024 12:39	AXW	J1
Magnesium, Total	ND	ND,P1	mg/L	0.11	SW846 6010C	1	01/31/2024 12:39	AXW	J1
Manganese, Total	ND	ND,P1	mg/L	0.0056	SW846 6010C	1	01/31/2024 12:39	AXW	J1
Potassium, Total	ND	ND,P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:39	AXW	J1
Sodium, Total	ND	ND,P1	mg/L	0.56	SW846 6010C	1	01/31/2024 12:39	AXW	J1

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
1,1-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
1,1-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
1,2-Dibromoethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
1,2-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
Benzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
cis-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
Ethylbenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
Methylene Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
Tetrachloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
Toluene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
Total Xylenes	ND	ND,P1	ug/L	3.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
trans-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
Trichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H
Vinyl Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 01:14	PDK	H

### SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	99.8%	62 - 133	01/20/2024 01:14	
4-Bromofluorobenzene	460-00-4	95.3%	79 - 114	01/20/2024 01:14	
Dibromofluoromethane	1868-53-7	98%	78 - 116	01/20/2024 01:14	
Toluene-d8	2037-26-5	95.3%	76 - 127	01/20/2024 01:14	

### WET CHEMISTRY

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Alkalinity, Bicarbonate	ND	ND,P1	mg/L	5	SM2320B-2011	1	01/24/2024 07:01	KMV	B
Alkalinity, Total	ND	ND,1,P1	mg/L	5	SM2320B-2011	1	01/24/2024 07:01	KMV	B
Ammonia-N	0.041	P1	mg/L	0.010	ASTM D6919-17	1	01/26/2024 14:40	NML	A
Chemical Oxygen Demand (COD)	ND	ND,P1	mg/L	15	EPA 410.4	1	01/19/2024 13:00	KMS	A
Chloride	3.9	P1	mg/L	2.0	EPA 300.0	2	01/19/2024 16:59	GMM	B
Fluoride	ND	ND,P1	mg/L	0.20	EPA 300.0	2	01/19/2024 16:59	GMM	B
Nitrate-N	ND	ND,P1	mg/L	1.0	EPA 300.0	2	01/19/2024 16:59	GMM	B
pH	6.16	2,P1	pH_Units		S4500HB-11	1	01/24/2024 07:01	KMV	B
Phenolics	ND	ND,P1	mg/L	0.004	SW846 9066	1	01/24/2024 17:11	AKH	G



## Results

Client Sample ID	Field Blank	Collected	01/18/2024 15:03
Lab Sample ID	3341873008	Lab Receipt	01/18/2024 16:25

### WET CHEMISTRY (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Specific Conductance	ND	ND,P1	umhos/cm	5	SW846 9050A	1	01/26/2024 11:51	KMV	B
Sulfate	ND	ND,P1	mg/L	2.0	EPA 300.0	2	01/19/2024 16:59	GMM	B
Total Dissolved Solids	ND	ND,P1	mg/L	25	SM2540C-15	1	01/23/2024 15:00	RAG	B
Total Organic Carbon (TOC)	ND	ND,P1	mg/L	0.50	SW846 9060A	1	01/24/2024 00:27	PAG	E
Turbidity	ND	ND,P1	NTU	0.30	SM2130B-2011	1	01/18/2024 23:10	NRB	B



## Results

Client Sample ID	Trip Blank	Collected	01/18/2024 16:25
Lab Sample ID	3341873009	Lab Receipt	01/18/2024 16:25

### VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
1,1-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
1,1-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
1,2-Dibromoethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
1,2-Dichloroethane	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
Benzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
cis-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
Ethylbenzene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
Methylene Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
Tetrachloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
Toluene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
Total Xylenes	ND	ND,P1	ug/L	3.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
trans-1,2-Dichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
Trichloroethene	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A
Vinyl Chloride	ND	ND,P1	ug/L	1.0	SW846 8260B	1	01/20/2024 00:53	PDK	A

### SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	62 – 133	01/20/2024 00:53	
4-Bromofluorobenzene	460-00-4	104%	79 – 114	01/20/2024 00:53	
Dibromofluoromethane	1868-53-7	102%	78 – 116	01/20/2024 00:53	
Toluene-d8	2037-26-5	99.3%	76 – 127	01/20/2024 00:53	



### Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3341873001	CWMP010W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3341873002	CWMP012W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3341873003	CWMP002W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3341873004	CWMP004W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	



Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3341873005	CWMP003W	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3341873006	CWMP018S	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3341873007	CWMP017S	Field	N/A	
		SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
3341873008	Field Blank	SW846 6010C	SW846 3015A	
		SW846 8260B	N/A	
		ASTM D6919-17	N/A	
		EPA 300.0	N/A	
		EPA 410.4	N/A	
		S4500HB-11	N/A	
		SM2130B-2011	N/A	
		SM2320B-2011	N/A	
		SM2540C-15	N/A	
		SW846 9050A	N/A	
		SW846 9060A	N/A	
		SW846 9066	SW846 9066	
		3341873009	Trip Blank	SW846 8260B



**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3341873001	CWMP010W	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1122474	01/19/2024 00:18	ANN	SW846 6010C	1129679
		N/A	N/A	N/A		SW846 8260B	1123199
		N/A	N/A	N/A		ASTM D6919-17	1128002
		N/A	N/A	N/A		EPA 300.0	1123915
		N/A	N/A	N/A		EPA 410.4	1122936
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1122499
		N/A	N/A	N/A		SM2320B-2011	1123707
		N/A	N/A	N/A		SM2540C-15	1123621
		N/A	N/A	N/A		SW846 9050A	1127842
		N/A	N/A	N/A		SW846 9060A	1124003
		N/A	SW846 9066	1124013	01/24/2024 09:26	AKH	SW846 9066
3341873002	CWMP012W	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1122474	01/19/2024 00:18	ANN	SW846 6010C	1129679
		N/A	N/A	N/A		SW846 8260B	1123199
		N/A	N/A	N/A		ASTM D6919-17	1128002
		N/A	N/A	N/A		EPA 300.0	1123915
		N/A	N/A	N/A		EPA 410.4	1122936
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1122499
		N/A	N/A	N/A		SM2320B-2011	1123707
		N/A	N/A	N/A		SM2540C-15	1123621
		N/A	N/A	N/A		SW846 9050A	1127842
		N/A	N/A	N/A		SW846 9060A	1124505
		N/A	SW846 9066	1124013	01/24/2024 09:26	AKH	SW846 9066
3341873003	CWMP002W	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1122474	01/19/2024 00:18	ANN	SW846 6010C	1129679
		N/A	N/A	N/A		SW846 8260B	1123199
		N/A	N/A	N/A		ASTM D6919-17	1128002
		N/A	N/A	N/A		EPA 300.0	1123915
		N/A	N/A	N/A		EPA 410.4	1122936
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1122499
		N/A	N/A	N/A		SM2320B-2011	1123707
		N/A	N/A	N/A		SM2540C-15	1123621
		N/A	N/A	N/A		SW846 9050A	1127842
		N/A	N/A	N/A		SW846 9060A	1124003
		N/A	SW846 9066	1124013	01/24/2024 09:26	AKH	SW846 9066
3341873004	CWMP004W	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1122474	01/19/2024 00:18	ANN	SW846 6010C	1129679
		N/A	N/A	N/A		SW846 8260B	1123199
		N/A	N/A	N/A		ASTM D6919-17	1124514
		N/A	N/A	N/A		EPA 300.0	1123915
		N/A	N/A	N/A		EPA 410.4	1122936
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1122499
		N/A	N/A	N/A		SM2320B-2011	1123707
		N/A	N/A	N/A		SM2540C-15	1123621
		N/A	N/A	N/A		SW846 9050A	1127842
		N/A	N/A	N/A		SW846 9060A	1124004
		N/A	SW846 9066	1124013	01/24/2024 09:26	AKH	SW846 9066



Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3341873005	CWMP003W	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1122474	01/19/2024 00:18	ANN	SW846 6010C	1129679
		N/A	N/A	N/A		SW846 8260B	1123199
		N/A	N/A	N/A		ASTM D6919-17	1128002
		N/A	N/A	N/A		EPA 300.0	1123915
		N/A	N/A	N/A		EPA 410.4	1122936
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1122499
		N/A	N/A	N/A		SM2320B-2011	1123707
		N/A	N/A	N/A		SM2540C-15	1123621
		N/A	N/A	N/A		SW846 9050A	1127842
		N/A	N/A	N/A		SW846 9060A	1124004
		SW846 9066	1124013	01/24/2024 09:26	AKH	SW846 9066	1124246
3341873006	CWMP018S	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1122474	01/19/2024 00:18	ANN	SW846 6010C	1129679
		N/A	N/A	N/A		SW846 8260B	1123199
		N/A	N/A	N/A		ASTM D6919-17	1130130
		N/A	N/A	N/A		EPA 300.0	1123915
		N/A	N/A	N/A		EPA 410.4	1122936
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1122499
		N/A	N/A	N/A		SM2320B-2011	1123707
		N/A	N/A	N/A		SM2540C-15	1123621
		N/A	N/A	N/A		SW846 9050A	1127842
		N/A	N/A	N/A		SW846 9060A	1124004
		SW846 9066	1124013	01/24/2024 09:26	AKH	SW846 9066	1124246
3341873007	CWMP017S	N/A	N/A	N/A		Field	1127818
		SW846 3015A	1122474	01/19/2024 00:18	ANN	SW846 6010C	1129679
		N/A	N/A	N/A		SW846 8260B	1123199
		N/A	N/A	N/A		ASTM D6919-17	1124514
		N/A	N/A	N/A		EPA 300.0	1123915
		N/A	N/A	N/A		EPA 410.4	1122936
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1122499
		N/A	N/A	N/A		SM2320B-2011	1123707
		N/A	N/A	N/A		SM2540C-15	1123847
		N/A	N/A	N/A		SW846 9050A	1127842
		N/A	N/A	N/A		SW846 9060A	1124004
		SW846 9066	1124013	01/24/2024 09:26	AKH	SW846 9066	1124246
3341873008	Field Blank	SW846 3015A	1122474	01/19/2024 00:18	ANN	SW846 6010C	1129679
		N/A	N/A	N/A		SW846 8260B	1123199
		N/A	N/A	N/A		ASTM D6919-17	1124514
		N/A	N/A	N/A		EPA 300.0	1123915
		N/A	N/A	N/A		EPA 410.4	1122936
		N/A	N/A	N/A		S4500HB-11	1123707
		N/A	N/A	N/A		SM2130B-2011	1122499
		N/A	N/A	N/A		SM2320B-2011	1123707
		N/A	N/A	N/A		SM2540C-15	1123849
		N/A	N/A	N/A		SW846 9050A	1127842
		N/A	N/A	N/A		SW846 9060A	1124004
		SW846 9066	1124013	01/24/2024 09:26	AKH	SW846 9066	1124246
		3341873009	Trip Blank	N/A	N/A	N/A	



34 Dogwood Lane • Middletown, PA 17057 • Phone: 717 944 5541 • Fax: 717 944 1430 • www.alsglobal.com

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**Client Name:** Lancaster County Solid Waste MA  
**Address:** 1299 Harrisburg Pike, P.O. Box 4424  
Lancaster, PA 17604

**Contact:** Dan Brown

**Phone#:** (717) 735-0193

**Project Name#:** Creswell/GWMP Form 19Q Wells

**Bill To:** Lancaster County Solid Waste MA

**TAT**  
 **Rush-Subject to ALS approval and surcharges.**

**Date Required:**  Y  N **Approved By:** \_\_\_\_\_

**Email#:**  Y  N **dbrown@LCSWMA.com**

**Fax#:**  Y  N **No.:** (717) 397-9973

**Sample Description/Location**

(as it will appear on the lab report)

Sample	Date	Time
1. CWMP010W	01/18/24	1012
2. CWMP012W	01/18/24	1101
3. CWMP002W	01/18/24	1143
4. CWMP004W	01/18/24	1159
5. CWMP003W	01/18/24	1214
6. CWMP018S	01/18/24	1346
7. CWMP017S	01/18/24	1405
8. Field Blank	01/18/24	1503
9. Trip Blank	01/18/24	1625
10		

**Project Comments:**

LOGGED BY (signature): \_\_\_\_\_

REVIEWED BY (signature): \_\_\_\_\_

**Relinquished By / Company Name**

**Date**

**Received By / Company Name**

**Date**

**Time**

\* G=Grab; C=Composite

\*\*Matrix - A=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

2/14/2024 1:42 PM

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 8/04

**CHAIN OF CUSTODY/  
REQUEST FOR ANALYSIS**

**ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /  
SAMPLER. INSTRUCTIONS ON THE BACK.**

Container Type	AG	AN	CG	PL	PL	PL	PL
Container Size	40 ml	125 ml	40 ml	250 ml	125 ml	500 ml	250 ml
Preservative	HCl	H2SO4	HCl	H2SO4	HNO3	None	None

**receipt information (completed by Receiving Lab)**

**Cooler Temp:** 2 Therm ID: \_\_\_\_\_

**No. of Coolers:** Y N Initial

**Custody Seals Present?** (if present) Seal Intact? Y N

**Temp By:** WO Temp (°C) \_\_\_\_\_

**CO DAG** | 2 | 571 | (Therm ID, DAG)

Receipt Info Completed By: Y N NA  
Cooler Custody Seal Intact: Y N NA  
Sample Custody Seal Intact: Y N NA  
Received on Ice: Y N NA  
Cooler & Samples Intact: Y N NA  
Correct Containers Provided: Y N NA  
Sample Label/COC Agree: Y N NA  
Adequate Sample Volumes: Y N NA  
CR6 Samples Filtered: Y N NA  
OP Samples Filtered: Y N NA  
VOA Trip Blank: Y N NA  
MIS-4 Days?: Y N NA  
Rad Screen (uCi): Y N NA  
Courier/Tracking#: \_\_\_\_\_

SDWA Compliance: Y N  
PWSID: Y N  
WW Containers 0-6°C: Y N

**ALS Field Services:**  Pickup  Labor  
 Composite\_Sampling  Rental\_Equipment  
 Other:

Standard	Special Processing	State Samples Collected In
<input type="checkbox"/> Standard	USACE <input type="checkbox"/>	NY <input type="checkbox"/>
<input type="checkbox"/> CLP-like	Navy <input type="checkbox"/>	NJ <input type="checkbox"/>
<input type="checkbox"/> USACE		PA <input checked="" type="checkbox"/>
		NC <input type="checkbox"/>

Data Deliverables	Reportable to PADEP?	Sample Disposal
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	Lab <input checked="" type="checkbox"/>
<input type="checkbox"/> No	<input type="checkbox"/> No	Special <input type="checkbox"/>

EDDS: Format Type	PWSID #

3341873  
Logged By: DXB  
PH: SJB



Generated by ALS

1 of 1